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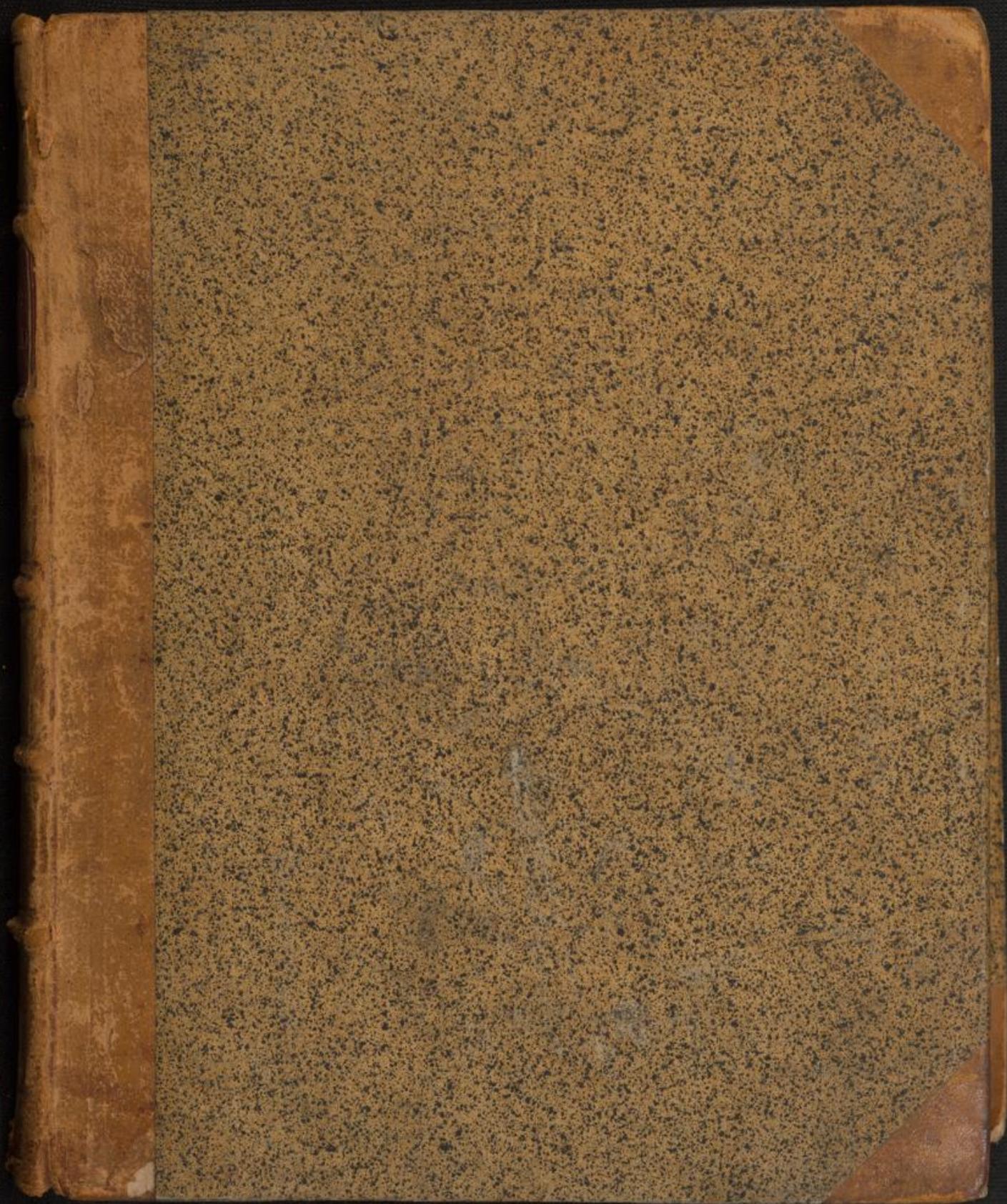
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The Natural History of Carolina, Florida, and the Bahama islands - Cod. Durlach 264

Catesby, Mark

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Caroline Louise
Margrave de Bade-
Dourlach, née Landgr.
de Hesse-Darmstadt.

The
Natural History
of
Carolina, Florida, and the Bahama islands:
Containing the Figures of
Birds, Beasts, Fishes, Serpents, Insects and Plants:
Particularly the Forest-Trees, Shrubs, and other Plants, not
hitherto described, or very incorrectly figured
by Authors
Together with their Descriptions in English.
To which are added,
Observations on the Air, Soil, and Waters:
with Remarks upon
Agriculture, Grain, Pulse, Roots, &c.
To the whole is prefixed a new and correct Map of the countries treated of.
By the late Mark Catesby, F. R. S.
Revis'd by Mr. Edwards, of the Royal College of Physicians, London.

Vol. I.

London:

Printed for C. Marsch, in Round Court in the Strand; and T.
Wilcox, over-against the New Church, in the Strand. MDCCCLIV.



To the
Queen

Madam,

As these Volumes contain an Essay towards the Natural History of that Part of your Majesty's Dominions, which are particularly honoured by bearing your August Name, Carolina; this, and your great Goodness in encouraging all sorts of Learning, hath emboldened me to implore your Royal Protection and Favour to my slender Performance, I hope your Majesty will not think a few Minutes disagreeably spent, in Casting an Eye on these leaves; which exhibit no contemptible Scene of the Glorious Works of the Creator, displayed in the New World; and hitherto lain concealed from the View of your Majesty, as well as of your Royal Predecessors, though so long possessed of a Country, inferior to none of your Majesty's American Dominions.

Wherefore I esteem it a singular Happiness, after several Years Travels and Enquiry in so remote Parts (by the generous Encouragement of several of your Majesty's Subjects, eminent for their Rank, and for their being Patrons of Learning) that I am the first that has had an opportunity of presenting to a Queen of Great Britain a Sample of the hitherto unregarded, though beneficial and beautiful Productions of your Majesty's Dominions

I am, may it please your Majesty,

your Majesty's

most humble and most dutiful Subject,

M. Catesby.

To Her
Royal Highness
the
Princess of Wales.

Madam,

Some of the most wonderful Productions of America have now the Honour to lay themselves at the Feet of your Royal Highness: Things new and Strange to the Inhabitants of this Side of the Globe; and which must therefore necessarily excite, in Minds of infinitely less Discernment and Piety than that of your Royal Highness, exalted and religious sentiments of the Power, Wisdom and Goodness of that Almighty Being, who not only formed the Universe, but has adorned every Part of it with an inconceivable Variety of Beauty and Magnificence.

It was in Obedience to the Commands of our late most Gracious Queen, who condescended to over-look and approve, my Drawings of the most extraordinary Curiosities of Nature observable in Carolina, and the adjacent Countries Subject to the Crown of Great Britain, that I applied myself to compile a Natural History of the Parts of the World; and Her Majesty was pleased to take the First Volume of this Work under Her own Royal Patronage.

Such an Instance of Goodness emboldened me, to hope Your Royal Highness would vouchsafe the like Honour to this second and Last Volume; and I have been so happy not only to obtain Pardon for my Presumption, but likewise to find the utmost of my Ambition gratified, in the Leave you have been pleased to grant me, of publishing my Labours under the Protection of your Illustrious Name.

Happy is it for Knowledge, when Princes love it, and become its Patrons! That you, Madam, may long live, to be so, adorning your high Station with every Princely Virtue, and enjoying, together with your Royal Consort, Wealth, Honour, Power, Fame, the Affection of grateful Nations, and every Worldly Blessing; and that the like Happiness may attend your lovely Offspring, and be to endless Ages perpetuated to their Posterity, is the fervent Prayer of,

Madam

Your Royal Highness's

Most dutiful,

Most humble,

and most devoted Servant,

Mark Catesby.

The Preface.

The early Inclination i had to search after Plants, and other Productions in nature, being much suppressed by my residing too far from London, the centre of all science, i was deprived of all opportunities and examples to excite me to a stronger pursuit after those things to which i was naturally bent. Yet my Curiosity was such, that not being content with contemplating the Productions of our own Country, i soon imbibed a passionate Desire of viewing as well the Animal as Vegetable productions in the native countries; which were Strangers to England. Virginia was the Place, as i had Relations there, which suited most with my Convenience to go to, where i arriv'd the 23^d of April 1710. I thought then so little of prosecuting a design of the nature of this work, that in the seven years i resided in that country (i am ashamed to own it) i chiefly gratified my inclination in observing and admiring the various Productions of those Countries; only sending from thence some dried specimens of plants and some of the most specious of them in tubs of earth, at the request of some curious friends, amongst whom was Mr. Deane of Braintree in Essex, a skilful Apothecary and Botanist: To him, besides specimens of Plants, i sent some few observations on the country, which he communicated to the late William Sherard, L. L. D. one of the most celebrated Botanists, of the

Age, who favoured me with his Friendship on my return to England in the Year 1719; and by his advice (tho' conscious of my own inability) I first resolved on this undertaking, so agreeable to my inclination. ^{pag. II.} But as expences were necessary for carrying the design, I here most gratefully acknowledge the assistance and encouragement I received from several Noble Persons and Gentlemen, whose names are hereunder-mentioned.

His Grace the Duke of Chandois.

The Right Honourable the Earl of Oxford.

The Right Honourable Thomas Earl of Macclesfield.

The Right Honourable John Lord Percival.

Sir George Markham, Bart. F. R. S.

Sir Henry Goddick, Bart.

Sir Hans Sloane, Bart. President of the Royal Society, and of the College of Physicians.

The Honourable Colonel Francis Nicholson Governor of South Carolina.

Richard Mead, M. D. and F. R. S.

Charles Dubois, Esq; F. R. S.

John Knight, Esq; F. R. S.

William Sherard, L. L. D. and F. R. S.

With this Intention, I set out again from England, in the year 1722, directly for Carolina; which Country, tho' inhabited by English above an Age past, and a country inferior to none in fertility, and abounding in variety of the blessings of nature; yet it's productions being very little known, except what barely related to Commerce, such as Rice, Pitch and Tar; was thought the most proper Place, to search and describe the Productions

of: accordingly I arriv'd in Carolina 22^d of May 1722, after a ple-
asant tho' not a short passage. In our Voyage, we were, frequently
entertained with Diversions not uncommon in crossing the Atlantic
Ocean, such as catching of Sharks, Striking of Porpuses, Dolphins,
Bonetoes, Albicores, and other Fish; which three last we regaled,
on when Fortune, favoured us in catching them; and even the
Flesh of Sharks and Porpuses would Digest well with the Sailors,
when long fed on salt meats. The pursuit of Dolphins after Flying
Fish, was another amusement we were, often diverted with; the
Dolphins having raised the Flying-Fish, by the swiftness of their
swimming, keep pace with them, and pursue them so close, that
the Flying-Fish being at length tired, and having ^{pag. III.} their wings dry
^{pag. III.} and being thereby necessitated to drop into the Water, often fall
into the jaws of their Pursuers; at some times neither Element
affords them safety, for no sooner do they escape their enemies in
the Water, but they are caught in the Air by voracious Birds.
But what seemed most remarkable, of this kind, was, that in the
latitude of 26. Degrees North, about the midway between the two
Continents of Africa and America, which I think cannot be less than
600 leagues, an Owl appear'd hovering over our Ship: these Birds
have short wings, and have been observed not to be capable of
long flights, it being a common diversion for boys to run them
down after the second or third flight. This Owl after some attempt
to rest, disappear'd; and the same Day being the 22^d of March
an Hawk with a white head, breast, and belly, appear'd in like
manner, and the day after some Swallows appear'd, but none

ventur'd to alight on any Part of the Ship. No Birds seem more able to continue long on their wings, than Hawks and Swallows; but that an Owl should be able to hold out so long a flight, is to me most surprising.

Upon my arrival at Charles Town, I waited on General Nicholson, then Governor of that Province, who received me with much Kindness, and continued his Favours during my Stay in that Country. Nor could I excuse myself of ingratitude without acknowledging the hospitable and Kind entertainment I generally met with amongst the Gentlemen of the Country, which much contributed to the facilitating the work I went about.

As I arrived at the beginning of the Summer I unexpectedly found this Country possessed not only with all the Animals and vegetables of Virginia, but abounding with even a greater variety. The inhabited Parts of Carolina extend West from the Sea about sixty Miles, and almost the whole length of the coast, being a level, low Country. In these Parts I continued the first Year searching after, collecting and describing the Animals and Plants. I then went to the Upper uninhabited Parts of the Country, and continued at and about Fort Moore, a small Fortress on the Banks of the River Savanna, which runs from thence a Course of 300 Miles down ^{pag. IV.} to the Sea, and is about ^{g. IV.} the same distance from it's source, in the Mountains.

I was much delighted to see Nature differ in these Upper Parts, and to find here abundance of things not to be seen in the lower parts of the Country. This encouraged me to take several Journeys with the Indians higher up the River, towards the Mountains, which afforded not only a Succession of new vegetable Appearances, but the most delightful Prospects imaginable, besides the Diversion of Hunting Buffaloes, Bears, Panthers, and other wild Beasts. In these Excursions I employed an Indian to carry my Box, in which, besides Paper

and materials for Painting, i put dry'd Specimens of Plants, Seeds &c. as i gather'd them. To the Hospitality and Assistance of these Friendly Indians, i am much indebted, for i not only subsisted on what they shot, but their First Care was to erect a bark hut, at the approach of rain to keep me and my Cargo from wet.

I shall next proceed to an account of the Method i have observed in giving the Natural History of these Countries; to begin therefore with Plants, i had principally a regard to Forest-Trees and Shrubs, shewing their several mechanical and other Uses, as in Building, Coyrery, Agriculture, Food, and Medicine. I have likewise taken notice of those Plants, that will bear out English Climate, which i have experienced from what i have growing at M^r. Bacon Successor of the late Mr. Fairchild at Hoxton, whose many have withstood the Rigour of several Winters, without Protection, while other Plants, from the same Country, have perished for want of it.

As there is a greater Variety of the feather'd Kind than of any other Animals (at least to be come at) and as they excel in the beauty of their Colours, and have a nearer relation to the Plants of which they feed on and frequent: i was induc'd chiefly (so far as i could) to compleat an Account of them, rather than to describe promiscuously, Insects and other Animals, by which i must have omitted many of the Birds (for i had not Time to do all); by which method i believe very few Birds have escap'd my knowledge ^{pag. V.} except some Water Fowl, and some of those which frequent the Sea ^{pag. V.} of Coast there are not many Species different from those in the old World most of these i have figured, except those which do not materially differ from the same Species in Europa, and those which have been Described by other Authors.

Of Serpents, very few, I believe, have escaped me, for upon shewing my Designs of them to several of the most intelligent persons, many of them confessed that they had not seen them all, and none of them pretended to have seen any other Kinds.

Of Fish, I have described not above five or six from Carolina, deferring that work till my arrival at the Bahama Islands; for as they afford but few Quadrupeds and Birds, I had more time to describe the Fishes, and tho' I had been often told they were very remarkable, yet I was surprised to find how lavishly nature had adorned them with Marks and colours most admirable.

As for Insects, these Countries abound in numerous Kinds, but I was not able to delineate a great number of them for the reasons already assigned. After my Continuance almost three years in Carolina and the adjacent parts (which the Spaniards call Florida, particularly that Province lately honoured with the name of Georgia) I went to Providence, one of the Bahama Islands; to which Place I was invited by his Excellency Charles Phinney, Esq; Governor of those Islands, and was entertained by him with much Hospitality and Kindness. From thence I visited many of the adjacent Islands, particularly Stathera, Andros, Abbaeo and other neighbouring Islands. Tho' these rocky Islands produce many fine Plants, which I have here described; I had principally a regard to the Fish, there being not any, or a very few of them, described by any Author. Both in Carolina and on these Islands, I made successive collections of dried Plants and Seeds, and at these Islands more particularly I collected many submarine productions, as Shells, Corallines, Frutices Marini, Sponges, Asteroites, &c. These I imparted to my curious Friends, more particularly (as I had the greatest Obligations) to that great Naturalist and

Promotes of Science Sir Hans Sloane, Bart. to whose ^{pag. VI.} goodness I
^{pag. VI.} attribute much of the success I had in this undertaking.

As I was not bred a Painter I hope some faults in Perspective, and other niceties, may be more readily excused; for I humbly conceive that Plants, and other Things done in a Flat, tho' exact manner, may serve the Purpose of Natural History, better in some Measure, than in a more bold and Painter-like way. In designing the Plants, I always did them while fresh and just gathered: and the Animals, particularly the Bird, I painted while alive (except a very few) and gave them their Gestures peculiar to every kind of Birds, and where it could be admitted, I have adapted the Birds to those Plants on which they fed, or have any relation to. Fish, which do not retain their colours when out of their Element, I painted at different times, having a Succession of them procured while the former lost their colours: I do not pretend to have had this advantage in all, for some Kinds I saw not plenty of, and of others I never saw above one or two. Reptiles will live many months without sustenance; so that I had no difficulty in painting them while living.

At my return from America, in the year 1726, I had the satisfaction of having my labours approved of; and was honoured with the Advice of several of the above-mentioned Gentlemen, most skilled in the Learning of Nature, who were pleased to think them worth Publishing but that the expence of Graving would make it too burthensome an Undertaking. This Opinion, from such good Judges, discouraged me from attempting it any further: and I alter'd my design of going to Paris or Amsterdam where I had first proposed to have them done.

At length by the kind advice and Instructions of that inimitable Painter
m^r. Joseph Goupy, I undertook, and was initiated in the way of, etching
them myself, which I have not done in a Graver-like manner, choosing
rather to omit their method of cross-hatching, and to follow the humour
of the Feathers, which is more laborious, and I hope has proved more
to the purpose.

The illuminating Natural History is so particularly essential to the per-
fect understanding of it, that I may aver a clearer Idea may be conceived
from the Figures of Animals and Plants in their proper colours, than
from the most exact description without them: wherefore I have been
less prolix in the description, judging it unnecessary to tire the Reader
with describing every Feather, yet, I hope I have said enough to distin-
guish them without confusion.

As to the Plants I have given them the English and Indian names they are
known by in these Countries: and for the Latin names I was beholden to
the above-mentioned learned and accurate Botanist Dr. Herard.

Very few of the Birds having names assigned them in the country, except
some which had Indian names; I have called them after European Birds
of the same Genus, with an additional Epithet to distinguish them. As
the Males of the Feathers'd Kind (except a very few) are more elegantly
coloured than the females, I have throughout exhibited the Cocks only,
except two or three; and have added a short description of the Hens,
wherein they differ in colour from the Cocks, the want of which method
has caused great confusion in works of this nature.

Of the Paints, particularly Greens, used in the illumination of figures,
I had principally a regard to those most resembling Nature, that were

Durable, and would retain their lustre, rejecting other: very Specious
and shining, but of an unnatural colour and fading quality. Yet give
me leave to observe, there is no degree of Green, but what some
Plants are possess'd of at different times of the year, and the same
Plant changes its colour gradually with it's Age: for in the Spring the
Woods and all Plants in general are more yellow and bright; and
as the Summer advances, the Greens grow deeper, and the nearest
their fall are yet of a more dark and dirty colour. What I infer
from this is, that by comparing a Painting with a living Plant,
the difference of colour, if any, may proceed from the above-
mentioned cause.

As to the French Translation I am obliged to a very ingenious
Gentleman, a Doctor of Physick, and a Frenchman born, whose
Modesty will not permit me to mention his Name.

pag. i. *Aquila Capite albo.*

The Bald Eagle.

This Bird weighs nine pounds: the Iris of the eye white; over which is a prominence, cover'd with a yellow skin; the bill yellow, with the Seat of the same colour: the legs and Feet are yellow; the Talons black, the Head and part of the Neck is white, as is the Tail; all the rest of the Body, and wings, are brown.

Tho' it is an Eagle of a small size, yet has great strength and spirit, preying on Pigs, Lambs, and Fawns.

They always make their Nests near the sea, or great rivers, and usually on old, dead Pine, or Cypress-trees, continuing to build annually on the same tree, till it falls. Though he is so formidable to all birds, yet he suffers them to breed near his royal nest without molestation; particularly the fishing and other Hawks, Herons &c. which all make their nests on high trees; and in some places are so near one another that they appear like a Rookery. This Bird is called the Bald Eagle, both in Virginia and Carolina, though his head is as much feather'd as the other parts of his body.

Both Cock and Hen have white Heads, and their other parts differ very little from one another.

pag. 2. *Accipiter piscatorius.*

The Fishing Hawk.

This Bird weighs three pounds, and a quarter, from one end of the wing to the other extended, five foot five inches. The Bird is black, with a blue seat; the Iris of the eye yellow; the Crown of the head brown, with a mixture of white feathers: from each Eye, back wards, runs a brown stripe; all the upper part of the Back, Wing and Tail, dark-brown; the Throat, Neck and Belly, white: the Legs and Feet are remarkably rough and scaly, and of a pale-blue colour; the Talons black, and almost of an equal size: the Feathers of the Thighs are short, and adhere close to them, contrary to others of the Hawk kind; which nature seems to have designed, for their more easy penetrating the water.

Their manner of fishing is (after hovering a while over the water) to precipitate into it with prodigious swiftness; where it remains for some minutes, and seldom rises without a fish: which the Bald Eagle (which is generally on the watch) no sooner spies, but attacks him furiously he flies: the Hawk mounts, screaming out, but the Eagle always soars above him, and compels the Hawk to let it fall; which the Eagle seldom fails of catching, before it reaches the water. It is remarkable, that whenever the Hawk catches a Fish, he calls, as if it were, for the Eagle who always obeys the call, if within hearing.

The lower parts of the rivers and creeks near the sea abound most with these Eagles and Hawks, where these diverting contest are frequently seen.

pag. 3. *Accipiter palumbarius.*
The Pigeon-Hawk.

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It weighs six ounces: the Bill at the point black, at the basis whitish; the Iris of the eye yellow: the basis of the upper mandible is cover'd with a yellow Sear: all the upper Part of the Body, Wings and Tail is brown: the interior vanes of the quill-feathers have large red spots: the Tail is transversely marked with four white lines; the Throat, Breast and Belly white, intermixed with brown feathers; the small feathers that cover the thighs, reach within half an inch of the feet, and are white, with a tincture of red, beset with long spots of brown; the Legs and Feet yellow. It is a very swift and bold Hawk, preying on the Pigeons, and wild Turkeys while they are young.

pag. 4. *Accipiter Cauda furcata.*
The Swallow-Tail Hawk.

It weighs fourteen ounces; the beak black and hooked, without angles on the sides of the upper Mandible, as in other Hawks; the Eyes very large, and black, with a red Iris; the Head, Neck, Breast and Belly white; the Upper part of the Wing and Back, dark purple but more dusky towards the lower parts, with a tincture of green; the Wings long, in proportion to the body; they being extended, are four foot; the Tail dark purple, mix'd with green, remarkably forked, the utmost and longest feathers being eight inches longer than the middlemost, which is shortest.

Like Swallows, they continue long on the wing, catching, as they fly, Beetles, Flies, and other Insects, from trees and bushes. They are said to prey upon Lizards and other Serpents; which has given them (by some) the name of Snake Hawk. I believe they are birds of passage, not having seen any of them in winter.

pag. 5. *Accipiter minor.*

The Little Hawk.

This Bird weighs three ounces and sixteen penny weight. The basis of the upper mandible is covered with a yellow seat: The iris of the eye is yellow; The head lead-colour, with a large red spot on its crown: round the back of its head, are seven black spots regularly placed: The throat and cheeks are white, with a tincture of red; the back red, and marked with transverse black lines: The quill feathers of the wing are dark brown; the rest of the wing blue, marked as on the back, with black: the tail is red, except an inch of the end, which is black; the breast and belly are of a blueish red; the legs and feet yellow.

The Hen differs from the Cock, as follows: her whole wing and back is of the same colour as the back of the Cock; the tail of the Hen is marked, as on the back, with transverse black lines; her breast has not that stain of red as in the Cock.

They abide all the year in Virginia and Carolina, preying not only on small birds, but mice, Lizards, Beetles, &c.

Buteo, Specie Gallo-Pavonis.

Vultur Gallinae Africanae Jacq. Hist. Jam. 294. vol. 2. Urubu
 Brasiliensibus Marg. pag. 107. Ed. 1628. Willughb. Angl. p. 68. Syn.
 av. p. 10. Vulturi affinis Brasiliensis Urubu Marg. Praej. Syn. p. 180.
 Tropicotte, sive Aura, Hernandez, p. 331. quoad descriptionem.
 Cozaquautitli de Hernandez, edit. a Limer. pag. 186. Aura Nicemb.

The Turkey Buzzard.

This Bird weighs four pound and an half. The head and part
 of the neck red, bald and fleshy, like that of a Turkey, beset thin
 with black hairs; the bill is two inches and an half long, half co-
 vered with flesh, the end white, and hooked like that of a Hawk
 but without angles on the sides of the upper mandible. The nostrils
 are remarkably large and open, situated at an unusual distance
 from the eyes: the feathers of the whole body have a mixture
 of brown, purple, and green; the legs are short, of a flesh colour
 their toes are long-shaped, like those of Dunghil-fowls; their
 claws black, and not so hooked as those of Hawks.

Their food is carrion; in search after which they are always so-
 aring in the air. They continue a long time on the wing, and with
 an easy swimming motion mount and fall, without any visible
 motion of their wings. A dead carcass will attract together great
 numbers of them; and it is pleasant to observe their consent
 in feeding. An Eagle sometimes presides at the banquet, and

makes them keep their distance while he satiates himself.

These birds have a wonderful sagacity in smelling: no sooner there is a dead beast, but they are seen approaching from all quarters of the air, wheeling about, and gradually descending and drawing nigh their prey, till at length they fall upon it. They are generally thought not to prey on any thing living, though I have known them kill Lambs; and Snakes are their usual food. Their custom is to roost, many of them together, on tall dead Pine or Cypress-trees, and in the morning continue several hours on their roost, with their wings spread open: that the air, as I believe, may have the greater influence to purify their filthy carcasses. They are little apprehensive of danger, and will suffer a near approach, especially when they are eating.

Noctua aurita minor.

The Little Owl.

Is about the size of, or rather less than, a Jack-daw; has large pointed ears; the bill small, the iris of the eye of a deep yellow, or saffron colour; the feathers of it's face white, with a tincture of reddish brown: the head and upper part of the body of a fulvous or reddish brown colour; the wings are of the same colour except that they are verged about with white, it hath some white spots on the quill-feathers, and five larger white spots on the upper part of each wing: the breast and belly is dusky white, intermix'd with reddish brown feathers: the tail dark-brown, a little longer than the wings; the legs and feet light brown, feather'd and hairy down to the toes, armed with four semi-circular black talons.

The Hen is of a deeper brown, without any tincture of red.

Caprimulgus.

The Goat-Sucker of Carolina.

This Bird agrees with the description of that in Mr. Willoughby, p. 107. of the same name, except that this is somewhat less. They are very numerous in Virginia and Carolina, and are called there East-India Bats. In the evening they appear most, and especially in cloudy weather: before rain, the air is full of them, pursuing and dodging after Flies and Beetles.

Their note is only a scree; but by their precipitating and swiftly mounting again to recover themselves from the ground, they make a hollow and surprizing noise; which to strangers is very observable, especially at dusk of the evening, when the cause is not to be seen. This noise is like that made by the wind blowing into a hollow vessel: wherefore I conceive it is occasion'd by their wide mouth forcibly opposing the air, when they swiftly pursue and catch their prey, which are Flies, Beetles &c.

They usually lay two eggs, like in shape, size, and colour, to those of Lapwings, and on the bare ground.

Its Stomach was filled up with half-digested Beetles, and other Insects; and amongst the remains, there seemed to be the feet of the Grillootalpa, but so much consumed, that I could not be certain: as they are both nocturnal Animals, the probability is the greater. They disappear in winter.

The Grillootalpa is found both in Virginia and Carolina in the like marshy grounds as in England, and seems not to differ from ours.

pag. 9. *Cuculus Caroliniensis.*

The Cuckow of Carolina.

Is about the size of a Black-bird: the bill a little hooked and sharp; the upper mandible black; the under yellow: the large wing feathers reddish; the rest of the wing, and all the upper part of the body, head and neck, ash-colour: all the under part of the body, from the bill to the tail, white. The tail long and narrow, composed of six long and four shorter feathers: the two middlemost ash-colour, the rest black, with their ends white: their legs short and strong, having two back toes, and two before. Their note is very different from ours, and not so remarkable as to be taken notice of. It is a solitary Bird, frequenting the darkest recesses of woods and shady thickets. They retire, at the approach of winter.

99. *Castanea pumilla virginiana*, fructu racemato
parvo in singulis capsulis echinatis unico.

D. Banister.

The Chinkapin.

It is a shrub which seldom grows higher than sixteen feet, and usually not above eight or ten: the body commonly eight or ten inches thick, and irregular; the bark rough and scaly; the leaves are serrated, and grow alternately, of a dark green, their back-sides being of a greenish white: at the joints of the leaves shoot forth long spikes of whitish flowers, like those of the common Chesnut, which are succeeded by Nuts of a conick shape, and the size of a Hazel-nut; the shell, which incloses the Kernel, is of the colour and consistence of that of a Chesnut, inclosed in a prickly butt, usually five or six hanging in a cluster. They are ripe in September.

These Nuts are sweet, and more pleasant than the Chesnut; of great use to the Indians, who for their winter's provision lay them up in store.

Psittacus Paradisi ex Cuba.

The Parrot of Paradise of Cuba.

Is somewhat less than the common African grey Parrot: the bill white, the eyes red: the upper part of the head, neck, back and wings, of a bright yellow, except the quill feathers of the wing, which are white: the neck and breast scarlet; below which is a wide space of yellow; the remainder of the under part of the body scarlet: half way of the under part of the tail, next the rump, red, the rest yellow. All the yellow, particularly the back and rump, have the ends of the feathers tinged with red: the feet and claws white. The figure of this Bird has the disadvantage of all the rest, it being painted only from the case: for as all different Birds have gestures peculiar to them, it is requisite they should be drawn from the living Birds, otherwise it is impracticable to give them their natural air which method, except in a few Birds, has been practised through the whole collection. It was shot by an Indian, on the Island Cuba; and being only disabled from flying he carried it to the Governour of the Havana, who presented it to a Gentlewoman of Carolina, with whom it liv'd some years, much admir'd for its uncommonness and beauty.

Frutex lauri folio pendulo, fructu tricocco semine nigro. Splendens
Red-WOOD.

This Tree usually grows from sixteen to twenty foot high, with a small trunk and slender branches; the leaves shaped not unlike those of the Bay-tree; three black seeds are contained in every capsula: the bark of a russet colour, and smooth: the grain of a fine red; but being exposed a little time to the air, fades, and loses much of its lustre. They grow plentifully on the rocks in most of the Bahama Islands.

ag. 11. *Psittacus Caroliniensis.*

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The Parrot of Carolina.

This Bird is of the bigness, or rather less than a Black-bird, weighing three ounces and an half: the fore part of the head orange colour; the hind part of the head and neck yellow. All the rest of the Bird appears green; but upon nearer scrutiny, the interior vanes of most of the wing feathers are dark brown: the upper parts of the exterior vanes of the larger wing or quill feathers are yellow, proceeding gradually deeper colour'd to the end, from yellow to green; and from green to blue: the edge of the Shoulder of the wing, for about three inches down, is bright orange colour. The wings are very long, as is the tail; having the two middle feathers longer than the others by an inch and half, and end in a point; the rest are gradually shorter. The legs and feet are white: the small feathers covering the thighs are green, ending at the knees with a verge of orange colour. They feed on seeds and kernels of fruit; particularly those of Cypress and Apples. The orchards in autumn are visited by numerous flights of them; where they make great destruction for their kernels only: for the same purpose they frequent Virginia; which is the furthest North I ever heard they have been seen. Their guts are certain and speedy poison to Cats. This is the only one of the Parrot kind in Carolina; some of them breed in the country; but most of them retire more South.

The Cypress of America.

The Cypress (except the Tulip-tree) is the tallest and largest in these parts of the world. Near the ground some of them measure 30 foot in circumference, rising pyramidally six foot, where it is about two thirds left; from which to the limbs, which is usually 60 or 70 foot, it grows in like proportion of other trees. Four or five foot round this tree (in a singular manner) rise many stumps, some a little above ground, and others from one to four foot high, of various shape and size, their tops round, covered with a smooth red bark. These stumps shoot from the roots of the tree, yet they produce neither leaf nor branch, the tree increasing only by seed, which in form are like the common Cypress, and contain a balsamic consistence of a fragrant smell. The timber this tree affords is excellent, and particularly for covering houses with, it being light, of a free grain, and resisting the injuries of the weather better than any other here. It is an aquatic, and usually grows from one five and six foot deep in water; which secure situation seems to invite a great number of different birds to breed in its lofty branches; amongst which this Parrot delights to make its nest, and in October, (at which time the seed is ripe) to feed on their kernels.

Monedula Purpurea.
The Purple Jack-Daw.

This is not so big by one third part as the common Jack-Daw, weighing six ounces: the bill black, the eyes grey, the tail long, the middle-feathers longest, the rest gradually shorter. At a distance they seem all black, but at a nearer view, they appear purple, particularly the head and neck has most lustre.

The hen is all over brown, the wing, back and tail being darkest. They make their nests on the branches of trees in all parts of the country, but most in remote and unfrequented places; from whence in autumn, after a vast increase, they assemble together, and come amongst the inhabitants in such numbers that they sometimes darken the air, and are seen in continued flights for miles together, making great devastation of grain where they light. In winter they flock to barn doors. They have a rank smell; their flesh is coarse, black, and is seldom eat.

pag. 12. *STURMUS niger alis superne, rubentibus.*

The red wing'd Starling.

A cock weighed between three and four ounces, in shape and size resembling our Starling. The whole Bird (except the upper part of the wings is black and would have little beauty, were it not for the shoulders of the wings, which are bright scarlet. This and the Purple-Dove are of the same genus, and are most voracious corn-eaters. They seem combined to do all the mischief they are able: and to make themselves most formidable both kinds unite in one flock, and are always together, except in breeding time; committing their devastations all over the Country. When they are shot, there usually falls of both kinds; and before one can load again, there will be in the same place oft-times more than before they were shot at. They are the boldest and most destructive Birds in the Country.

This seems to be the Bird Hernandez call *Acolchichi*, Will. orn. p. 391. They make their nests in Carolina and Virginia, not on trees, but always over the water, amongst reeds or sedge; the tops of which they interweave very artfully, and fix their nests beneath; and so secure from wet, that where the tides flow, it is observed that they never reach them. They are familiar and active Birds, and are taught to talk and sing.

The Hens are considerably less than the Cocks, of a mixed gray, and the red on their wings not so bright.

Myrtus Brabantica Similis, Caroliniensis, humilior; foliis latioribus et magis serratis.

The broad-leaved Candle-berry Myrtle.

This grows usually not above three foot high, in which, and its having a broader leaf than the tall candle-berry Myrtle, it principally differs from it.

pag. 14. *Hortulanus Caroliniensis.*

The Rice-Bird.

In the beginning of September, while the grain of Rice is yet soft and milky, innumerable flights of these Birds arrive, from some remote parts, to the great detriment of the inhabitants. In 1724. an inhabitant near Ashley river had forty acres of Rice, so devoured by them, that he was in doubt, whether what they had left was worth the expense of gathering in.

They are esteemed in Carolina the greatest delicacy of all other Birds. When they first arrive, they are lean, but in few days become so excessive fat, that they fly sluggishly and with difficulty: and when shot, frequently break with the fall: they continue about three weeks, and retire by that time, the Rice begins to harden.

There is somewhat so singular and extraordinary in this Bird, that I cannot pass it over without notice. In September, when they arrive in infinite swarms to devour the Rice, they are all Hens, not being accompanied with any Cock. Observing them to be all feather'd alike, I imagin'd they were young of both sexes, not perfected in their colours; but by opening some scores prepared for the spit, I found them to be all Females. And that I might leave no room for doubt, repeated the search often on many of them, but could never find a Cock at that time of the year.

Early in the spring, both Cocks and Hens make a transient visit together, at which time I made the like search as before, and both sexes were plainly distinguishable. The Hen, which is properly the Rice-Bird, is about the bigness of a Lark, and coloured not unlike

it on the back; the breast and belly are pale yellow, the bill is long
sharp-pointed, and shaped like most others of the granivorous kind.
This seems to be the Bird described by the name of Maia, Will. App. pag.
386. In September 1725, lying upon the deck of a sloop in a bay at
Andros Island, I and the Company with me, heard three nights suc-
cessively, flights of these Birds (their note being plainly distinguis-
hable from others) passing over our heads northerly, which is their
direct way from Cuba to Carolina; from which, I conceive, after
partaking of the earliest crop of Rice at Cuba, they travel over sea
to Carolina for the same intent, the Rice there being at that time
fit for them.

The Cock's bill is lead colour, the fore-part of the head black, the
hind-part and the neck of a reddish yellow, the upper-part of the
wing white, the back next the head black, lower down grey the
rump white, the greatest part of the wing, and whole tail, black,
the legs and feet brown in both sexes.

the day. 15.

Pica glandaria, caerulea, cristata.

The Blue Jay.

full as big, or bigger than a Starling: the bill black; above the basis of the upper mandible are black feathers, which run in a narrow stripe, cross the eyes, meeting a broad black stripe, which encompasses the head and throat. It's crown feathers are long, which it erects at pleasure: the back is of a dusky purple: the interior vanes of the larger quill feathers black; the exterior blue, with transverse black lines cross every feather, and their ends tipped with white. The tail is blue, marked with the like cross lines as on the wings. They have the like jetting motion with our Jay; their cry is more tuneful.

The Hen is not so bright in colour, except which, there appears no difference.

Smilax laevis, Lauri folio, baccis nigris.

The Bay-leaved Smilax.

This Plant is usually Found in moist places: it sends forth from its root many green stems, the branches of which overspreads whatsoever stands near it, to a very considerable distance; and it frequently climbs above sixteen foot in height, growing so very thick, that in Summer it makes an impenetrable shade, and in winter a warm shelter for cattle. The leaves are of the colour and consistence of Laurel, but in shape more like the Bay, without any visible veins, the middle rib only excepted.

The flowers are small and whitish; the fruit grows in round clusters, and is a black berry, containing one single hard seed, which is ripe in October, and is food for some sorts of birds, particularly this Jay.

pag. 16. *Picus maximus rostro albo.*

The largest white-bill Woodpecker.

Weights twenty ounces; and is about the size, or somewhat larger than a Crow. The bill is white as ivory, three inches long, and channelled from the basis to the point: the iris of the eye yellow: the hind part of the head adorned with a large peaked crest of scarlet feathers: a crooked white stripe runs from the eye on each side of the neck, towards the wing: the lower part of the back and wings (except the large quill feathers) are white: all the rest of the Bird is black.

The bills of these Birds are much valued by the Canada Indians, who make coronets of them for their Princes and great warriors, by fixing them round a wreath, with their points outward. The Northern Indians having none of these Birds in their cold country, purchase them of the Southern people at the price of two, and sometimes three buck-skins a bill.

These Birds subsist chiefly on Ants, Wood-worms, and other Insects, which they have out of rotten trees; nature having so formed their bills, that in an hour or two they will raise a bushel of chips; for which the Spaniards call them *Carpenteros*.

Quercus Anpotius; Nax Marylandica, folio longo, angusto, salices-Raii

The willow Oak.

This Oak is never found but in low moist land: the leaves are long, narrow, and smooth edged, in shape like the Willow: the wood is soft and coarse grained, and of less use than most of the other kinds of Oak. In mild Winters they retain their leaves in Carolina; but in Virginia they drop.

pag. 17. *Picus niger maximus capite rubro.*

The larger red-crested Wood-pecker.

Weights nine ounces: The bill angular, two inches long, of a lead colour: the neck is small; the iris of the eye gold colour, encompassed with a lead colour's skin: the whole crown of the head is adorn'd with a large scarlet crest; under which, and from the eyes back, runs a narrow white line, and under that a broad black list: a patch of red covers some of the lower mandible of the bill and neck; the rest of the neck (except the hind part, which is black) of a pale yellow, with a small stripe of black dividing it: the upper part of the exterior vanes of the quill feathers is white, spot or two: on the middle of the back is a broad white spot: all the rest of the upper part of the body and tail black: the under part of the body of a dusky black.

That which distinguishes the Cock from the Hen, is the red which covers some part of his under jaw, which in the Hen is black. And whereas the whole crown of the Cock is red, in the Hen the forehead is brown. These Birds (besides Insects which they get from rotten trees, their usual food) are destructive to Maiz, by pecking holes through the husks that inclose the grain, and letting in wet.

Quercus Sempervivens foliis oblongis non sinuatis.

D. Banister.

The Live Oak.

The usual height of the Live Oak is about 40 foot; the grain of the wood coarse, harder and tougher than any other Oak. Upon the edges of salt marshes (where they usually grow) they arrive to a large size. Their bodies are irregular, and generally lying along occasioned by the looseness and moisture of the soil, and tides washing their roots bare. On higher lands they grow erect, with a regular pyramidal-shaped head, retaining their leaves all the year. The acorns are the sweetest of all others; of which the Indians usually lay up store, to thicken their venison soup, and prepare them other ways. They likewise draw an oil, very pleasant and wholesome, little inferior to that of Almonds.

Picus major alis aureis.

The Gold-winged Wood-pecker.

This Bird weighs five ounces: the bill black, an inch and half long, and a little bending: from the angles of the mouth on each side runs down a broad black list, about an inch long: the upper part of the head and neck of a lead colour. On the hind part of the neck, throat, and about the eyes, of a bay colour; the back and part of the wing next to it, is intermix'd with black spots, in form of half moons. The larger wing feathers brown. What adds to the elegance of this Bird, and what alone is sufficient to distinguish it by, is, that the beams of all the wing feathers are of a bright gold colour. The breast has in the middle of it a large black spot, in form of a crescent, from which to it's vent it is dusky white, and spotted with round and some heart-shaped black spots. The rump white, the tail black, which, with the feet, are formed as others of this kind. It differs from other Wood-peckers in the hookedness of it's bill, and manner of feeding, which is usually on the ground, out of which it draxes worms and other Insects; neither do they alight on the bodies of trees in an erect posture, as Wood-peckers usually do, but like other Birds.

The Hen wants the black list, which is at the throat of the Cock, except which, she differs not from him in colour.

Quercus castanea foliis, procera arbor virgiana. Pluk. Alma.

The Chestnut Oak.

This Oak grows only in low and very good Land, and is the tallest and largest of the Oaks in these parts of the world: the bark white and shaly; the grain of the wood not fine, though the timber is of great use: the leaves are large, indented round the edges, like those of the Chestnut. None of the other Oaks produce so large acorns.

Pica ventre rubro.

The Red-bellied Wood-pecker.

Weighs two ounces six penny weight: The bill black: The eyes of a hazel colour; all the upper part of the head and neck bright red; below which it is ash colour, as is the under part of the body, except the belly, near the vent, which is stained with red: the upper part of the body, including the wings, is marked regularly with transverse black and white lines: the tail black and white; the feet black.

The Hen's forehead is brown; which is all the difference between them.

Picus medius quasi villosus.

The Hairy Wood-pecker.

Weighs two ounces: the crown of the head black; a red spot covers the back part of the head, between which and the eye it is white; the rest of the head and neck black, with a white line in the middle; the back is black, with a broad white stripe of hairy feathers; extending down the middle to the rump; the wings are black, with both vanes of the feathers spotted with large white spots: the tail black; all the under part of the body white.

The Hen differs from the Cock, only in not having the red spot at the back of the head.

Quercus (forte) Marilandica, folia trifido ad Saffras accedente. Raii Hist.

The Black Oak.

Usually grows on the poorest land, and is small, the colour of the bark black, the grain coarse; and the wood of little use but to burn: Some of these Oaks produce leaves ten inches wide.

pag. 20. *Picus capite toto rubro.*

The Red-headed Wood-pecker.

This Bird weighs two ounces: the bill sharp, somewhat compressed side-ways, of a lead colour; the whole head and neck deep red: all the under part of the body and rump white; as are the smaller wing feathers, which when the wings are closed, join to the white on the rump, and make a broad white patch cross the lower part of the back; the upper part of which is black, as are the quill feathers and tail, which is short and stiff. In Virginia very few of these Birds are to be seen in winter: in Carolina there are more, but not so numerous as in summer; wherefore I conceive they retire southward, to avoid the cold. This is the only one of the Wood-peckers that may be termed domestic, frequenting villages and plantations, and takes a peculiar delight in rattling with its bill on the boarded houses. They are great devourers of fruit and grain.

The Hen in colour differs little or nothing from the Cock.

Quercus folio non serrato, in summitate quasi triangulo.

The Water-Oak.

These grow nowhere, but in low waterish lands: the timber not durable, therefore of little use, except for fencing in fields. In mild winters they retain most of their leaves. The acorns are small and bitter, and are rejected by the Hogs while others are to be found.

209. *Picus varius minor ventre luteo.*

The Yellow-bellied Wood-pecker.

Weights one ounce, thirteen penny weight. Its bill is of a lead colour all the upper part of the head is red, bordered below with a list of black, under which runs a list of white, parallel with which runs a black list from the eyes to the back of the head, under which it is pale yellow. The throat is red, and bordered round with black: on the neck and back the feathers are black and white with a tincture of greenish yellow: the breast and belly are of a light yellow, with some black feathers intermixed. The wings are black, except towards the shoulders, where there are some white feathers; and both edges of the quill feathers are spotted with white: the tail is black and white.

The Hen is distinguishable by not having any red about her.

Picus varius minimus.

The Smallest Spotted Wood-pecker.

Weights fourteen penny weight. It so nearly resembles the hairy Wood-pecker, Tab. 19. in its mark, and colour, that were it not for disparity of size, they might be thought to be the same. The breast and belly of this are light grey: The four uppermost feathers of the tail are black: the rest are gradually shorter, and transversely marked with black and white: The legs and feet are black. Thus far this differs from the description of the abovementioned.

The Hen differs from the Cock in nothing but wanting the red spot on its head.

ag. 21. *Quercus alba virginiana*, Park.

The white Oak.

This nearest resembles our common English oak in the shape of its leaves, acorns, and manner of growing; the bark is white, the grain of the wood fine, for which, and its durability, it is esteem'd the best oak in Virginia and Carolina. It grows on all kind of land; but most on high barren ground amongst pine trees.

There is another kind of white oak, which in Virginia is called the scaly white oak, with leaves like this; the bark is white and scaly, the wood of great use in building. They grow on rich land both high and low.

Quercus Caroliniensis, videntibus venis muricata.

The white Oak, with pointed Notches.

The leaves of this oak are notched, and have sharp points. The bark and wood are white, but it has not so close a grain as the precedent. Dr. Pluater has figured a leaf shaped like this by the name of *Quercus Virginia, rubris venis muricata*. This has no red veins. See Pluk. Phytograph. T. LIV, fig. 5.

(See plate 20)

Syringa vaccifera, Myrti subrotundis foliis, floribus albis, gemellis, ex Provincia Florida. Pluk. Amaltm 198. T. 444.

This plant grows in moist places, usually under trees, on which it sometimes creeps a little way up, but most commonly trails on the ground, many stems rising close together near the ground, about six inches long, which have some side branches: the leaves are small, in form of a heart, and grow opposite to each other on very small foot-stalks: its flowers are tetrapetalous, very small, and in form and colour like those of the white Lilac, and are succeeded by red berries of an oval form, and of the size of large peas, having two small holes, and contain many small seeds. It retains the leaves all the year.

Sitta Capite nigro.
The Nuthatch.

Weighs thirteem penny weight five grains. The bill, and upper part of the head and neck are black, the back is grey. The wings are of a dark brown, edged with light grey; the uppermost two feathers of the tail are grey; the rest black and white. At the vent is a reddish spot; the legs and feet are brown. The back claw is remarkably bigger and longer than the rest, which seems necessary to support their body in creeping down as well as up trees, in which action they are usually seen peering their food, which is Insects, from the chinks or crevices of the bark.

The Hen differs but little from the Cock in the colour of her feathers. They breed and continue the whole year in Carolina.

Sitta Capite fusco.
The Small Nuthatch.

This weighs six penny weight. The bill is black; the upper part of the head brown; behind which is a dusky white spot; the back is grey as are the two uppermost tail feathers; the rest being black; the wings are dark brown; the throat, and all the under part of the body dusky white; the tail is short; the back toe is largest. They abide all the year in Carolina. Their food, and manner of taking it, is the same as that of the larger Nuthatch.

Quercus humilior, Salicis folio brevior.
The Highland Willow Oak.

This is usually a small tree, having a dark coloured bark, with leaves of a pale green, and shaped like those of a Willow. It grows on dry poor land, producing but few acorns, and those small. Most of these Oaks are growing at Mr. Fairchild's.

pag. 29. *Columbus migratorius.*

The Pigeon of Passage.

It is about the size of our English wood-pigeon; the bill is black; the iris of the eye red; the head dusky blue; the breast and belly faint red. Above the shoulder of the wing is a patch of feathers that shines like gold; the wing is colour'd like the head, having some few spots of black, (except that the larger feathers of it are dark brown) with some white on their exterior vanes. The tail is very long, covered with a black feather; under which the rest are white; the legs and feet are red.

If these come in winter to Virginia and Carolina, from the North, in incredible numbers; insomuch that in some places where they roost, which they do on one another's backs, they often break down the limbs of Oaks with their weight, and leave their dung some inches thick under the trees they roost on. Where they light, they so effectually clear the woods of acorns and other mast, that the Hogs that come after them, to the detriment of the planters, fare very poorly. In Virginia I have seen them fly in such continued trains three days successively, that there was not the least interval in losing sight of them, but that some where or other in the air they were to be seen continuing their flight South. In mild winters there are few or none to be seen. A hard winter drives them South, for the greater plenty and variety of mast, berries, &c. which they are deprived of in the North by continual frost and snow.

In their passage, the people of New-York and Philadelphia shoot

many of them as they fly, from their balconies and tops of houses; and in New-England there are such numbers, that with long poles they knock them down from their roosts in the night in great numbers. The only information I have had from whence they come, and their places of breeding, was from a Canada Indian, who told me he had seen them make their nests in rocks by the sides of rivers and lakes, far north of the river St. Lawrence, where he said he had shot them. It is remarkable that none are ever seen to return, at least this way; and what other rout they may take is unknown.

pag. 25. *Quercus Esculi divisura, foliis amplioribus aculeatis. Pluk. Phytog. Tab LIV.*

The Red Oak.

The leaves of this Oak retain no certain form; but sport into various shapes more than other Oaks do. The bark is dark colour'd, very thick and strong, and for tanning preferable to any other kind of Oak; the grain is coarse, the wood spongy, and not durable. They grow on high land: the acorns vary in shape, as appears by the figures of them; they being from the same kind of Oak.

Turtur Carolinensis.
 The Turtle of Carolina.

This is somewhat less than a dovehouse Pigeon; the eyes are black, compassed with a blue skin: the bill is black: the upper part of the head, neck, back, and upper part of the wings brown: the small feathers of the wing, next the back, have large black spots: the lower part of the wing and quill feathers are of a lead colour, three or four of the longest being almost black: the breast and belly of a pale carnation colour. On each side the neck, the breadth of a man's thumb, are two spots of the colour of burnished gold, with a tincture of crimson and green; between which and its eyes is a black spot. The wings are long, the tail is much longer, reaching almost five inches beyond them, and hath fourteen feathers, the two middle longest, and of equal length, and all brown; the rest are gradually shorter, having their upper part lead colour, the middle black, and the end white. The legs and feet are red. They breed in Carolina, and abide there always. They feed much on the berries of poke, i. e. *Polium Virginianum*, which are poison. They likewise feed on the seed of this plant; and they are accounted good meat.

Anapodophylon Canadense, Morini Tournef. Ronunculi facie, planta peregrina H. R. Par. *aconitifolia*, humilis, flore albo, unico, campanulato, Fructus *Cynosbati* Menz. Tab. 11. Tournef. inst. p. 229.

The May Apple

This plant grows about a foot and half high; the flower consisting of several petals, with many yellow chives surrounding the seed-vessel, which is oval, unilocular, and contains many roundish seeds. The leaves of the plant resemble the *Aconitum luteum* C. B. Pin. The root is said to be an excellent emetic, and is used as such in Carolina; which has given it there the name of *Specacuana*, the stringy roots of which it resembles. It flowers in March; the fruit is ripe in May; which has occasioned it in Virginia to be called May-apple.

pag. 25. *Columba Capite albo.*

Hist. Jam. pag. 303. Tab. 261. vol. 11.

The white-crown'd Pigeon.

It is as big as the common tame Pigeon. The basis of the bill is purple; the end dusky white. The iris of the eye yellow, with a dusky white. The crown of the head is white; below which it is purple. The hind part of the neck is covered with changeable, shining green feathers, edged with black: all the rest of the bird is of a dusky blue: the legs and feet are red. They breed in great numbers on all the Bahama Islands, and are of great advantage to the inhabitants, particularly while young. They are taken in great quantities from off the rocks on which they breed.

*Frutex Cotini, fere folio, crasso, in Summitate, deliquium patiente
fructu ovali caeruleo, spiculum angulosum continente.*

The Cocoa Plum.

This is a shrub, which grows from five to ten feet high; not with a single trunk, but with several small stems rising from the ground, thus growing many together in thickets. The flowers grow in bunches, are small and white, with many stamens. They produce a succession of fruit most part of the summer, which is of the size, and shape, of a large Damson; most of them blue. Some trees produce pale yellow, and some red. Each Plum contains a stone shaped like a Peat, channelled with six ridges. They grow usually in low moist ground near the sea side. The leaves are as broad as a crown, thick, stiff, and shaped somewhat like a heart. The fruit is esteemed wholesome, and hath a sweet luscious taste. The Spaniards at Cuba make a conserve of them, by preserving them in sugar.

pag. 26. *Turtur minimus Guttatus.*

The Ground-Dove.

The weight of this Dove was an ounce and half: in size about the same as a Lark. The bill is yellow, except the end, which is black. The iris of the eye red. The breast and whole front of the Bird is of a changeable purple colour, with dark purple spots. The large quill feathers and tail are of a muddy purple: The legs and feet dirty yellow. In short, the whole Bird has such a composition of colours, so blended together, that no perfect description by words can be given of it. I have observed some of them to differ in colour from others. which probably may be the reason, why Nieremberg, Margravius, and others who have described it, have varied in their descriptions of it. They fly many of them together, and make short flights from place to place, lighting generally on the ground. They are natives of most countries in America, lying between the Tropics. They sometimes approach so far North as Carolina, and visit the lower parts of the country near the sea, where these trees grow, and feed on the berries, which gives their flesh an aromatic flavour.

pag. 26. *Zanthoxylum spinosum*, *Lentisci*, longioribus foliis,
Euonymi fructu capsulari, ex *Insula Jamaicensi*
D. Banister. Phytogr.

The Pellitory, or Tooth-ach Tree.

This Tree seldom grows above a foot in thickness, and about sixteen feet high. The bark is white, and very rough. The trunk and large limbs are in a singular manner thick-set, with pyramidal-shaped protuberances, pointing from the tree; at the end of every one of which is a sharp thorn. These protuberances are of the same consistence with the bark of the tree, of various sizes, the largest being as big as walnuts. The smaller branches are beset with prickles only. The leaves are pennated, standing on a rib six inches long, to which the lobes are set one against another, with foot-stalks half an inch long. The lobes are axillary, their greatest vein not running in the middle, but on one side, being bigger than the other. From the ends of the branches shoot forth long stalks of small pentapetalous white flowers with reddish stamina. Every flower is succeeded by four shining black seeds contained in a round green capsula. The leaves smell like those of orange; which, with the seeds and bark, is aromatic, very hot and astringent, and is used by the people inhabiting the sea coasts of Virginia and Carolina for the Tooth-ach, which has given it its name.

Turdus minor, cinereo-albus, non maculatus.

19.27. Hist. Sam. p. 306. Tab. 256. Fig. 3.

The Mock-Bird.

This Bird is about as big or rather less than a Blackbird, and of a slenderer make. The bill is black; the iris of the eye of a brownish yellow; the back and tail dark brown; the breast and belly light grey; the wings brown, except that the upper part of the quill feathers have their exterior vanes white; and some of the small feathers near the shoulder of the wing, are verged with white. The Cocks and Hens are so like, that they are not easily distinguished by the colour of their feathers.

Hernandez justly calls it the Queen of all singing Birds. The Indians, by way of eminence or admiration, call it Cencontlatolly, or four hundred tongues; and we call it (though not by so elevated a name, yet very properly) the Mock-Bird, from its wonderful mocking and imitating the notes of all Birds, from the Humming Bird to the Eagle. From March till August it sings incessantly day and night with the greatest variety of notes, and, to complete his compositions, borrows from the whole choir, and repeats to them their own tunes with such artful melody, that it is equally pleasing and surprising. They may be said not only to sing but dance, by gradually raising themselves from the place where they stand, with their wings extended, and falling with their head down to the same place; the turning round, with their wings continuing spread have many pretty antic gesticulations with their melody. They are familiar and sociable Birds, usually perching on the tops of chimneys or trees, amongst the Inhabitants, who are diverted with their tuneful airs most part of the summer. Their food is Haws, Berries and Insects. In winter, when there is least variety and plenty, they will eat the berries of Dogwood.

pag. 29. *Cornus mas Virginiana*, flosculis in corymbo digestis, periantho
tetrapetalo albo radiatim cinctis. Pluk. Almag. 126.

The Dogwood Tree.

This is a small tree, the trunk being seldom above eight or ten inches thick. The leaves resemble our common dogwood, but are fairer and larger standing opposite to each other on foot-stalks of about an inch long, among which branch forth many flowers in the following manner. In the beginning of march the blossoms break forth, and though perfectly formed and wide open, are not so wide as a six-pence, increasing gradually to the breadth of a man's hand, being not at their full bigness till about six weeks after they began to open. Each flower consists of four greenish white leaves, every leaf having a deep indenture at the end. From the bottom of the flower rises a tuft of yellow Stamina, every one of which opens a-top into four small leaves or petals: the wood is white has a close grain, and very hard like that of box. The flowers are succeeded by clusters of berries, having from two to six in a cluster, closely joyned, and set on foot-stalks an inch long. These berries are red, of an oval form, and of the size of large haws, containing a hard Stone. As the flowers are a great ornament to the woods in summer so are the berries in winter, they remaining full on the trees usually till the approach of spring; and being very bitter, are little covered by Birds, except in time of dearth. I have observed Mook Birds, and other kind of Thrushes feed on them. In Virginia I found one of these Dogwood Trees with flowers of a rose-colour, which was luckily blown down, and many of its branches had taken root, which I transplanted into a Garden. That with the white flowers Mr Fairchild has in his Garden.

Turdus rufus.

The Fox coloured Thrush.

This is somewhat larger than the Mock-bird, and of a more clumsy shape. Its bill is somewhat long, and a little hooked. The eyes are yellow. All the upper part of its body is of a muddy red, or fox colour, except the interior vanes of the quill feathers, which are dark brown, and the ends of the covert wing feathers, which are edged with dusky white. Its tail is very long, and of the same colour with the back and wings. The neck, breast, and all the under part of the body, of a dusky white, spotted with dark brown: the legs and feet are brown. This bird is called in Virginia the French Mock-bird. It remains all the year in Carolina and Virginia. It sings with some variety of notes, though not comparable to the Mock-bird.

Cerasi similis arbuscula Mariana, Padi folio, flore albo parvo racemoso. Pluk. Montif. 49. Tab. cccxxxix.

The cluster'd Black Cherry.

This tree in the manner of its growing, resembles much our common black cherry, in the thick woods of Carolina; where these Trees most abound. They seldom grow bigger than a man's leg; but by being removed to more open places, they become large, some of them being two feet in diameter. In March it produces pendulous bunches of white flowers, which are succeeded by small black Cherries of a greenish cast, hanging in clusters of five inches long, in the manner of Currants. The fruit of some of these Trees is sweet and pleasant: others are bitter. They are esteemed for making the best cherry brandy of any other, and also for stocks to graft other Cherries upon. They are much coveted by Birds, particularly those of the Thrush-kind.

pag. 29. *Turdus pilaris, migratorius*

The Fieldfare of Carolina.

Weights two ounces three quarters; and is about the size and shape, of the European Fieldfare. That part of the bill, next the head, is yellow: over and under the eye are two white streaks. The upper part of the head is black, with a mixture of brown. The wings and upper part of the body are brown: the tail dark brown: the throat black and white; the breast and belly red: the legs and feet brown. In winter they arrive from the North in Virginia and Carolina, in numerous flights, and return in the Spring as ours in England. They are canorous, having a loud cry like our Mistel-bird, which the following accident gave me an opportunity of knowing. Having some trees of *Alaternus* full of berries (which were the first that had been introduced in Virginia) a single Fieldfare seemed so delighted with the berries, that he tarried all the Summer feeding on them. In Maryland, I am told, they breed and abide the whole year.

Aristolochia pictolochia, seu Serpentaria Virginia caule nodoso.
Pluk. *Alma*. p. 50. Tab. 148.

The Snake-Root of Virginia.

This Plant rises out of the ground in one, two, and sometimes three plant stalks which at every little distance are crooked, or undulated. The leaves stand alternately, and are about three inches long, in form somewhat like the *Smilax aspera*. The flowers grow close to the ground on foot-stalks an inch long, of a singular shape, though somewhat resembling those of the *Pisthivoria*, of a dark purple colour. A round chambered capsula succeeds the flower, containing many small seeds, which are ripe in May. The usual price of this excellent root, both in Virginia and Carolina, is about six pence a pound when dryed, which is money hardly earned. Yet the Negro Slaves, who only dig it, employ much of the little time allowed them by their masters in search of it; which is the cause of there being seldom found any but very small plants. By planting them in a garden, they increased so in two years time, that one's hand could not grasp the stalks of one plant. It delights in shady woods, and is usually found at the roots of great trees.

ag. 30. *Turdus viscivorus plumbeus.*

The red-leg'd Thrush.

Weights two ounces and an half. It has a dusky black bill: the inside of the mouth is more red than usual. The iris of the eye is red, with a circle of the same colour encompassing it. The throat is black, and all the rest of the body of a dusky blue, except that the interior vanes of the larger wing feathers are black, as is the tail when closed; but when spread, the outermost feathers appear to have their ends white, and are gradually shorter than the two middlemost. The legs and feet are red.

The Hen differs from the Cock no otherwise than in being about a third part less. In the gizzard of one were the berries of the tree described below. In its singing, gestures, &c. this Bird much resembles other Thrushes. I saw many of them on the islands of Andros and Naxos.

Terebinthus major Betulae cortice, fructu triangulari.

Hist. Sam. Vol. II. p. 89. Tab. 199.

The Gum-Elimy Tree.

This is a large Tree: the bark remarkably red and smooth. The leaves are pinnated, the middle rib five or six inches long, with the pinna set opposite to one another, on foot-stalks half an inch long. The blossoms (which I did not see) are succeeded by purple-coloured berries, bigger than large Peas, hanging in clusters on a stalk of about five inches long, to which each berry is joined by a foot-stalk of an inch long. The seed is hard, white, and of a triangular figure, inclosed within a thin capsula, which divides in three parts, and discharges the seed. This Tree produces a large quantity of Gum, of a brown colour, and of the consistence of Turpentine. It is esteemed a good vulnerary; and is much used for Horses. Most of the Bahama islands abound with these Trees.

Turdus minimus.
The little Thrush.

In shape and colour it agrees with the description of the European Mavis, or Song-Thrush, differing only in bigness; This Weighing no more than one ounce and a quarter: it never sings, having only a single note, like the winter-note of our Mavis. It abides all the year in Carolina. They are seldom seen, being but few, and those abiding only in dark recesses of the thickest woods and swamps. Their Food is the berries of Holly, Haws, &c.

Agriifolium Carolinense, foliis dentatis bacis rubris.

The Dahoon Holly.

This Holly usually grows erect, sixteen feet high; the branches shooting straighter, and being of quicker growth than the common kind. The leaves are longer, of a brighter green, and more pliant not prickly, but serrated only: the berries are red, growing in large clusters. This is a very uncommon plant in Carolina, I having never seen it but at Colonel Bull's plantation on Ashley river, where it grows in a bog.

ag. 92. *Alauda gutturo flavo.*

The Lark.

In size and shape this resembles our Sky-Lark. The crown of the head is mix'd with black and yellow feathers: through the eyes runs a stripe of yellow. From the angle of the mouth runs a black stripe, inclining downward; except which, the throat and neck are yellow. The upper part of the breast is covered with a patch of black feathers, in form of a crescent. The remaining part of the breast and belly of a brown straw colour. It has a long heel. It has a single note, like that of our Sky-Lark in winter; at which time, and in cold weather only, they appear in Virginia and Carolina. They come from the North in great flights, and return early in the Spring. From their neat resemblance to our Sky-Lark, I conceive they mount up and sing as ours do; but they appearing here only in winter, I cannot determine it. They frequent the sand-hills upon the Sea-shore of Carolina, and there feed on these Oats, which they find scattered on the sands.

Gramen Myricophoron Oxyphyllon Carolinianum, &c.

Pluk. Alma. p. 137. Tab. 92.

The Sea-side Oat.

This Plant is observed growing nowhere but on sandhills; so near the Sea, that at high tides the water flows to it. Its height is usually four and five feet.

Alauda magna.
The large Lark.

This Bird weighs three ounces and a quarter. The bill is straight, sharp and somewhat flat towards the end. Between the eye and the nostril is a yellow spot. The crown of the head is brown, with a dusky white list running from the bill along the middle of it. A black list, of about an inch long, extends downwards from the eye. The sides of the head are light grey. The wings and upper part of the body are of a partridge-colour. The breast has a large black mark, in form of a horse-shoe; except which, the throat and all the under part of the body are yellow. It has a jetting motion with its tail, sitting on the tops of small trees and bushes, in the manner of our lunting; and in the Spring sings musically, though not many notes. They feed mostly on the ground on the seed of grasses: their flesh is good meat. They inhabit Carolina, Virginia, and most of the Northern Continent of America.

Ornithogalum luteum, parvum, foliis gramineis glabris.
The little yellow Star-Flower.

This Plant grows usually not above five inches in height, producing many grassy leaves, from which rises a slender stalk, bearing a yellow star-like pentapetalous flower. It has five stamina, every leaf of the flower having one growing opposite to it. The flower is succeeded by a small long capsula, containing many little black seeds. This Plant grows plentifully in most of the open pasture lands in Carolina and Virginia, where these Larks most frequent, and feed on the seed of it.

pag. 34. *Passer niger, oculis rubris.*

The Towhee Bird.

This Bird is about the size of, or rather bigger than a Lark. The bill is black and thick: the iris of the eye red: the head, neck, breast, back, and tail black; as are the wings, with the larger quill feathers edged with white. The lower part of the breast and the belly are white; which, on each side, is of a muddy red, extending along its wings. The legs and feet are brown.

The Hen is brown, with a tincture of red on her breast. It is a solitary Bird; and one seldom sees them but in pairs. They breed and abide all the year in Carolina in the shadiest woods.

Passer fusus.

The Cowpen Bird.

This Bird is entirely brown; the back being darkest, and the breast and belly the lightest part of it. In winter they associate with the red-wing'd Starling and purple Jack-daw in flights. They delight much to feed in the pens of cattle, which has given them their name. Not having seen any of them in summer, I believe they are birds of passage. They inhabit Virginia and Carolina.

Populus nigra, folio maximo, gemmis Balsamum odoratissimum fundentibus.

The Black Poplar of Carolina.

This Tree grows only near rivers, above the inhabited parts of Carolina. They are large and very tall. In April, at which time only I saw them, they had dropt their seeds; which by the remains, I could only perceive to hang in clusters, with a cotton-like consistence, covering them. Upon the large swelling buds of this Tree sticks a very odoriferous Balsam. The leaves are indented about the edges, and very broad, resembling in shape the Black Poplar, described by Parkinson.

Passerculus.
The little Sparrow.

This Bird is entirely of a brown colour; less than our Hedge-Sparrow, but partaking much of the nature of it. They are not numerous, being usually seen single, hopping under bushes, they feed on Insects, and are seen most common near houses in Virginia and Carolina, where they breed and abide the whole year.

Convolvulus Caroliniensis; angusto, sagittato folio; flore, amplissimo, purpureo; radice crassa.

The purple Bindweed of Carolina.

The flower of this convolvulus is of a reddish purple, and of the size and shape of common white Bindweed. They blow in June: the leaves are shaped like the head of an arrow. Colonel Moore, a Gentleman of good reputation in Carolina, told me, that he has seen an Indian daub himself with the juice of this plant; immediately after which, he handled a Rattle-Snake with his naked hands, without receiving any harm from it, though thought to be the most venomous of the Snake-kind. I have also heard several others affirm, that they have seen the Indians use a plant to guard themselves against the venom of this sort of Snake; but they were not observers nice enough to inform me of what kind it was.

Passer nivalis
The Snow Bird.

The Bill of this Bird is white: the breast and belly are white: all the rest of the body is black; but in some places dusky, inclining to lead colour. In Virginia and Carolina they appear only in Winter: and in Snow they appear most. In Summer none are seen. Whether they reside and breed in the North (which is most probable) or where they go, when they leave these countries in the Spring, is to me unknown.

Orobanche Virgiana; flore pentapetalo, cernuo.
Pluk. Alma.

Broom-Rape.

This Plant rises to the height of eight or ten inches, and is of a flesh colour. The stalks are thinly beset with small, narrow, sharp-pointed leaves. The flowers are monopetalous, but deeply furrow'd from the stalk to the top of the flower is an oval channelled capsula, of the size of a Hazel-nut, containing very small seeds like dust. This capsula is surrounded with many yellow stamina.

*Passerculus Bicolor Bahamiensis.**The Bahama Sparrow.*

This is about the size of a Canary Bird. The head, neck, and breast are black: all the other parts of it of a dirty green colour. It is the commonest little Bird I observed in the woods of the Bahama Islands. It uses to perch on the top of a bush and sing, repeating one set tune, in manner of our Chaffinch.

Bignonia arbor pentaphylla; flore roseo, majore, siliquis planis.

Plum Cat.

This shrub usually rises to the height of about ten feet. From the larger branches shoot forth long tender stalks, at the end of every of which are five leaves fixed on foot-stalks an inch long. Its flower is monopetalous, of a rose colour, and somewhat bell-shaped, though the margin is deeply divided into five or six sections, to which succeed pods of five inches long, hanging in clusters, and containing within them small brown beans.

*Coccothraustes Rubra.**The red Bird.*

In Brightness it equals, if not exceeds the Sky-Lark. The bill is of a pale red, very thick and strong: a black list encompasses the basis of it. The head is adorned with a towering crest, which it raises and falls, at pleasure. Except the black round the basis of the bill, the whole Bird is scarlet, though the back and tail have least lustre, being darker and of a more cloudy red.

The Hen is brown; yet has a tincture of red on her wings, bill and other parts. They often sing in cages as well as the Cocks. These birds are common in all parts of America, from New-England to the Cape of Florida, and probably much more South. They are seldom seen above three or four together. They have a very great strength with their bill, with which they will break the hardest grain of Maiz with much facility. It is a hardy and familiar Bird. They are frequently brought from Virginia, and other parts of North America, for their beauty and agreeable singing, they having some notes not unlike our Nightingale, which in England seems to have caused its name of the Virginia Nightingale, though in those countries they call it the Red Bird.

Nix Juglans alba Virginiensis. Park. Theat. 1414.

The Hickory Tree.

This is usually a tall Tree, and often grows to a large bulk, the body being from two to three feet in Diameter. The leaves are serrated, narrower and sharper pointed than the Walnut, but in manner of growing on footstalks, like it. The nuts are inclosed in like manner with the Walnut, with an outer and inner shell. In October, at which time they are ripe, the

outer shell opens and divides in quarters, disclosing the nut, the Shell
which is thick, not easily broke, but with a hammer. The Kernel is sweet
and well tasted, from which the Indians draw a wholesome and pleasant
oil, storing them up for their winter provision. The Hogs and many
wild Animals receive great benefit from them. The wood is coarse-grained
yet of much use for many things belonging to agriculture. Of the Sap-
lings, or young trees, are made the best hoops for tobacco, rice, and hat
barrels: and for the site, no wood in the Northern parts of America is
in so much request. The bark is deeply furrowed.

Nux Juglans Carolinensis fructu minimo putamine levi.
pag. 98.

The Lignut.

The branches of this Tree, spread more, are smaller, and the leaves
not so broad as those of the Hickory; nor is the bark so wrinkled. The
nuts are not above one fourth part so big as those of the Hickory,
having both the inner and outer shell very thin; so that they may
easily be broken with one's fingers. The Kernels are sweet, but being
small, and covered with a very bitter skin, makes them useless, except
for Squirrels, and other wild Creatures.

Another Walnut remains to be observed, which I never saw but in Vir-
ginia, and is there called the white Walnut. The Tree is usually
small, the bark and grain of the wood very white: the nut is about
the size, or rather less than the black Walnut, of an oval form, the
outermost shell being rough.

99. *Coccothraustes Cærulea.*

The blue Gros-beak.

An arrow black list encompasses the basis of the bill, and joins to the eyes. The head and whole body, except the tail and part of the wings, are of a deep blue. Below the shoulder of the wing are a few red feathers. The lower part of the wing and tail is brown, with a mixture of green. The legs and feet are of a dusky black.

The Hen is all over dark brown, with a very small mixture of blue. It is a very uncommon and solitary bird, seen only in pairs. They have one single note only, and appear not in winter. I have not seen any of these Birds in any parts of America but Carolina.

Magnolia Laurifolia, subtus albicante.

The Sweet flowering Bay.

This is a small Tree, usually growing sixteen feet high; the wood is white and spongy, and covered with a white bark. The leaves are in shape like those of the common bay, but of a pale green, having their back-sides white. In May they begin to blossom, continuing most part of the summer to perfume the woods with their fragrant flowers, which are white, made up of six petals, having a rough conic style, or rudiment of the fruit, which, when the petals fall, increases to the bigness and shape of a large Walnut, thick set with knobs or risings; from each of which, when the fruit is ripe, are discharged flat seeds of the bigness of French Peas, having a kernel within a thin shell, covered with a red skin. These red seeds, when discharged from their cells, fall not to the ground, but are supported by small white threads of about two inches long. The fruit at first is green, when ripe, red; and when declining, it turns brown. They grow naturally in moist places, and often in shallow water; and what is extraordinary, they being removed on high dry ground, become more regular and handsomer Trees, and are more prolific of flowers and fruit. They usually lose their leaves in winter, except it be moderate.

This beautiful flowering Tree is a native both of Virginia and Carolina, and is growing at Mr. Fairchild's in Noxon, and at Mr. Collison's at Beekham, where it has for some years past produced its fragrant blossoms, requiring no protection from the cold of our severest winters.

pag. 40.

Coccythraustes purpurea.

The purple Gros-beak.

This Bird is of the size of a Sparrow. Over the eyes, the throat and at the vent under the tail, are spots of red. All the rest of the body is entirely of a deep purple colour.

The Hen is all over brown, but has the like red spots as the Cock. These Birds are natives of many of the Bahama islands.

*Toxicodendron foliis alatis, fructu purpureo,
Pyri-formi, sparso.*

The Poison wood.

This is generally but a small tree; and has a light coloured smooth bark. Its leaves are winged, the middle rib seven or eight inches long, with pairs of pinnae one against another, on inch long foot stalks. The fruits hang in bunches; are shaped like a Pear, of a purple colour, covering an oblong hard stone.

From the trunk of this tree distils a liquid black as ink, which the inhabitants say is poison. Birds feed on the berries, particularly this Gros-beak, on the mucilage that covers the stones. It grows usually on rocks in Providence, Nathera, and other of the Bahama islands.

Fringilla purpurea.

The purple Finch.

In size and shape, this Bird differs but little from our Chaffinch. The belly is white; the rest of the body is of a dusky purple colour; but with a mixture of brown in some parts; particularly, the interior vane of the wing feathers are brown, as are the tail feathers towards the end.

The Hen is brown, having her breast spotted like our Mavis. When they first appear in Carolina (which is usually in November) they feed on the berries of Sunipet; and in February they destroy the swelling buds of Fruit-trees, in like manner as our Bull-finches do. They assemble in small flights, and retire at the approach of Winter.

Arbor in aqua nascens; foliis latis, acuminatis et non dentatis, fructu Eleagni minore.

The Tupelo Tree.

This Tree usually grows large and spreading, with an erect trunk and regular head. The leaves are shaped like those of the Bay-Tree. In Autumn its branches are thick set with oval black berries on long foot-stalks, each berry having a hard channelled flattish stone. These berries have a very sharp and bitter taste, yet are food for many wild Animals, particularly Paroquets, Opussums, Bears, &c. The grain of the wood is curled and very tough, and therefore very proper for naves of cart-wheels, and other country uses. They grow usually in moist places in Virginia, Maryland and Carolina.

*Fringilla Bahamensis.**The Bahama Finch.*

It weight fourteen penny weight. The head is black, except a white line, which runs from the bill over the eye, and another under the eye. The throat is black, except a yellow spot, close under the bill. The breast is orange coloured; the belly white; the upper part of the neck and the rump, of a dusky red; the back black; the wings and tail brown, with a mixture of white; the legs and feet lead colour. These Birds are frequent on many of the Bahama islands.

Arbor Guaiaci latiore folio; Bignonice flore caeruleo; fructu duro, in duas partes disiliente; seminibus alatis, imbricatum positis.

The broad leaved Guaiacum, with blue flowers.

This is a Tree of a middle size. The leaves are winged, with many small pointed alternate lobes. In May there proceeds from the ends of its branches several spreading foot stalks bearing blue flowers, in form not unlike those of the fox-glove, which are succeeded by large flat roundish seed vessels, or pods, commonly two inches over, containing many small flat winged seeds. This Tree grows on several of the Bahama islands, particularly near the town of Nassau, on the island of Providence.

pag. 43. *Carduelis Americanus.*

The American Goldfinch.

This agrees, in size and shape, with our Gold-finch. The bill is of a dusky white; the forepart of the head black; the back part of a dirty green. all the under-part of the body, from the bill to the vent, and likewise the back, is of a bright yellow. The wings are black, having some of the smallest feathers edged with dusky white; the legs and feet brown. They feed on Lettuce, and Thistle seed. These birds are not common in Carolina; in Virginia they are more frequent; and at New-York they are most numerous; and are there commonly kept in cages.

Acacia Abruce foliis, triacanthos, capsula ovali, unicum semen claudente.

Acacia.

This tree grows to a large size and spreading. The leaves are winged, composed of many small pointed lobes, like most others of its tribe. The fruit is somewhat like a bean, contained in an oval capsula, and grows commonly five or six together in a bunch. Many very large sharp thorns are set on its branches and larger limbs. This tree I never saw but at the plantation of Mr. Wasing on Ashley river, growing in shallow water.

*Fringilla Tricolor.**The painted Finch.*

This weighs nine penny weight, and is about the bigness of a Canary Bird. The head and upper part of the neck, are of an ultramarine blue. The throat, breast and belly, of a bright red. The back is green, inclining to yellow. The wings are composed of green, purple, and dusky red feathers. The rump is red; and the tail dusky red, with a mixture of purple. Tho' a particular description may be requisite, in order to give a more perfect idea of this Bird, yet its colours may be comprized in three: the head and neck are blue, the belly red, and the back green. Its notes are soft; but they have not much variety. They breed in Carolina, and affect much to make their nests in Orange-Trees. They do not continue there in Winter; nor do they frequent the upper parts of the country. I never saw one fifty miles from the sea. Though the Cock is so elegant, the Hen is as remarkable for her plain colour, which is not unlike that of a Hen-sparrow, but with a faint tincture of green.

His Excellency Mr Johnson, the present Governour of South-Carolina, kept four or five of these Birds (taken from the nest) in cages, two years; in all which time, the Cocks and Hens varied so little in colour, that it was not easy to distinguish them. I have likewise caught the Cock and Hen from their nest, and could see little difference, they being both alike brown. How many

years it is before they come to their full colour, is uncertain. When they are brought into this cold climate, they lose much of their lustre, as appear'd by some I brought along with me. The Spaniards call this Bird *Mariposa pintada*, or the painted Butterfly.

Alcea Floridana quinque capsularis, Laurinis foliis, leviter crenatis, Seminibus coniferarum instar alatis,

Plux. Amalth. p. 7. Tab. 352.

The Loblolly Tree.

This is a tall and very straight Tree, with a regular pyramidal head. Its leaves are shaped like those of the common Bay, but serrated. It begins to blossom in May, and continues bringing forth its flowers the greatest part of the summer. The flowers are fixed to foot stalks, four or five inches long; are monopetalous, divided into five segments, encompassing a tuft of stamina, headed with yellow apices, which flowers in November, are succeeded by a conic capsula, having a divided calix. The capsula when ripe opens and divides into five sections, disclosing many small half winged seeds. This Tree retains its leaves all the year, and grows only in wet places, and usually in water. The wood is somewhat soft, yet I have seen some beautiful tables made of it. It grows in Carolina; but not in any of the more Northern Colonies.

*Linaria caerulea.**The blue Linnet.*

This Bird is rather less than a Gold-finch; weighing eight penny-weight. The whole Bird appears, at a little distance, of an intense blue colour: but, upon a nearer view, it is as follows. The bill is black and lead colour. On the crown of the head the blue is most resplendent, and deeper than in any other part. The neck, back and belly are of a lighter blue. The large wing feathers are brown edged with blue. The Tail is brown, with a tinge of blue. There are none of these Birds within the settlements of Carolina, for I have never seen any nearer than 150 miles from the Sea; their abode being in the hilly parts of the country only. Their notes are somewhat like those of our Linnets. The Spaniards in Mexico call this Bird *Azul lecos*, or the far-fetch'd Blue-Bird.

Solanum triphyllon; flore hexapetalo, carneo.

This has a tuberous root; from which shoots forth two or three stait stalks, of about eight inches high; on which are set triangularly three ribbed leaves: from between which proceeds its flower, of a pale red, composed of six spreading leaves, three large and three smaller, with stamina of unequal lengths. The flower is succeeded by its seed-vessel, in form and size of a small Hazelnut, but somewhat channelled and covered by a perianthium, which divides in three, and turns back. The capsula contains innumerable small seeds, like dust. This Plant is found at the sources of great rivers; not having seen any in the inhabited Parts of Carolina.

Garrulus Carolinensis.

The Chatterer.

It weighs an ounce; and is rather less than a Sparrow. The bill is black; the mouth and throat are large. From the nostrils runs a black list to the back of its head, like velvet, with a line of white on the lower edge, in which stand the eyes. The rest of its head and neck are brown. On its crown is a pyramidal crest of the same colour. The breast is brown; the back and covert-feathers of the wing somewhat darker; the belly pale yellow. What distinguishes this bird from others, are eight small red patches at the extremities of eight of the smaller wing-feathers, of the colour and consistence of red sealing wax. When the wing is closed these patches unite; and form a large red spot. The tail is black, except the end, which is yellow.

*Frutex corni foliis conjugatis; floribus instar
Anemones Stellatae, petalis crassis, rigidis, colore sordide
rubente; cortice aromatico.*

This shrub usually grows about eight or ten feet high. The leaves are set opposite to each other. The flowers resemble, in form, those of the Star-Anemone, composed of many stiff copper-colour'd petals, enclosing a tuft of short yellow stamina. The flowers are succeeded by a roundish fruit, flat at top. The bark is very aromatic, and as odorous as cinnamon. These Trees grow in the remote and hilly parts of Carolina, but no where amongst the inhabitants.

pag. 47. *Rubicula Americana caerulea.*

The Blue Bird.

This Bird weighs nineteen penny-weight, and is about the bigness of a Sparrow. The eyes are large. The head, and upper-part of the body, tail and wings, are of a bright blue, except that the ends of the wing feathers are brown. The throat and breast are of a dirty red. The belly is white. It is a Bird of a very swift flight, its wings being very long; so that the Hawk generally pursues it in vain. They make their nests in holes and trees; are harmless Birds, and resemble our Robin-red-breast. They feed on Insects only.

These Birds are common in most parts of North America; for I have seen them in Carolina, Virginia, Maryland, and the Bermudas Islands.

*Smilax non Spinosa, humilis, folio
Aristolochiae, baccis rubris.*

This Plant sometimes trails on the ground. The leaves resemble those of the Poith-wort, and are set alternately on its tender stalks; from which hang clusters of small red berries of an oval form, but pointed, each containing a very hard round seed.

pag. 48. *Icterus ex aureo nigroque varius.*

The Baltimore Bird.

Is about the size of a Sparrow; weighing a little above an ounce. The bill is sharp and tapering; the head and half-way down the back, of a shining black. The wings, except the upper parts (which are yellow) are black, with most of the feathers edged on both sides with white. The rest of the body is of a bright colour, between red and yellow. The two uppermost feathers of the tail are black; the rest yellow. The legs and feet are of a lead colour. It disappears in winter. This gold colour'd Bird I have only seen in Virginia and Maryland; there being none of them in Carolina. It is said to have its name from the Lord Baltimore's coat of arms, which are paly of six, topaz, and Diamond, a bend, counterchang'd; his Lordship being a proprietor in those countries. It breeds on the branches of tall trees, and usually on the Poplar or Tulip-tree. Its nest is built in a particular manner, supported only by two twigs fixed to the verge of the nest, and hanging most commonly at the extremity of a bough.

pag. 48. *Arbor tulipifera Virgiana, tripartito aceris
folio, media lacinia velut absissa.*

Pluk. Phytog. Tab. 117. et Tab. 248.

The Tulip Tree.

This Tree grows to a very large size; some of them being thirty feet in circumference. Its boughs are very unequal and irregular, not straight, but making several bends or elbows; which peculiarly makes this Tree distinguishable, at a great distance, from all other Trees, even when it has lost its leaves. The leaves stand on foot-stalks, about a finger in length; they somewhat resemble the smaller Maple in shape, but are usually five or six inches over, and, instead of being pointed at the end, seem to be cut off with a notch. The flowers have been always compared to Tulips; whence the Tree has received its name: though, I think, in shape they resemble more the *Fritillaria*. They are composed of seven or eight petals; the upper part being of a pale green, and the lower part shaded with red and a little yellow intermixed. They are at first inclosed by a perianthium, which opens and falls back when the flower blows. These Trees are found in most parts of the Northern Continent of America, from the Cape of Florida to New-England. The timber is of great use.

Icterus minor.
The Bastard Baltimore.

Weighs thirteen penny-weight. The bill is sharp pointed; the throat black; the tail brown, is are its wings, having most of the feathers variegated with white. all the rest of the bird is yellow, the breast being brightest.

The Hen being as handsomely clothed (tho' with very different colour'd feathers) induc'd me to give the figures of both. Her head and upper part of the back are of a shining black; the breast and belly of a dirty red; as is the lower part of the back and rump. The upper part of the wing is red; the lower part dusky black; the tail black. The legs and feet blue in both sexes.

Bignonia Vuuu foliis flore sordide albo, intus maculis purpureis et luteis asperso, siliqua longissima et angustissima.

The Catalpa-Tree.

This is usually a small tree, seldom rising above 23 feet in height. The bark smooth: the wood soft and spongy; the leaves shaped like those of the Lilax, but much larger, some being ten inches over. In May it produces spreading bunches of tubulous flowers, like the common Fox glove, white, only variegated with a few reddish purple spots and yellow streaks on the inside. The calix is of a copper colour. These flowers are succeeded by round pods, about the thickness of ones finger, fourteen inches in length; which, when ripe, opens and displays its seeds, which are winged, and lie over each other like the scales of fish. This tree was unknown to the inhabited parts of Carolina, till I brought the seeds from the remotest parts of the country. And tho' the inhabitants are little curious in gardening, yet the uncommon beauty of the Tree has induc'd them to propagate it; and tis become an ornament to many of their gardens, and probably will be the same to ours in England, it being as hardy as most of our American plants; many of them now at Mr. Christophet Grays, at Fulham, having stood out several winters, and produced plentifully their beautiful flowers, without any protection, except the first year.

pag. 50. *Oenanthe Americana pectore luteo.*

The yellow breasted Chat.

This is about the size of our Sky-Lark. The bill black; the head, and all the upper part of the back and wings, of a brownish green; the neck and breast yellow. A white streak reaches from the nostrils over the eye; under which is also a white spot. From the lower mandible of the bill runs a narrow white line. The belly is dusky white; the tail brown; the legs and feet are black. This bird I never saw in the inhabited parts. They frequent the upper parts of the country, 200 and 300 miles distant from the Sea. They are very shy birds, and hide themselves so obscurely, that after many hours attempt to shoot one, I was at last necessitated to employ an Indian, who did it not without the utmost of his skill. They frequent the banks of great rivers; and their loud chattering noise reverberates from the hollow rocks and deep cane swamps. The figure represents the singular manner of their flying with their legs extended.

*Solanum triphyllon flore hexapetalo tribus petalis
purpureis erectis caeteris viridibus reflexis.*

Pluk. Phytog. Tab. III.

This plant rises with a single straight stalk, five or six inches high; from the top of which, spreads forth three broad pointed leaves, placed triangularly, and hanging down. These leaves have each three ribs, and are variegated with dark and lighter green. From between these leaves shoots forth the flower, consisting of three purple petals growing erect, having its perianthium divided in three. They grow in shady thickets in most parts of Carolina.

pag. 51. *Hirundo purpurea.*

40

The purple Martin.

Is larger than our common Martin. The whole Bird is of a dark shining purple; the wings and tail being more dusky and inclining to brown. They breed like Pigeons in lockers prepared for them against houses, and in gourds hung on poles for them to build in, they being of great use about houses and yards; for pursuing and chasing away Crows, Hawks, and other vermin from the Poultry. They retire at the approach of Winter, and return in the Spring to Virginia and Carolina.

*Smilax (forte) lenis, folio anguloso
hederaceo.*

The stalks of this Plant are slender, running up the walls of old houses, and twining about posts and trees. The leaves resemble our common Ivy. I never saw it in flower: but it bears red berries, about the bigness of small peas, which grow in clusters.

pag. 52. *Muscicapa cristata ventre luteo.*

The crested Fly-Catcher.

Weights one ounce. The bill is black and broad; the upper part of the body of a muddy green; the neck and breast of a lead colour; the belly yellow; the wings brown, having most of the vanes of the quill feathers edged with red. The two middle feathers of the tail are all brown the interior vanes of the rest are red. The legs and feet black. It breeds in Carolina and Virginia, but retires in winter.

This bird, by its ungrateful brawling noise, seems at variance, and displeas'd with all others.

Smilax Bryonia nigra foliis caule spinoso, bacis nigris.

This Plant shoots forth with many pliant thorny stems; which, when at full bigness, are as big as a walking cane, and jointed; and rises to the height usually of twenty feet, climbing upon and spreading over the adjacent Trees and shrubs, by the assistance of its tendrils. In Autumn it produces clusters of black round berries, hanging pendent to a foot-stalk, above three inches long, each berry containing a very hard roundish seed. The roots of this Plant are tuberous divided into many knots and joints; and, when first dug out of the ground, are soft and juicy, but harden in the air to the consistence of wood. Of these roots the inhabitants of Carolina make a diet-drink, attributing great virtues to it in clearing the blood, &c. They likewise in the Spring boil the tender shoots, and eat them prepared like Asparagus. 'Tis call'd there China root.

Fig. 53. *Muscicapa nigrescens.*

The Blackcap Fly-catcher.

The bill is broad and black; the upper part of the head of a dusky black; the back, wings and tail are brown; the breast and belly white, with a tincture of yellowish green. The legs and feet are black. The head of the cock is of a deeper black than that of the Hen, which is all the difference between them. I don't remember to have seen any of them in Winter. They feed on Flies and other Insects. They breed in Carolina.

Gelseminum, sive Jasminum luteum odoratum
Virginianum scandens, semper vivens.

Park. Theat. p. 1465.

This Plant grows usually in moist places, its branches being supported by other Trees and Shrubs on which it climbs. The leaves grow opposite to each other from the joints of the stalks; from whence likewise shoot forth yellow tubulous flowers; the verges of which are notched or divided into five sections. The seeds are flat and half winged, contained in an oblong pointed capsula, which, when the seeds are ripe, splits to the stalk, and discharges them. The smell of the flowers is like that of the wall flowers. These Plants are scarce in Virginia, but are every where in Carolina. They are likewise at Mr. Bacon's at Boston; where, by their thriving state, they seem to like our soil and climate. Tho' Mr. Parkinson calls it *semper vivens*, I have always found it lose its leaves in Winter.

pag. 54.

Muscicapa fusca.

The little brown Fly-catcher.

Weights nine penny-weight. The bill is very broad and flat; the upper mandible black; the lower yellow. All the upper part of the body of a dark ash colour. The wings are brown, with some of the smaller feathers edged with white, all the under part of the body dusky white, with a tincture of yellow: The legs and feet are black.

Muscicapa oculus rubris.

The red-eyed Fly-catcher.

Weights ten penny-weight and an half. The bill is lead colour: The iris of the eyes are red. From the bill, over the eyes, runs a dusky white line, bordered above with a black line. The crown of the head is gray; the rest of the upper part of the body is green. The neck, breast and belly are white; the legs and feet red. Both these breed in Carolina, and retire southward in winter.

Arbor lauri folio, floribus ex foliorum, alis pentapetalis, pluribus staminibus donatis.

This shrub has a slender stem, and grows usually about eight or ten feet high. Its leaves are in shape like those of a pear, growing alternately on foot-stalks of an inch long; from between which proceeds small whitish flowers, consisting of five petals; in the middle of which shoot forth many tall stamens, headed with yellow anthers. The roots of this plant are made use of in decoctions, and are esteemed a good stomachic and cleanser of the blood. The fruit I have not seen. This plant grows in moist and shady woods in the lower parts of Carolina.

pag. 55. *Muscicapa Corona rubra.*

The Tyrant.

The bill is broad, flat and tapering, the crown of the head has a bright red spot, environ'd with black feathers; which, by contracting, conceals the red; but, when they are spread, it appears with much lustre, after the manner of the *Regulus cristatus*. The back, wings and tail are brown; the neck, breast and belly white; the legs and feet black. There appears little or no difference between the Cock and Hen. They appear in Virginia and Carolina about April, where they breed, and retire at the approach of Winter. The courage of this little Bird is singular. He pursues and puts to flight all kinds of birds that come near his station, from the smallest to the largest, none escaping his fury; nor did I ever see any that dur'd to oppose him while flying; for he does not offer to attack them when sitting. I have seen one of them fix on the back of an Eagle, and persecute him so, that he has turned on his back into various postures in the air, in order to get rid of him, and at last was forced to alight on the top of the next tree, from whence he dared not move, till the little Tyrant was tired, or thought fit to leave him. This is the constant practice of the Cock while the Hen is brooding: he sits on the top of a bush, or small tree, not far from her nest; near which if any small birds approach, he drives them away; but the great ones, as Crows, Hawks and Eagles, he won't suffer to come within a quarter of a mile of him without attacking them. They have only a chattering note which they utter with great vehemence all the time they are fighting. When their young are flown, they
are

are as peaceable, as other Birds. It has a tender bill, and feeds on
Insects only. They are tame and harmless Birds. They build
their nests in an open manner on low Trees and Shrubs, and
usually on the Sassafras Tree.

pag. 55. *Cornus mas odorata, folio trifido margine plano,*
Sassafras dicta. Pluk. Almag.

This is generally a small Tree; the trunk usually not a foot thick. The
leaves are divided into three lobes by very deep incisures. In March comes
forth bunches of small yellow flowers with five petals each; which are
succeeded by berries, in size and shape not unlike those of the Bay-
Tree, hanging on red foot stalks, with a calix like that of an anise,
which calix is also red. The berries are at first green, and, when
ripe, blue. These Trees grow in most parts of the Northern continent
of America, and generally on very good land. The virtue of this
Tree is well known, as a great sweetner of the blood: I shall there-
fore only add, that in Virginia, a strong decoction of the root has
been sometimes given with good success for an intermitting fever.
This Tree will bear our Climate, as appears by several now at M^r.
Collinson's at Beckham, and at M^r. Bacon's in Hoxton; where they
have withstood the cold of several Winters.

Muscicapa rubra.

The Summer Red-Bird.

This is about the size of a Sparrow. It has large black eyes. The bill is thick and clumsy, and of a yellowish cast. The whole Bird is of a bright red, except the interior vanes of the wing feathers, which are brown, but appear not unless the wings are spread. They are Birds of Passage, leaving Virginia and Carolina in Winter. The Hen is brown, with a tincture of yellow.

Platanus occidentalis.

The Western Plane-Tree.

This Tree usually grows very large and tall. Its leaves are broad, of a light green, and somewhat downy on the back side. Its seed vessels are globular, hanging single and pendant on foot-stalks of about four or five inches long. The fruit, in the texture of it, resembling that of the *Platanus orientalis*. The bark is smooth, and usually so variegated with white and green, that they have a fine effect amongst the other trees. In Virginia they are plentifully found in all the lower parts of the Country; but in Carolina there are but few, except on the hilly parts, particularly on the banks of Savannah river.

pag. 57. *Parus cristatus.*

The crested Titmouse.

It weighs thirteen penny-weight. The bill is black, having a spot a little above it of the same colour; except which, all the upper part of the body is gray. The neck and all the under part of the body are white, with a faint tincture of red, which just below the wings is deepest. The legs and feet are of a lead colour. It erects its crown feathers into a pointed crest. No difference appears between the Cock and Hen. They breed in and inhabit Virginia and Carolina all the year. They do not frequent near houses, their abode being only amongst the forest trees, from which they get their food, which is Insects.

Cistus virginiana, flore et odore Perilymeni. D. Banister.

The Upright Honeysuckle.

This plant rises usually with two or three stiff strait stems, which are small, except where the soil is very moist and rich; where they grow to the size of a walking cane, twelve or sixteen feet high, branching into many smaller stalks, with leaves alternately placed. At the ends of the stalks are produced bunches of flowers, resembling our common honeysuckle; not all of a colour, some plants producing white, some red, and others purple of a very pleasant scent, tho' different from ours. The flowers are succeeded by long pointed capsulas, containing innumerable very small seeds. It is a native of Virginia and Carolina, but will endure our Climate in the open air, having for some years past produced its beautiful and fragrant blossoms at M^r. Bacon's at Hoxton, and at M^r. Collinson's at Beckham.

ag. 58. *Parus vropygeus* Luteo.

The Yellow-rump.

This is a creeper, and seems to be of the Tit-kind. The most distinguished part of this Bird is its rump, which is yellow. All the rest of the feathers are brown, having a faint tincture of green. It runs about the bodies of Trees, and feeds on Insects, which it pecks from the crevices of the bark. The Hen differs little from the Cock in the colour of its feathers. They are found in Virginia.

Helleborine. *Lilii folio caulem ambiente, flore unico hexapetalo, tribus petalis longis, angustis obscure purpureis, cæteris brevioribus roseis.*

The Lilly-leaf'd Hellebore

This Plant has a bulbous root; from which arises a single stem of about a foot high, encompassed by the bottom part of one leaf as by a sheath. At the top grows the flower, composed of six petals, three of them long, and of a dark purple colour; the other three shorter, of a pale rose colour, and commonly turning back, with a pistillum in the middle. It grows in wet places.

Apocynum scandens folio cordato flore albo.

Dogs-bane.

This Plant climbs upon and is supported by Shrubs and Trees near it. Its leaves grow opposite to each other, on foot-stalks less than an inch long. The flowers grow usually four or five in a cluster, are white, and consist of five petals, succeeded by long cylindrical pods, growing by pairs, containing many flat seeds not unlike the rest of the Apocynums. It grows on most of the Bahama Islands.

*Larus Bahamiensis.**The Bahama Titmouse.*

The bill of this Bird is black, and a little bending; the upper part of the head, back and wings is brown. A white line runs from the bill over the eyes to the back of the head. The breast is yellow, as are the borders of the wings. The tail is somewhat long, having the upper part brown, and the under dusky white.

*Arbor Jasmini, floribus albis, foliis Cenchranmideæ
fructu ovali, seminibus parvis nigris mucilagine
involutis.*

The Seven Years Apple.

This Shrub grows from six to ten feet high, with a stem seldom bigger than one's wrist, having a wrinkled light coloured bark. The leaves grow in clusters, and are about the bigness of those of our common Laurel, having a wide notch or indenture at the end, which is broadest. These leaves are very thick and stiff; and usually curl up, as the Figure represents. The flowers grow in bunches, are monopetalous; and in form and size resemble our common jessamin; white in colour, with a faint tincture of red. The fruit hangs by a foot-stalk of an inch long, of an oval form, the outside being shaded with green; red and yellow. When ripe, it is of the consistence of a mellow pear, containing a pulpy matter, in colour, substance and taste, not unlike the *Cassia fistula*. For nine months I observed a continual succession of flowers and fruit, which ripens in seven or eight months. I know not for what reason the Inhabitants of the Bahama Islands (where it grows) call it the Seven Years Apple.

pag. 60. *Parus cucullo nigro.*

The Hooded Titmouse.

This is about the size of a Goldfinch. The bill is black. A broad black list encompasses the neck and hindpart of the head, resembling a hood; except which, the fore-part of the head and all the under-part of the body are yellow. The back, wings and tail are of a dirty green. They frequent thickets and shady places in the uninhabited parts of Carolina.

*Arbor in aqua nascens, foliis latis acuminatis et dentatis,
Fructu Eleagni majore.*

The Water-Tupelo.

This Tree has a large trunk, especially near the ground, and grows very tall. The leaves are broad, irregularly notched or indented. From the sides of the branches shoot forth its flowers, set on foot-stalks about three inches long, consisting of several small narrow greenish petals, on the top of an oval body, which is the rudiment of the fruit; at the bottom of which its perianthium divides into four. The fruit, when full grown, is in size, shape and colour, like a small Spanish olive, containing one hard channell'd stone. The grain of the wood is white, soft and spongy. The roots are much more so, approaching near to the consistence of cork, and are used in Carolina for the same purposes as cork, to stop gourds and bottles. These Trees always grow in wet places, and usually in the shallow parts of rivers and in Swamps.

pag. 61. *Parus Americanus lutescens.*

The Pine-Creeper.

Weights eight penny-weight and five grains. The bill is black. The upper part of the body, from the bill to the tail, of a yellowish green. The neck and breast are yellow. The belly, near the tail, is white. The wings are brown, with some spots of white. The tail is brown, except the two outermost feathers, which are half white. The legs are dusky black. The Hen is all over brown. They creep about Trees; particularly the Pine- and Fir-trees; from which they peck Insects, and feed on them. These, with most of the other Creepers and Titmice, associate together in small flights, and are mostly seen on leaf-less trees in Winter.

Ligustrum Lauri folio, fructu violaceo.

The Purple-berried Bay.

This Tree grows usually sixteen feet high; and the trunk is from six to eight inches in diameter. The leaves are very smooth, and of a brighter green, than the common Bay-Tree: otherwise, in shape and manner of growing, it resembles it. In March, from between the leaves, shoot forth spikes, two or three inches in length, consisting of tetrapetalous very small white flowers, growing opposite to each other, on foot-stalks half an inch long. The fruit which succeeds are globular berries, about the size of those of the Bay, and cover'd with a purple colour'd skin, enclosing a kernel, which divides in the middle.

29. 62. *Parus Americanus gutture luteo.*

The Yellow-Throated Creeper.

weighs seven penny-weight. The bill is black. The forepart of the head black, having two yellow spots on each side, next the upper mandible. The throat is of a bright yellow, bordered on each side with a black list. The back and hind-part of the head are grey. The wings are of a darker grey, inclining to brown, with some of their covert feathers edged with white. The feet are brown; and, like those of the Cuckoo, have very long claws, which assist them in creeping about trees in search of insects, on which they feed. There is neither black nor yellow upon the Hen. They are frequent in Carolina.

Acer virginianum, folio majore, subtus argenteo, supra viridi splendente. Flux. Alma.

The Red flowering Maple.

These Trees grow to a considerable height; but their trunks are not often very large. In February, before the leaves appear, the little red blossoms open, and continue in flower about three weeks, and are then succeeded by the Keys, which are also red, and, with the flowers, continue about six weeks, adorning the Woods earlier than any other Forest-Trees in Carolina. They endure our English Climate as well as they do their native one; as appears by the many large ones in the garden of Mr. Bacon at Hoxton.

pag. 63. *Parus Carolinensis Luteus.*
The Yellow Titmouse.

It is less than a Wren. It appears all yellow; but on a near view is as follows. The bill is slender. The head, breast, and belly are bright yellow. The back is of a greenish yellow. The tail brown, with a mixture of yellow. The Hen is not of so bright a yellow as the Cock. It breeds in Carolina, but retires at the approach of Winter.

Laurus Carolinensis, foliis acuminatis, bacis caeruleis, pediculis longis rubris insidentibus.

The Red Bay.

The leaves of the Tree are in shape like those of the common Bay, and of an aromatic scent. The berries when ripe, are blue, growing two, and sometimes three together, on foot-stalks of two or three inches long, of a red colour, as is the calix or cup of the fruit, and intented about the edges. These Trees are not common in Virginia, except in some places near the Sea. In Carolina they are every where seen, particularly in low swampy lands. In general they arrive to the size of but small Trees and Shrubs; though in some Islands, and particular places near the Sea, they grow to large and stait bodied Trees. The wood is fine grain'd, and of excellent use for cabinets, &c. I have seen some of the best of this wood selected, that has resembled water'd sattin; and has exceeded in beauty any other kind of wood I ever saw.

Darus fringillaris.

The Finch-Creeper.

It weighs five penny-weight. The upper mandible of the bill is brown; the under yellow. The head is blue. It hath a white spot over, and another under each eye. The upper part of the back is of a yellowish green. The rest of the upper part of the body, wings, and tail, are of a dusky blue; the scapular feathers having some white spots. The throat is yellow. The breast is of a deeper yellow, divided by a dark blue list. The belly is white. Near the breast some feathers are stain'd with red. The feet are dusky yellow. The feathers of the Hen are black and brown. These birds creep about the trunks of large trees; and feed on insects, which they gather from the crevices of the bark. They remain the winter in Carolina.

Frutex, Rami foliis non serratis, floribus monopetalis albis, campaniformibus, fructu crasso tetragono.

The trunk of this shrub is slender. Sometimes two or three stems rise from the same root to the height usually of ten feet. The leaves are in shape like those of a Pear. In February and March come white flowers, in form of a bell, hanging usually two and three together, on inch long foot-stalks, from the sides of the branches. From the middle of the flower shoots forth four stamina, with a stylus extending half an inch beyond them, of a reddish colour. These flowers are succeeded by oblong quadrangular seed vessels, pointed at the ends.

The Humming-Bird.

There is but one kind of this Bird in Carolina, which in the Summer frequents the Northern Continent as far as New-England. The Body is about the size of a Humble Bee. The bill is straight, black, and three quarters of an inch long. The eyes are black; the upper part of the body and head of a shining green; the whole throat adorned with feathers placed like the Scales of fish, of a crimson metallic resplendency; the belly dusky white; the wings of a singular shape, not unlike the blade of a Turkish Cymbal; the tail is copper colour, except the uppermost feather, which is green. The legs are very short and black. It receives its food from flowers, after the manner of Bees; its tongue being a tube thro' which it sucks the honey from them. It so poises itself by the quick hovering of its wings, that it seems without motion in the air. They rove from flower to flower, on which they wholly subsist. I never observed nor heard, that they feed on any Insect, or other thing than Flowers. They breed in Carolina, and retire at the approach of Winter.

What Linius and Thevet say of their singing, is just as true as what is said of the harmony of swans; for they have no other note than Sreep, Sreep, as Margravins truly observes.

Hernandez bespeaks the credit of his Readers, by saying, 'tis no idle tale, when he affirms the manner of their lying torpid, or sleeping, all winter, in Hispaniola and many other places between the Tropicks. I have seen these Birds all the year round, there being a perpetual succession of flowers for them to subsist on.

pag. 65. *Bignonia, Traxini foliis, coccineo flore minore.*

The Trumpet-Flower.

These Plants climb upon Trees; on which they run a great height; and are frequently seen to cover the dead trunks of tall trees. The leaves are winged, consisting of many serrated lobes, standing by couples, opposite to each other on one rib. In May, June, July and August, it produces bunches of red flowers, somewhat like the common Foxglove. Each flower shoots from a long reddish colour'd calix; is monopetalous, swelling in the middle, and opens a-top into five lips, with one pointal arising from the calix, through the middle of the flower. In August, the wods or seed vessels appear. They are, when full grown, eight inches long, narrow at both ends, and divide in two equal parts, from top to bottom, displaying many flat winged seeds.

The Humming Birds delight to feed on these flowers; and, by thrusting themselves too far into the flowers, are sometimes caught.

pag. 66. *Muscicapa vertice nigro.*

The Cat-Bird.

This Bird is about the size of, or somewhat bigger than a Lark. The crown of the head is black; the upper part of the body, wings and tail dark brown; particularly the tail approaches nearest to black. The neck, breast, and belly, are of a lighter brown. From the vent, under the tail, shoot forth some feathers of a dirty red. This Bird is not seen on lofty Trees; but frequents Bushes and Thickets; and feeds on Insects. It has but one note, which resembles the mewling of a Cat; and which has given it it's name. It lays a blue egg, and retires from Virginia in Winter.

*Alni folia Americana serrata, floribus pentapetalis
albis, in spicam dispositis. Pluk. Phyt. Tab. 115. f. 1.*

This Shrub grows in moist places, and sometimes in water, from which it rises, with many slender stems, to the height of ten or fourteen feet. The leaves are somewhat rough, placed alternately, serrated and in shape not unlike those of the White Thorn. In July there shoots from the ends of the branches, spikes of white flowers, four or five inches long. Each flower consists of five petals, and a tuft of small stamina. The flowers are thick set on footstalks a quarter of an inch long, and are succeeded by small oval pointed capsula's containing many chaffy seeds. This Plant endures our Climate in the open air, and flourishes at Mr. Bacon's at Hoxton.

ag. 67. *Ruticilla Americana.*

The Red-Start.

This Bird is about the size of, or rather less than, our Red-Start; and has slender black bill; The head, neck, back, and wings, are black; except that five or six of the exterior vanes of the larger wing feathers are partly red. The breast is red, but divided by a grey list; of which colour is the belly. The tail is red, except the end, which is black. The legs and feet are black. The Hens are brown.

These Birds frequent the shady Woods of Virginia; and are seen only in Summer.

Nux juglans nigra Virginiensis. Park. 1414.

The Black Walnut.

Most parts of the Northern Continent of America abound with these Trees, particularly Virginia and Maryland, towards the heads of the rivers, where, in low rich lands, they grow in great plenty, and to a vast size. The leaves are much narrower and sharper pointed than those of our Walnut, and not so smooth. The thickness of the inner shell requires a hammer to break it. The outer shell is very thick and rough on the outside. The kernels are very oily and rank tasted; yet when laid by some months, are eat by Indians, Squirrels, &c. It seems to have taken its name from the colour of the wood, which approaches nearer to black than any other wood that affords so large timber. Wherefore it is esteemed for making Cabinets, Tables, &c.

Rubicilla minor nigra.

The little black Bullfinch.

This is about the size of a Canary-Bird. The whole Bird is black, except the shoulders of the wings, and part of the vanes of two of the largest wing-feathers, which are white. The bill is thick and short, having a notch in the upper mandible, like that of a Hawk. This Bird is an inhabitant of Mexico; and is called by the Spaniards, *Mariposa nigra*, i. e. black Butterfly. Whether this be a Cock or Hen I know not.

Amelanchior Virginiana, lauro cerasi folio. H. 3.

Bel. Rai. Suppl. App. 241.

Arbor Zeylanica, cotini foliis, subtus lanugine villosis, floribus albis, cuculi modo laciniatis.

Blux. Alm. p. 44. Phyt. Tab. 241. f. 4.

The Fringe Tree.

On the banks of rivulets and running streams this shrub is most commonly found. It mounts from six to ten feet high, usually with a crooked irregular small stem. Its leaves are of a light green, and shaped like those of the Orange. In May it produces bunches of white flowers hanging on branched footstalks, of half an inch long. Each flower has four narrow thin petals about two inches long. To these succeed round dark blue berries, of the size of stones.

Ispida.

The King-Fisher.

This kind of King's-fisher is somewhat larger than a Black-bird. The bill is two inches and an half long, and black. The eyes are large. His head is covered with long blueish feathers. Under the eye there is a white spot, and another at the basis of the upper mandible of the bill. All the upper-part of the body is of a dusky blue. The neck is white, with a broad list of dusky blue cross it; under which the breast is muddy red. The belly is white. The quill feathers of the wing are black, having some white on their interior vanes, edged with blue and black, with transverse white spots, not appearing but when the wing is spread open. The tail is dusky blue, with the end white, as are most of the quill feathers. It has four toes, one only being behind. Its cry, its solitary abode about rivers, and its manner of feeding, are much the same as of those in England. It preys not only on Fish, but likewise on Lizards.

Myrtus, Prabantica similis, Carolinensis, baccata,
Frutu racemoso sessiti monopireno. Plur. Alma.

The narrow-leaved Candle-berry Myrtle.

These are usually but small Trees or Shrubs, about twelve feet high, with crooked stems, branching forth near the ground irregularly. The leaves are long, narrow, and sharp pointed. Some Trees have most of their leaves serrated: others not. In May the small branches are alternately

and thick, set with oblong tufts of very small flowers, resembling in form and size the catkins of the Hazel-tree coloured with red and green. These are succeeded by small clusters of blue berries, close connected, like bunches of grapes. The kernel is inclosed in an oblong hard stone, incruusted over with an unctuous mealy consistence; which is what yields the wax; of which Candles are made in the following manner.

In November and December, at which time the berries are mature, a man with his family will remove from his home to some island or sand banks near the Sea, where these Trees most abound, taking with him Kettles to boil the berries in. He builds a hut with Palmeto-leaves, for the shelter of himself and family while they stay, which is commonly three or four weeks. The man cuts down the Trees, while the children strip off the berries into a porridge-pot; and having put water to them, they boil them till the oil floats; which is skim'd of into another vessel. This is repeated till there remains no more oil. This, when cold, hardens to the consistence of wax, and is of a dirty green colour. Then they boil it again, and clarify it in brass Kettles; which gives it a transparent greenness. These Candles burn a long time, and yield a grateful smell. They usually add a fourth part of tallow; which makes them burn cleaver.

Gallinula Americana
The Soree.

This Bird, in size and form, resembles our water-Rail. The whole body is covered with brown feathers, the under part of the body being lighter than the upper. The bill and legs are brown. These birds become so very fat in Autumn, by feeding on Wild Oats, that they can't escape the Indians, who catch abundance by running them down. In Virginia (where only I have seen them) they are as much in request for the delicacy of their flesh, as the Rice-Bird is in Carolina, or the Otolan in Europe.

Gentiana Virginiana, Saponaria folio,
flore caeruleo longiore.

Hist. Oxon. 3. 184. No. Tab. 5. Sect. 12.

This Plant grows in ditches and shady moist places, rising usually sixteen inches high, with upright straight stems, having long sharp pointed leaves, set opposite to each other, spreading horizontally. From the joints of the leaves come forth four or five monopetalous blue flowers; which before they open, are in form of a proting-pin; but, when blown, are in shape of a Cup, with the verge divided into five sections.

*Pluvialis vociferus.**The Chattering Plover.*

This is about the size of the largest Snipe. The eyes are large, with a scarlet circle. A black list runs from the bill under the eyes. The forehead is white; above which it is black. The rest of the head is brown. The throat, and round the neck, are white; under which there is a broad black list encompassing the neck. Another list of black crosses the breast, from the shoulder of one wing to that of the other. Except which the breast and belly are white. The back and wings are brown; the largest quill feathers being of a darker brown. The small rump feathers, which cover three quarters of the tail, are of a yellowish red. The lower part of the tail is black. The legs and feet of a straw colour. It hath no toes. These birds are very frequent both in Virginia and Carolina; and are a great hinderance to fowlers, by alarming the game with their screaming noise. In Virginia they are called Kill-deers, from some resemblance of their noise to the sound of that word. They abide in Carolina and Virginia all the year. The feathers of the Cock and Hen differ not much.

*Frutex, foliis oblongis acuminatis, floribus spicatis
universo dispositis.*

The Sorrel-Tree.

The trunk of this Tree is usually five or six inches thick, and rises to the height of about twenty feet, with slender branches thick set with leaves, shaped like those of the Bear-Tree. From the ends of the branches proceed little white monopetalous flowers, like those of the Strawberry-Tree, which are thick set on short footstalks to one side of many slender stalks, which are pendant on one side of the main branch.

172. *Morinellus marinus* of Sir Thomas Brown.
An *Cinglus Turneri*? Will. p. 311.

The Turn-Stone, or Sea-Dottrel.

This Bird has, in proportion to its body, a small head, with a straight taper black bill, an inch long. All the upper part of the body is brown, with a mixture of white and black. The quill feathers of the wings are dark brown; the neck and breast are black; the legs and feet light red. In a voyage to America, in the year 1722, in 31 deg. N. lat. and 90 leagues from the coast of Florida, the bird, from which this was figur'd, flew on board us, and was taken. It was very active in turning up stones, which we put into its cage; but not finding under them the usual food, it died. In this action it moved only the upper mandible; yet would with great dexterity and quickness turn over stones of above three pounds weight. This property Nature seems to have given it for the finding of its food, which is probably Worms and Insects on the Sea-shore. By comparing this with the description of that in Will. Ornitholog. which I had then on board, I found this to be the same kind with that he describes.

*Arbor maritima, foliis conjugatis pyriformibus apice in
summitate instructis, floribus racemosis luteis.*

This Plant grows usually to the height of four or five feet, with many straight ligneous stems; to which are set, opposite to each other, at the distance of five or six inches, smaller single stems. The leaves grow opposite to one another on footstalks half an inch long, being narrow next the stalk, and broad at the end, where they are little pointed; in shape like a Pear. The flowers grow in tufts, at the ends of the branches, on short footstalks; each flower being form'd like a cup with yellow apices.

pag. 75. *Phoenicopterus Bahamensis.*

The Flamingo.

This Bird it two years before it arrives at its perfect colour; and then it is entirely red, except the quill feathers, which are black. A full grown one is of equal weight with a Wild Duck; and when it stands erect, is five feet high. The feet are webbed. The flesh is delicate, and nearest resembles that of a Partridge in taste. The tongue, above any other part, was in the highest esteem with the luxurious Romans for its exquisite flavour.

These Birds make their nests on hillocks in shallow water; on which they sit with their legs extended down, like a man sitting on a stool. They breed on the Coasts of Cuba and the Bahama Islands, and frequent salt-water only. A Man by concealing himself from their sight, may kill great numbers of them, for they will not rise at the report of a gun; nor is the sight of those killed close by them sufficient to terrify the rest, and warn them of the danger; but they stand gazing, and as it were astonish'd, till they are most or all of them kill'd.

This Bird resembles the Heron in shape, excepting the bill, which being of a very singular form, I shall, in the next Table, give the figure of it in its full size, with a particular description.

Keratophyton Dichotomum fuscum.

This Plant ariseth from a short stem about two inches round, and about the same height; where it divides into two larger branches, each of which divides again into two smaller; and so, generally at the distance of three or four inches, each branch divides in two smaller, till the whole Plant is risen to about two feet, and the upper branches are become not thicker than a Crow's quill; all pliant like horn or whale-bone, and of a dark brown colour. They are in great plenty at the bottom of the shallow Seas and Channels of the Bahama Islands; the water there being exceeding clear. I have plainly seen them growing to the white rocks in above ten fathom water.

74. Caput Phoenicopteri naturalis
magnitudinis.

The Bill of the Flamingo in its full Dimensions.

I need not attempt to describe the texture of the bill otherwise than Dr Grew has done in his Mus. A. Soc. p. 67. His words are these:

The figure of each beak is truly hyperbolic. The upper is ridged behind; before, plain or flat, and pointed like a sword, and with the extremity bended a little down; within, it hath an angle, or sharp ridge, which runs all along the middle; at the top of the hyperbole, not above a quarter of an inch high. The lower beak, in the same place, above an inch high, hollow, and the margins strangely expanded inwards for the breadth of above a quarter of an inch, and somewhat convexly. They are both furnished with black teeth, as I call them, from their use, of an unusual figure; suit. slender, numerous, and parallel, as in Ivory Combs; but also very short, scarce the eighth part of an inch deep. An admirable invention of Nature; by the help of which, and of the sharp ridge abovementioned, this Bird holds his slippery prey the faster.

When they feed (which is always in shallow water) by bending their neck) they lay the upper part of their bill next the ground, their feet being in continual motion up and down in the mud; by which means they raise a small round sort of grain, resembling Millet, which they receive into their bill. And as there is a necessity of admitting into their mouth some mud, Nature has provided the edges of their bill with a sieve, or teeth, like those of a fine Comb,

Comb, with which they retain the food, and reject the mud that is taken in with it. This account I had from persons of credit; but I never saw them feeding myself, and therefore cannot absolutely refute the opinion of others, who say they feed on fish, particularly Eels, which seem to be the slippery prey Dr. Grex says the teeth are contrived to hold.

The accurate Dr. James Douglas hath obliged the World with a curious and ample description of this Bird in Phil. Trans. n^o 550.

pag. 74. *Keratophyton fruticos Specie, nigrum.*

This species differs from the former, in that it is black, and has a large stem like the trunk of a tree, which rises up thro' the middle of the plant, and sends out several larger branches, from which arise the smaller twigs, which are more crooked and slender than those of the preceding: so that in the whole it resembles a tree without leaves.

This grows to Rocks, in the same places with the preceding.

Grus Americana alba.

The Hooping Crane.

Is about the size of the common Crane. The bill is brown, and six inches long; the edges of both mandibles, towards the end, about an inch and half, are serrated. A deep and broad channel runs from the head more than half way along its upper mandible. Its nostrils are very large. A broad white list runs from the eyes obliquely to the neck: except which, the head is brown. The crown of the head is callous, and very hard, thinly beset with stiff black hairs, which lie flat, and are so thin that the skin appears bare, of a reddish flesh colour. Behind the head is a peck of black feathers. The largest wing feathers are black. All the rest of the body is white. This description I took from the entire skin of the Bird, presented to me by an Indian, who made use of it for his tobacco pouch. He told me, that early in the Spring, great multitudes of them frequent the lower parts of the Rivers near the Sea, and return to the Mountains in the Summer. This relation was afterwards confirmed to me by a white man; who added, that they make a remarkable hooping noise; and that he hath seen them at the mouths of the Savanna, Aratamaha, and other Rivers nearest St. Augustine, but never saw any so far North as the Settlements of Carolina.

Prunus Buxi folio cordato, fructu nigro rotundo.

The Bullet-Bush.

The largest part of the stem of this Shrub is seldom bigger than the small of a man's leg. The height is usually five feet. The branches shoot forth near the ground and spread. The leaves are stiff like those of box, and about the same bigness, with notches at the ends. The berries hang to the smallest branches by footstalks not half an inch long, and are globular, somewhat larger than a Black Cherry, of a blueish black; and contain each a single stone.

*Ardea caerulea.**The blue Heron.*

This Bird weighs fifteen ounces, and in size is somewhat less than a Crow. The bill is blue; but darker towards the point. The Irides of the eyes are yellow. The head and neck are of a changeable purple. All the rest of the body is blue. The legs and feet are green. From the breast hang long narrow feathers, as there do likewise from the hind-part of the head; and likewise on the back are such like feathers, which are a foot in length, and extend four inches below the tail, which is a little shorter than the wings. These Birds are not numerous in Carolina; and are rarely seen but in the Spring of the year. Whence they come, and where they breed, is to me unknown.

477. *Ardea alba minor Carolinensis.*

The little white Heron.

This Bird is about the size of the preceding. The Bill is red. The eyes have yellow Irides. The legs and feet are green. The whole plumage is white. They feed on Fish, Frogs, &c. and frequent Rivers, Ponds and marshes, after the manner of other Herons.

I believe they breed in Carolina; but I have never seen any of them in Winter.

Ketmia frutescens glauca, aceris majoris folio longiore, serrato, flore carneo.

This Plant rises with several stems usually five feet high, producing broad serrated downy leaves, like the broad-leaved Maple, divided by six sections. The flowers are in clusters on the top of the stalks, of a pale red, and divided by five segments. The fruit is round and ribbed, about the bigness of a large Hazel nut, containing many small black seeds. They grow among the rocks of the Bahama Islands.

Ardea stellaris Americana.

The brown Bittern.

This is somewhat less than our English Bittern. The bill is four inches long; the end and upper part of it are black, the under part green. The eyes are large, having gold coloured Irides, environed with a green skin. The whole body is brown, with a mixture of white feathers; the back being darker. The breast and belly are more white. Most of the large wing feathers are white at the ends. The tail is short, and of a lead colour. The legs and feet are of a yellowish green. The outer and middle toe are joined by a membrane. The interior side of the middle toe is serrated.

These birds frequent fresh Rivers and Ponds in the upper parts of the Country, remote from the Sea.

Ardea stellaris cristata Americana

The crested Bittern.

Weights a pound and half. The bill is black and strong. The eyes are very large and prominent, with red Irides. The skin encompassing the eyes is green. The crown of the head, from the basis of the bill, is of a pale yellow, terminating in a peak; from which hang three or four long white feathers, the longest of which is six inches; which they erect, when irritated. From the angle of the mouth runs a broad white list. The rest of the head is of a blueish black. The neck, breast and belly, dusky blue. The back is striped with black streaks, with a mixture of white. From the upper part of the back shoot many long narrow feathers, extending beyond the tail; some of which are seven inches long. The large feathers of the wing are brown, with a tincture of blue. The legs and feet are yellow. These birds are seen in Carolina in the rainy seasons; but in the Bahama Islands, they breed in bushes growing among the rocks in prodigious numbers, and are of great use to the inhabitants there; who, while these birds are young, and before they can fly, employ themselves in taking them, for the delicacy of their food. They are in
some

Some of these rocky Islands so numerous, that in a few hours, two men will load one of their Calapatches or little boats, taking them perching from off the rocks and bushes; they making no attempt to escape, tho' almost full grown. They are called, by the Bahamians, Crab-catchers, Crabs being what they mostly subsist on; yet they are welltasted, and free from any rank or fishy savour.

pag. 79. *Lobelia frutescens*, *Portulacæ folio*.

Plum. Nov. Gen. p. 21.

This Plant grows usually to the height of five or six feet. The leaves are, in thickness and form, not unlike Purslain. At the end of a stalk, growing from the joint of a leaf, there are set three or four monopetalous white flowers, divided into five pointed sections, with a wreathed stamen hanging out. This flower appears in a singular manner, as if it had been tubulous, but slit down to the basis, and laid flat open. The flowers are succeeded by globular berries, of the size of black Bullace, containing a stone, covered with a smooth black skin. These plants grow on the rocky shores of many of the Bahama Isles.

29. 50. *Ardea stellaris minima*

The Small Bittern.

The bill, from the angle of the mouth to the end, was a little more than six inches long, and black, except some part of the under mandible, which was yellow. The eyes are yellow. A crest of long green feathers covers the crown of the head. The neck and breast are of a dark muddy red. The back is covered with long narrow pale green feathers. The large quill feathers of the wing of a very dark green, with a tincture of purple. All the rest of the wing feathers is of a changeable shining green, having some feathers edged with yellow. The legs and feet are brown. They have a long neck, but usually sit with it contracted, on trees hanging over Rivers, in a lonely manner waiting for their prey, which is Frogs, Crabs, and other Small Fish.

I don't remember to have seen any of them in Winter: wherefore I believe they retire from Virginia and Carolina more South.

Fraxinus Carolinensis, foliis angustioribus utrinque acuminatis, pendulis.

These Trees are commonly of a mean size and height. The leaves are pointed at both ends. The seeds are winged, and hang in clusters. They grow in low moist places.

Pelicanus Americanus. The Wood Pelican.

This is about the bigness of a Goose. The bill is nine inches and a half long, and curved towards the end, and next the head very big, being six inches and an half in circumference. The fore part of the head is covered with a dark bluish skin, bare of feathers, the back part of the head and neck are brown. The wings are large: all the lower part of them, from the shoulders to the ends, particularly the quill feathers appear black at a distance, but are shaded with green: the upper part of the wing is white. The tail is black, very short and square, at the end. All the rest of the body is white. The legs are black, and very long. The feet webbed not so much as those of a Duck, but are joined by a membrane reaching to the first joint of every toe; except the hindmost which has no membrane, and is longer than common. That which demonstrates this Bird to be of the Pelican kind, is the pouch under the bill, though it is small, and contains not more than half a pint.

In the latter end of Summer there usually falls great rains in Carolina, at which time numerous flights of these Birds frequent the open Savannahs, which are then under water, and they retire before November. They are very good eating Fowls, though they feed on Fish, and other water animals. It is a stupid Bird, and void of fear, easily to be shot. They sit in great numbers on tall cypress and other trees, in an erect posture, resting their ponderous bills on their necks for their greater ease. I could not perceive any difference in the colours of the Male and Female.

*Numenius albus.**The White Curlew.*

This is about the size of a tame pigeon. The bill is six inches and an half long, of a pale red colour, channelled from the basis to the point. The Iris of the eyes are gray. The fore part of the head, and round the eyes, is covered with a light red skin. Four of the largest wing feathers have their ends dark green. All the rest of the Bird is white, except the legs and feet, which are pale red. The flesh, particularly the fat, is very yellow, of a saffron colour. When the great rains fall, which is usual at the latter end of Summer, these Birds arrive in Carolina in great numbers, and frequent the low watery lands.

The Cock and Hen are alike in appearance.

*Arum aquaticum minus; S. Arisatum fluitans
pene nudo Virginianum.*

D. Banister Flux. Mantisp. 28.

This Plant grows by the sides of Rivers, and in watery places; the root is uberous, from which springs many broad oval leaves, eight or ten inches wide, on thick succulent round stalks, to the height of about four feet. From the root also shoot forth many of the like stalks, producing blue flowers at the end of every stalk; but as I had not an opportunity of observing them more critically while in blossom, I shall only take notice that the flowers are succeeded by a bunch of green berries closely connected together, regularly, in the manner of a Pine-Apple. These berries never harden, but drop off when ripe, being of the colour, shape and consistence of Capers.

Numenius fuscus.
The Brown Curlew.

This is about the size of the White Curlew. It has the same sort of bill, with red round the basis of it, and eyes as the White Curlew. The rest of the head and neck of a mix'd gray. The upper part of the back, wings, and tail, are brown. The lower part of the back and rump are white, as is the under part of the body. The legs are reddish, like those of the White, as is likewise its shape and size. This near resemblance in them made me suspect they differed only in sex, but by opening them, I found testicles in both the kinds. The flesh of this is dark, having not that yellow colour which is in the White Curlew. They both feed and associate in flocks, yet the White are twenty times more numerous than the Brown kind. In the gizzard were Crawfish. Both these kinds, accompanied with the Wood Pelicans, come annually about the middle of September, and frequent the water Savannas in numerous flights, continuing about six weeks, and then retire; and are no more seen until that time next year. In many of the flocks of the White kind were clusters of eggs; from which I imagine they retire somewhere south to breed. Carolina, at that time of the year, would probably be too cold for the work of Nature, it being much colder in the same latitude, in that part of the world, than in Europe. Very little or no difference appears in the feathers of the Cock and Hen.

Arum Sagittarice folio angusto, acumine et auriculis acutissimis.

This Plant grows in ditches, and shallow water, to the height of three or four feet, with narrow arrow-headed leaves, on long succulent stalks springing from a tuberous root, from which also shoot forth large round stalks, at the end of each of which grows, in an hanging posture, a large roundish green seed vessel or capsula, containing many globular green berries of different bigness, some of the size of musket bullets, and others but half as big; this seed vessel [which is about the size of an Hen's egg] when mature, opens on both sides, and discloses the seeds, which are green and tender when ripe. I have seen the Indians boil them with their Venison. They were excessive hot and astringent in my mouth, while green, but when boiled they lost those qualities, and were very palatable; and, as they said, wholesome. They are ripe in July.

*Numenius ruber.**The red Curlew.*

As a larger Bird than the preceding, being about the bigness of a common Crow. The bill is in form like that of other Curlews, and of a pale red colour. On the fore part of the head, and round the eyes, is a skin of the same colour as the bill, and bare of feathers. The legs are likewise of a pale red colour. About an inch of the end the wings are black. All the rest of the Bird is red.

These Birds frequent the Coast of the Bahama Islands, and other parts of America between the Tropicks; and are seldom seen to the North or South of the Tropicks. The Hens are of a dirtier red than the Coxs.

Hamatopus.

Will. p. 297. Bellon. Lib. III. p. 203.

The Oyster Catcher.

Weights one pound and two ounces. The bill is long, straight, and of a bright red colour, contracted near the basis, and towards the end compressed. The circles of their eyes are yellow, encompassed with a red circle. The whole head and neck are black, having a spot of white under the eyes: all the under part of the body is dusky white: the larger quill feathers are dusky black: the tail is short, black towards the end, and towards the rump is white. The upper part of the body and wings is brown, except a broad white line, which runs along the middle of each wing. The legs are long and thick, and of a reddish colour. It has only three fore-toes, wanting the back toe. Their feet are remarkably armed with a very rough scaly skin. In Rivers, and Creeks near the Sea there are great quantities of Oyster-banks, which at low water are left bare: on these banks of Oysters do these Birds principally, if not altogether, subsist; Nature having not only formed their bills suitable to the work, but armed the feet and legs for a defence against the sharp edges of the Oysters. The Hens differ from the Cocks in not having the red circle round their eyes, and their bellies are of a

nore. Dirty white than in the Cocks. In the mass of one was found nothing but undigested Oysters.

This Bird seems to be the *Hæmatopus* of Bellonius, Will. p. 297. notwithstanding there is some small difference in their description. I have seen them on the sea-coasts both of Carolina and the Bahama Islands.

pag. 85. *Frutex Bahamensis foliis oblongis succulentis, fructu subrotundo unicum nudum continente,*

This grows to the size of a small Tree; the leaves stand by pairs, on foot-stalks about an inch long: They are long, thick and succulent. At the ends of the stalks grow in pairs, and sometimes singly, round flat seed vessels, about the breadth of a shilling.

The fruit is of the substance of a Bean, and, like that, divides in the middle: it is covered with a thin membrane of a pale green colour. I had no opportunity of seeing the blossoms, though I was told they were very small and white. The bark of this Tree is used for tanning of sole-leather.

Anseri Bassano congener
Avis fluviatilis.

The Great Booby.

Its size is about that of a Goose. The head and neck are remarkably thick. The bill large, and almost six inches in length, a channel or cranny extends from one end to the other of the upper mandible.

The wings extended six feet, and, when closed, reach to the end of the tail. The middle feather of the tail was longest, the rest gradually decreasing in length. The eyes are large, of a hazel colour, encompassed with a skin bare of feathers. These birds were of a dark brown colour, elegantly spotted with white on their heads; the spots are

thick and small, on the neck and breast they are thinner and broader and on the back thinnest and broadest. The wings are likewise spotted, except the large quill feathers and the tail, which are broad.

The belly is of a dusky white. The feet are black, and shaped like those of a Cormorant. That which is most remarkable in these birds is, that the upper mandible of the bill, two inches below the angle of the mouth, is jointed, by which it can raise it from the lower mandible two inches, without opening their mouths.

This bird so nearly resembles the Booby (particularly in the singular structure of the bill) that I thought the name of Great-Booby agreed best with it. It frequents large rivers, and plunges into

them after Fish, in like manner as the Booby does at Sea, continuing under water a considerable time, and these pursuing the fish: and as I have several times found them disabled, and sometimes dead on the shore, probably they meet with Sharks, and other large voracious fishes, that maim and sometimes devour them. They frequent the Rivers and Sea-coast of Florida. The colours of the Cox are brighter, and more beautiful than those of the Hen.

pag. 86. *An Thymelæa foliis obtusis.*

This Shrub riseth to the height of eight or ten feet, with a small trunk, covered with a whitish bark. The leaves are placed alternately on footstalks, one third of an inch long, narrow at the beginning, growing broader and rounding at the ends, two inches long, and one over, where broadest of a shining green, with one single rib. The flowers are tubulous, divided at top into four sections, they are white, except that within the cup there is a faint tincture of red, they grow in bunches at the ends of the branches.

These Shrubs grow in many of the Bahama Islands on the rocky shores amongst sedge.

pag. 87. Anseri Bassano Affinis fusca Avis.
Sir Hans Sloane's Hist. Jam.

The Booby.

Is somewhat less than a Goose. The basis of the bill is yellow, and bare of feathers; in which the eyes are placed of a light grey colour; the lower part of the bill is of a light brown. These birds vary so, that they are not to be distinguished by their colour only: in one of them the belly was white, and the back brown: in another the breast and belly was brown: in others all brown; nor could I perceive any outward difference in the Cock and Hen. Their wings are very long; their legs and feet pale yellow, and shaped like those of Cormorants. They frequent the Bahama Islands, where they breed all months in the year. They lay one, two, and sometimes three eggs on the bare rocks. Dampier says they breed on Trees in an Island called Bon-aidy, in the West-Indies which he observes not to have seen elsewhere. While young, they are covered with a white down, and remain so till they are almost ready to fly. They subsist on Fish only, which they catch by diving. This, and the great Booby are remarkable for having a joint in the upper mandible of the bill.

It is diverting to see the frequent contests between the Booby and the Man of War Bird, which last lives on rapine and spoil of other Sea Birds, particularly the Booby; which so soon as the Man of War Bird perceives he hath taken a Fish, flies furiously at

at him, and obliges the Booby for his security to dive under water. The Man of War Bird being incapable of following him, hovers over the place till the Booby rises to breathe, and then attacks him again and so repeats it at every opportunity, till the Booby at length, tired and breathless, is necessitated to resign his Fish; yet, not being discouraged, industriously goes to fishing again, and suffers repeated losses by fresh assaults from his rapacious enemy.

Having had no opportunity of seeing the Man of War Bird, any other-wise than in the air, I cannot well describe it, nor say any thing more of it, except what has been related to me, which is this. While they are sitting and hatching their young, their heads changes from a brown to a scarlet colour, which becomes brown again when they have done breeding. This was affirmed to me by many, who have often seen them on their nests; for at that time they are very tame, and will suffer one to come near to them though at other times very wild. These Birds are numerous on most of the Bahama Islands.

Hirundo marina minor capite albo.

pag. 88.

Sir Hans Sloane's Hist. Jam. p. 31.

The Noddy.

Weighs four ounces. The bill is black, long, and sharp. The eyes above and below are edged with white. The crown of the head is white, which grows gradually dusky towards the back part of the head. All the rest of the Birds are brown, the tails and quill feathers being darkest. Their wings and tails are of an equal length. They lay their eggs on bare rocks on many of the Bahama Islands, where they breed in company with Boobies. It is pleasant to see them fishing, accompanied with variety of other Sea-Birds in numerous flights, flying on the surface of the water, and continually dropping to snatch up the little fish, drove in shoals of larger ones to the surface of the water. This seems to be done with great pleasure and merriment, if we may judge from the various notes and great noise they make, which is heard some miles off. The shoals of fish they follow, cause a rippling and whiteness in the water which is a plain direction for the Birds to follow them, and may be seen from the hills several miles off. where the rippling appears most, there the Birds swarm thickest. This is done in breeding time; but that being past, these Noddies roam the Ocean over separately, and are seen several hundred leagues from any land, but are seldom met with without the Tropicks. They are stupid Birds, and like the Booby will suffer themselves to be laid hands on, and taken, from of the yards or parts of Ships on which they alight. The Cocks and Hens differ very little in colour.

Larus major.

The Laughing Gull.

This Birds weighs eight ounces. The bill is red, hooked towards the point, the lower mandible having an angle towards the end: the head is of a dusky black: the eyes are edged above and below with white: half the quill feathers of the wing, towards the ends, are dusky black; all the rest of the body is white, as is the tail, the feathers of which are of an equal length, and not so long as the wings by two inches: the legs are black, as are also the feet, which are webbed.

These Birds are numerous in most of the Bahama Islands. The noise they make has some resemblance to laughing, from which they seem to take their name. I know not whether the Hen differs from this, which is a Cock.

pag. 20. *Laurus major* Rostrum inaequali.
The Cut Water.

The bill, which is the characteristic note of this Bird is a wonderful work of Nature. The basis of the upper mandible is thick, and compressed sideways gradually to the end, and terminates in a point, and is three inches long. The under mandible is more compressed than the upper, and very thin, both edges being as sharp as a knife, and is almost an inch longer than the upper mandible, which has a narrow groove or channel, into which the upper edge of the lower mandible shuts. Half the bill, next the head, is red, and the rest black. The forepart of the head, neck, breast and belly are white. The hind part of the head, back and wings are black, with a small mixture of white. The upper feather of the tail is black, the rest are white. The legs are short and small, of a red colour. The feet are webbed like those of a Gull, with a small back toe. These Birds frequent near the Sea-coasts of Carolina. They fly close to the surface of the water, from which they seem to receive somewhat of food. They also frequent oyster banks on which, I believe, they feed. The structure of their bills seems adapted for that purpose. The Cocks and Hens are alike in colour.

91. *Podiceps minor* *Rostro vario.*

The Pied-Bill Dapchick.

This Birds weighs half a pound, The eyes are large, encompassed with a white circle: the throat as a black spot: a black list crosses the middle of the bill: the lower mandible, next the basis, has a black spot. The head and neck are brown, particularly the crown of the head and back of the neck is darkest: the feathers of the breast are light brown, mixed with green: the belly is dusky white: the back and wings are brown.

These Birds frequent fresh water-ponds in many of the inhabited parts of Carolina. This was a Male.

pag. 92. *Anser Canadensis.*
The Canada Goose.

This Bird is described by Mr. Willoughby, p. 361. By comparing it with his description, and finding them agree, I conceive it sufficient to recite his account of it as follows:

" Its length, from the point of the bill to the end of the tail, or of the feet, is forty two inches. The bill it self, from the angles of the mouth is extended two inches, and is black of colour. The nostrils are large.
" In shape of body it is like to a tame Goose, save that it seems to be a little longer. The rump is black; but the feathers next above the tail, are white. The back is of a dark gray, like the common Goose. The lower part of the neck is white, else the neck is black.
" It hath a kind of white stay or muffler under the chin, continuing on each side below the eyes to the back of the head. The belly is white; the tail black; as are also the greater quill feathers of the wings. The eyes are hazel-coloured. The edges of the eye-lids are white; the feet are black, having the hind-toe."

The white stay or muffler before mentioned, is sufficient to distinguish it from all other of the Goose kind.

In Winter they come from the Northern parts of America to Carolina, &c.

Anas Bahamensis
rostris plumbeo, macula Aurantii coloris.

The Nattera Duck.

is somewhat less than the common tame Duck. The bill is dusky blue except on each side of the upper mandible; next the head is an orange-coloured triangular spot. The throat and all the fore-part of the neck to the eyes, are white. The upper part of the head is of a mixed gray, inclining to yellow; as is the back and the belly. The upper part of the wing and quill-feathers are dark brown. In the middle of the wing is a row of green feathers, as in the common Teal, bordered towards the quillends with yellow, and their ends black. Below which, and next to the quill-feathers, is a row of yellow feathers. The feet are of a lead colour.

These Birds frequent the Bahama Islands, but are not numerous; I never having seen but one which was a Drake.

Chrysanthemum Bermudense Leucii foliis
virentibus crassis. Pluk. Alm. 102.

This Plant grows on Rocks on the Sea-shores of most of the Bahama Islands. It grows usually to the height of four or five feet, with many pliant green stems arising from the root; the leaves are long, increasing in width gradually to the end; and in form resembling the leaves of the stock gillyflower; they are thick, succulent, and of a shining green, standing opposite to one another. The flowers grow singly at the ends of the branches, on footstalks of four inches long.

Anas cristatus.

The round-crested Duck.

This Bird is somewhat less than a common Game Duck; the eyes are yellow; the bill is black and narrow; the upper mandible hooked at the end, and both mandibles serrated. This feature of the bill shews it to be of the kind of Merg. Vid. Willoughby, p. 232. Tab. 64. The head is crowned with a very large circular crest, a tuft of feathers; the middle of which, on each side, is white, and bordered round with black, which black extends to and covers the throat and neck. The breast and belly are white. The quill-feathers of the wings are brown; just above which are some smaller feathers, whose exterior vanes are edged with white, with a little white intermix'd in them, as in some of the other feathers likewise. The tail is brown, as is also the hindmost part of the belly near the vent, and under the wings. The rest of their wings and body is dusky black.

The females are all over of a brown colour, having a smaller tuft of feathers of the same colour. They frequent fresh waters, more especially mill-ponds in Virginia and Carolina.

19. 95. *Anas minor Purpureo capite.*

The Buffel's Head Duck.

As to the size of this Bird, it is between the common Duck and Teal. The bill is lead-colour; on each side the head is a broad space of white; except which, the whole head is adorned with long loose feathers, elegantly blended with blue, green and purple. The length and looseness of these feathers make the head appear bigger than it is, which seems to have given it the name of Buffel's Head, that animal's head appearing very big by its being covered with very thick long hair. The wings and upper part of the body have alternate lists of white and black, extending from the shoulders of the wings and back down to the rump, viz. The quill feathers are black; next to them extends a line of white, next to which is a line of black, which covers the middle of the back. The tail is gray; the legs are red.

The female is all over of a brown colour; The head smooth, and without a ruff; the legs and feet are brown. These Birds frequent fresh waters, and appear in Carolina only in Winter.

pag. 96. *Anas Americanus lato rostro.*

The Blue-wing Shoveler.

This is somewhat less than a common Duck. The eyes are yellow. The upper part of the wing is covered with pale blue feathers; below which is a row of white feathers, and below them a row of green: the rest of the lower part of the wing is brown. All the other part of the body is of a mixed brown, not unlike in colour to the common Wild Duck. This Bird does not altogether agree with that described by Mr. Willoughby, p. 370. But if, as he observes, they change their colours in Winter, it is possible this may be the Bird. However, as their Bills are of the same form, and by which they may be distinguished from all others of the Duck kind, I cannot describe it in better words than the above excellent Author.

" Its bill is three inches long, coal black, (though this is of a reddish
" brown, spotted with black) much broader toward the tip than at the
" base, excavated like a buckler, of a round circumference. At the end
" it hath a small crooked hook or nail; each mandible is pectinated
" or toothed like a comb, with rays or thin plates inserted mutually
" one into another, when the bill is shut. The legs and feet are red."

I am not certain whether this was a Male or Female.

997. *Anas Americanus cristatus elegans.**The Summer Duck.*

is of a mean size, between the common Wild Duck and Teal. The bill is red, with a black spot on the middle of it, and a black nail or horny substance on the end, the basis of the bill is edged about with a yellow fleshy protuberance, pointing on each side towards the eyes, the Irides which are very large and red, encompassed with a red circle. The crown of the head is elegantly covered with a double plume of long feathers, composed of blue, green and purple flowers hanging down separately behind its head, and divided by a narrow white line, extending from the upper part of the basis of the bill backward: The lower plume is likewise bordered with a white line, beginning at the eyes and running parallel with the other, dividing the plume from the under part of the head, which is purple. The throat is white, from each side whereof proceed two white lines, one branching up towards the crown of the head, and the other below it, crossing the neck. The breast is of a muddy red, sprinkled thick over with white spots, like ermine. A little above the shoulder is a broad white line, extended transversely, below which, and joining to it, runs a broad black list. The back and upper parts of the wings are variously and changeably coloured with brown, blue, and purple. The small feathers near the vent, are of a reddish purple, from amongst which spring two small yellow feathers. The tail is blue and purple. The lower part or verge of the wings are lapped over, and covered by the small downy side feathers, extending from the shoulder half way the wings, displaying alternately and in a wonderful manner black and white pointed lines, varying in appearance according to the motion of the Bird, and different position it puts its feathers into, which adds much to the beauty of it. The sides of the body below the wings are brown, with transverse waved lines, as in many of the Duck kind; the legs and feet of a reddish brown. They breed in Virginia and Carolina, and make their nests in the holes of tall trees (made by Wood peckers) growing in water, particularly Cypress Trees. While they are young and unable to fly, the old ones carry them on their backs from their nests into the water; and at the approach of danger, they fix with their bills on the backs of the old ones, which fly away with them. The female is all over brown.

pag. 98. *Anas minor ex albo et fusco vario.*

The little brown Duck.

This Duck has a large white spot on each side the head, and another on the lower part of the wing: except which the head and all the upper part of the body and wings are dark brown. The breast and belly are light gray: the bill is black; the Irides of the eyes are of a hazel-colour: This was a Female. The male was pyed black and white; but not being able to procure it, I am necessitated to be thus short in the description. They frequent the lower parts of Rivers in Carolina, where the water is salt, or brackish.

Frutex Pruxi foliis oblongis, bacis pallide viridibus apice donatis.

SOAP-WOOD.

This Shrub or Small Tree rises to the height of about six or eight feet and usually with one straight stem covered with a whitish bark. The leaves in size, shape and substance resemble those of Box, and many of them grow concave and curling, with their edges inward. At the ends of the smaller twigs grow bunches of round pale green berries of the size of large Peas, set on foot-stalks a quarter of an inch long with a small indented capsule. These berries contain an uncertain number of (four, five and some six) small brown seeds covered with a mucilage. The bark and leaves, of these seeds being beat in a mortar produces a lather; and is made use of to wash cloaths and linnen, to which last it gives a yellowness. The Hunters who frequent the desolate Islands of Brahama (where this Shrub grows on the Sea-Coast) are frequently necessitated to use this sort of Soap to wash their shirts, for want of better.

99. *Querquidula Americana fusca.*

The Blue-Wing Teal.

Is somewhat bigger than the common Teal. The bill is black: the head, and most part of the body, are of a mixed gray, like that of a Wild Duck; the back being darker than the under part of the body: the upper part of the wing is of a bright blue, below which ranges a narrow row of white feathers; next to them a row of green; the rest of the wing, being the quill-feathers, is dark brown: the legs and feet are brown. The Female is all brown, like a common Wild Duck.

In August these Birds come in great plenty to Carolina, and continue till the middle of October, at which time the Rice is gathered in, on which they feed. In Virginia, where no Rice grows, they feed on a kind of Wild Oat, growing in the marshes, and in both places they become extremely fat.

They are not only by the Natives preferred to all other Water-fowl, but others, who have eat of them, give them the preference to all of Duck kind for delicacy of taste.

pag. 100. *Querquedula Americana variegata.*
The White-Face Teal.

In bigness this exceeds a common Teal. The bill and the crown of the head are black; which extends along the basis of the bill to the throat, between which and the eyes it is white. All the rest of the head is purple mix'd with green. The breast and belly is colour like that of a common Teal. The upper part of the back next the head, is brown, curiously waved like the curdling of water. The lower part of the back is covered with long sharp pointed feathers of a light brown colour. The wings are colour as those of the Blue-wing Teal. The tail is brown, and somewhat longer than the wings. The vent feathers under the tail are black. The legs and feet are yellow. The Female is all over brown. These birds frequent Ponds and fresh-water Rivers in Carolina.

Finis.

Appendix.

*Urogallus minor, fuscus cervice, plumis
Alas imitantibus donata.*

This Bird was about a third part bigger than a common Partridge. The bill was brown, the eyes black, with hazle coloured irides: The legs were covered with yellowish downy feathers to its toes: The tail was short, having the under-part of a dusky black; except which, the plumage of the whole Bird was of a reddish brown, marked transversely with black and white wavy lines intermixed. The feathers of the crown of the head were long, and when erected, formed a little crest. But what is singular and extraordinary in this Bird, and distinguishes it from all others yet known, are two tufts of feathers resembling little wings, three inches long, placed on the hind-part of these tufts were made up of five feathers lapping one over another, somewhat like those of a Bird's wing, gradually decreasing in length.

These little wings (if so they may be called) were fixed to the neck in such a manner, that the Bird has the power of contracting and dilating them: When disturbed, it would spread these little wings horizontally; at other times it would let them fall on each side of the neck. The Hen had not these neck feathers, except which, there appeared very little difference between this and the Cock. From the structure and resemblance

of these neck-feathers to real wings, they may possibly assist the Bird in running or flying, or both; especially as the wings are short in proportion to its heavy body.

Some of these Birds, in the year 1743. I saw at the right honourable the Earl of Wilmington's at Chiswick; who told me, they were natives of America, but from what particular part they came his Lordship knew not.

pag. 101.

Meadia

Generis Character.

- Cal. Perianthium monophyllum, semiquinque fidem persistens.
Lacinis lanceolatis, reflexis, demum longissimis, revolutis.
- Cor. Monopetala quinque fida, tubo accreta, sursum reflexa.
Lacinia longissima, lingueformes, acuta.
Tubus cylindricus, germen involvens, corollam sustinens.
- Stam. Filamenta quinque brevissima, tubo insidentia.
Anthera longa, lanceolata, didyma.
- Pist. Germen contum, tetrum. Stylus filiformis, longitudine staminum. Stigma.
- Per. Capsula ovata, uniloculata, bivalvis, apice debescens.
- Sem. Plurima parva. Receptaculum columnare, liberum.
- Obs. Talis apparuit singularis structura in sicis, in quibus coccidid, Corolla a tubo fuit separata, et diversa, in aliis vero arcte connexa; adeo ut apodictice determinare impo-

ut, an tubus ille fuerit staminum coactio, ut in monadelphis peden-
riis Cl. Linn. (a quibus insigniter differt corolla connexione, et situ) an vero
ad corollam pertineret ut in Cyclamine, et Diapensia Linn.

Dubium solvet autopsia in vivis.

The leaves of this Plant are of a pale green, and resemble those of the
common garden-lettuce. From the middle of the leaves rises a single
stalk about a foot high; on the summit of which are fixed together
many reclining footstalks, on every one of which hang pendant a
single flower; the whole forming a cluster of about twenty. The
flower consists of a green calix with five sections, and one reflexed
petal divided almost to the bottom by five segments, in the manner
of the Autumn Cyclamen. The apices are connected together in
a point. Though the flowers hang down, the seed-vessels afterwards
turn up, and stand erect on their footstalks.

It flowered in Mr. Collinson's garden at Beckham, in September 1744.
from seeds sent him by Mr. Bartram, who gathered them from
beyond the Appalachian mountains, which lie parallel with Virginia.
The seeds were contained in a long membranous capsula, which opens
into four parts, and discharges its very small seeds.

To this new genus of Plants, I have given the name of the learned Dr. Richard
Mead, Physician to His Majesty, and F. R. S. in gratitude for his zealous pa-
tronage of arts and sciences in general, and in particular for his
generous assistance towards carrying the original design of
this work into execution.

Scolopendra.

These Insects are of different sizes. Some of them are six inches in length, others not above four. The body is divided by twenty annuli, with double the number of legs; every one of which has four joints, with a single claw at their ends; being two members, like legs, growing from its hindmost part, having five joints each. From each side of the head proceeds a pair of sharp-pointed forceps, which are its poisonous weapons, and a pair of antennæ. The bite of this Insect in Jamaica is said to be as pernicious as that of a scorpion. We have in England a diminutive species of this Insect, which is inoffensive.

Hamamelis.

The usual height of the Plants is ten or twelve feet. They resemble nut-trees at a little distance; the leaves of which likewise resembles, or rather those of the alder-tree. The flower is pale yellow, consisting of a triangular involucre; a calice divided by four segments, from which proceed four Stamina, and a Stigma, hardly to be discerned with the naked eye: it flowers at Carolina in October, continuing long in blossom, then sets its fruit for the next summer. The seed-vesel consists of a double capsula, which, when ripe, splits half open, and discloses two

are black shining seeds, having a white spot at their bigger ends; each side lying in its distinct cell, separated by a thin membrane. Their seeds are sometimes tricapsular.

For this plant I am obliged to Mr. Clayton, who, in the year 1793, sent it me in a case of earth from Virginia. It arrived in Christmas, and was then in full blossom.

Sir,

This is a new genus of plants, which I have likewise had an opportunity of describing from the live plant, which I call *Trilopus*, on account of the triple husk of the fruit, so remarkable, but not described in its character. The inner Putamen of the nut is of a hard horny substance, double, inclosing each seed, opening a top, and divided by a valve of the middle husk, which is of a leathern substance, inclosing the whole nut, opening cross-wise at top. The outer husk resembles the cup of an acorn inclosing half the nut. The petals are, as it were, double at the base; a small petaliform Nectarium, of the length of the Perianthium, being affixed to the base of each petal.

John Mitchell.

pag. 103. *Monedula tota nigra.*

Hist. Nam. 298. Vol. II.

The Razor-billed Black-bird of Jamaica.

This bird is somewhat less than our Jack-daw. It appears at a distance all over black, but at a nearer view some of the feathers were blended with shining purple and green. The singular make of the bill resembles that of the Razor-bill, Willoug, p. 223. Pl. 65. the upper mandible being remarkably prominent, rising arch-wise, with an high and very thin edge.

Sir Hans Sloane informs us, that it subsists on beetles and Grasshoppers. It also feeds on fruit and grain. They appear in flocks, and are gregarious, and very noisy. They are numerous in Jamaica, Hispaniola. &c.

*Calceolus, flore maximo rubente, purpureis venis notatis
foliis amplis hirsutis crematis, radice dentis canini.*

This plant produces the most elegant flower of all the Hel-leborine tribe, and is in great esteem with the North-American Indians for decking their hair, &c. They call it the Moccasin flower, which also signifies, in their language, a shoe, or Slipper.

210A
Vespa ichneumon Tripilis, Pennsylvaniensis.

What is most remarkable in this Fly, is the three long bristly hairs growing from it; one from the anus, one from the extremity of the abdomen, and the third a little above it. The abdomen had three joints or annuli crossing it. The antennae were long. It had four wings, two long and two short. The size of the Fly was the same of the figure here represented. This odd Fly was a native of Pennsylvania, and was sent from thence to Mr. Collinson, amongst many other remarkable insects, by Mr. John Bartram.

Since I graved it, I found it figured by Mr. Petiver.

Rhus glabrum Panicula speciosa coccinea.

This Plant, except the panicle, so nearly resembles the *Rhus virginianum panicula sparsa ramis patulis glabris*, Hort. Est. vol. 2. p. 223. that it can hardly be distinguished from it. It rises to the height of six or seven feet, with a stait stem; and produces its panicles at the ends of the branches. The flowers consist of five petals, as in the other kinds. The spike of this is not so divided as that to which I have compared it, nor so compact and close as that of the *Rhus virginianum*. C. B. P. But that which distinguishes it, and gives it the preference to all the other species of it, is the resplendency of its scarlet panicles: the colour of which begins to appear in July with a tincture of yellow; but as the fruit ripens, the scarlet heightens; as appears by plants in their full lustre in Mr. Christophet Gray's garden at Fulham.

The berries that compose the panicles are yellow, thick set with numerous filaments, or small threads of a purple or scarlet colour, best discerned by a microscope, which receiving a reflection from the yellow, causes the scarlet colour, which nothing can excel, more especially when the Sun shines upon it.

N.B. A warm Summer is requisite to perfect the colour in our climate.

pag. 105. *Pica Luteo-nigra varia*. Hist. Nam. p. 301.

The yellow and Black Eye.

This is about the size of a Blackbird: the irides of the eyes were yellow, surrounded by a blueish skin: the bill was black, and somewhat more than an inch long; the head was black; the throat had long pointed feathers, hanging loosely down; the upper part of the back, black; as where the wings, with a mixture of white; and under the quill-feathers, brown; the neck and under part of the body, with the hind part of the back and rump, of a reddish yellow. They are called in Namauca, Sonano Birds. that fruit being a part of their food. They are very sprightly and active Birds; and are often kept in cages for their docility and antique gestures.

Lilio-Narcissus Polianthus, flore albo.

This Plant has a bulbous root, from which rises a thick succulent stalk to the height of seven or eight inches; on the top of which grows a cluster of about eight or ten small green bulbs; from every one of which proceeds a monopetalous, tubular, white flower. The upper part of the tube divides into six narrow petals inclosing a cup, with its verge divided into twelve sections, having a stilius, six stamina, with yellow apices. The whole cluster of flowers is inclosed by a perianthium, which divides in two, and discloses the whole bunch, yet remains hanging to the stalk while the flowers continue: the leaves are of a deep shining green, like those of the *Lilio-Narcissus flore luteo autumnalis minor*.

These Plants I saw growing in a bog near Palluchucula, an Indian town on the Savanna river, within the precinct of Georgia.

Vespa Schneumon Coerulea.

This Wasp is about three quarters of an inch in length. A pipe or fistula, of a quarter of an inch long, joins the thorax to the abdomen, all which are of a deep blue. It had six legs. The wings were blended with brown and blue, having each a black spot at their ends.

Dr. Collinson in the Philos. Trans. of the Royal Society, N. 476. p. 363. has described and figured two ichneumon Wasps, with their nests, from Pennsylvania; but as the descriptions of the colours in his and mine does not exactly agree, it cannot be absolutely determined, whether his and mine be the same.

This species of Wasp form cylindrical pipes of clay, about the bigness, but twice the length of one's little finger; these they fix horizontally under sheds or pen-houses, joining eight, ten, or more of them together, side by side: these tubes are divided by several partitions, forming as many cells, in every one of which they lay an egg, and fill up the vacancy with spiders, and close up the cell securely. It is to be observed, that the Wasp cripples the spider, with an intent not only to disable them from crawling away while she is accumulating a sufficient store of them, but also that they continue alive to serve the nymphs with a supply of fresh food, till it enters into its change, in order for which it spins itself a silken case, in which it lies in its chrysalis state all the winter, and in the spring gnaws its way through the clay structure, and takes its flight. They are silent, but in the very action of plaistering and forming their fabrics, which, so soon as they set about, they strike up their odd musical notes, and with surprising dexterity and odd gesticulations cheerfully perform the business they are about; and then cease singing, till they return with a fresh mouthful of moist clay: repeating their labour in this manner till the whole is finished.

N.B. The Wasp, described at the following next page, forms also a nest of clay, but of a different structure from this; tho' the method of working and singing in both differs little or nothing.

These Wasps seem not to affect nor to have any thing to do with vegetables, for they subsist on insects only: spiders particularly seem to be their principal food; wherefore they mostly frequent out-houses, cellars, &c. where spiders most abound: These they seize and fly away with in their mouths, tho' some of them are of equal size with themselves: when one proves too big for the Wasp to fly with, she drags it to her nest, an instance of which I saw of an exceeding large spider, dragged up an erect wall by one of these Wasps, and carried into his nest, which being both weighed, the spider proved to be eight times the weight of the Wasp.

Cacao Arbor.

The Cacao Tree.

The trunks of these trees are about eight inches thick, and twelve feet in height, with a shining smooth bark. The leaves grow alternately; are broad and pointed, set on flat pedicles near an inch long. The flowers put forth only from the trunk and larger branches, in clusters of about eight or ten; each flower consisting of five capsular leaves, and five petals, with stamina and a stilus. From one of these little tufts of blossoms usually succeeds a single fruit about the bigness of a Swan's egg, but longer, more tapering, and ending in a point. The fruit hangs pendant, and, when ripe, has a shell of a purple colour, in substance somewhat like that of a pomegranate and furrowed from end to end; containing in the middle many kernels of the size of acorns, inclosed in a mucilaginous substance, and which are known amongst us by the name of Cacao Nuts, of which is made chocolate.

What remains sufficient to be said of this excellent tree, is the following short transcript from an author of great observation, and whose veracity I have often experienced. Dampier, Vol. 1. p. 61.

- " A Cacao-tree (says he) at its full growth is a foot and an half thick, and
- " seven or eight feet to the branches. A well bearing tree ordinarily has a-
- " bout twenty or thirty cobs upon it; two crops of them are produced in a
- " year, one in December, but the best in June. They neither ripen nor are
- " gathered at once; but for three weeks or a month, when the season is,
- " the Overseers of the Plantations go every day about to see which are turned
- " yellow, cutting at once, it may be, not above one from a tree. The cobs,
- " thus gathered, they lay in heaps to sweat; and then, bursting the shells

with their hands, they pull out the nuts. There are generally near an hundred nuts in a cod. When taken out they dry them in the sun upon mats spread on the ground; after which they need no more care, having a thin hard skin of their own, and much oil, which preserves them. Salt-water will not hurt them; for we had our bags rotted, lying in the bottom of our ship, and yet the nuts never the worse. The trees are raised from nuts set in the places where they use to bear, which they do in four or five years, without transplanting. They shelter the trees while young from the sun and winds, with plantains set about them which are destroyed by such time that the Cacao-trees are of a pretty good body, and able to endure the scorching heat of the sun."

The Cacao-tree is a native of America, and grows in no other part of the world. The places of its growth are in the Bay of Campeachy, on Costa Rica, between Portabel and Nicaragua, the coast of Caracas, Guayaquil, and Colima.

At Jamaica, in the year 1714, I saw the remains of extensive Cacao-walks, planted by the Spaniards, when in possession of that Island; or sufficient inducement, it must be thought, for their successors to continue the same gainful agriculture; when the profits, as well as the culture of the plant, was, and is still, as well known to us as to the Spaniards themselves. Whatever infatuation continues to possess our countrymen in the neglect of it, 'tis certain that the balance of trade, in this branch, is considerably against us; the Spaniards, and of late the French, supplying not only us, and our northern Colonies, but all Europe with this valuable commodity; I cannot but think it deserves the consideration of the legislature; for, were a method found to encourage its cultivation, our Sugar Islands (being as well adapted to the growth of it as any part of America) might not only supply our home-consumption, but come in for a share of exportation to foreign markets.

pag. 107 *Volubilis Siliquosa Mexicana Plantagini.*
Folio. Hist. Sam. 180. Vol. I.

The Vanelloe.

This Plant climber up the adjacent trees and Shrubs by the help of clasping tendrils. The leaves are about eight inches in length, broadest near the footstalks, and tapering gradually to a point; and are deeply furrowed longitudinally with seven ribs, the middle rib being most prominent. The flower is composed of five petals, with a cup in the center formed not unlike that of a Foxglove. The fore-side of the flower is white; the back-side yellow; the middle of the cup has also a dash of brighter yellow. Its seeds are very small, and black, and are contained in a long pod, which, when ripe, splits open, and discharges them. With the fruit the Spaniards perfume their chocolate, and employ Indians to use the pods, which they do, by laying them in the sun to dry, then dipping them in an oil drawn from the Kernel of the Acajou nut. This perfume is so little agreeable to an English palate, that it is rarely made use of any more in our American Plantations than at home, and therefore not cultivated by us.

They grow naturally in many places between the Tropicks, particularly at Proccatoro, lying in ten degrees north latitude.

108. *Hirundo cauda aculeata Americana.*

75

The American Swallow.

is a little less than the English House-Swallow, but very like it in shape. It is all over of a brown colour, except that the under part of the body and tail is of a lighter brown; particularly the throat is almost white. The Cock has some feathers faintly stained with purple, except which he differs not in colour from the Hen. The singularity of this Bird is, that the shafts of the tail-feathers are very stiff, sharp-pointed, and bare of feathers at their ends, which seem designed by Nature for the support of their bodies, while they are in an erect posture building their nests, which they do in chimneys, with little sticks interwoven and cemented together with a kind of glue or gum. Their periodical retreating from and returning to Virginia and Carolina, is at the same seasons as our Swallows do in England: therefore the place they retire to from Carolina is, I think, most probably Brazil, some part of which is in the same latitude in the southern hemisphere, as Carolina is in the northern; where, the seasons reversing, they may by this alternate change, enjoy the year round an agreeable equality of climate: and what strengthens the probability of it is, that the description of the Brazilian Andorinha of Margravinus agrees well with that of this Bird, except that he takes no notice of the spines in the tail, which he might probably overlook.

N. B. If it were ascertained that this Virginia Swallow was the same of Margravinus's Andorinha, it would, I think, confirm that most probable hypothesis, that Birds of passage (particularly Swallows) pass to the same latitude in the southern Hemisphere, as the northern latitude from whence they came.

Lilium angustifolium, flore rubro singulari.

This Lily rises from the ground with one, two, or three, straight stalks; each of them bearing a single flower at the height of about sixteen inches. The leaves are narrow, and stained at their ends with purple. The flower consists of a perianth and six stamens, rising from the center of six deep scarlet petals spotted with very dark red or purple, and their back sides covered with an hairy roughness, as is also the upper part of the stalk. It is a native of Pennsylvania, and blossomed in Mr. Peter Collinson's garden at Beckham, Anno 1743.

pag. 109.
Pomifera, seu potius prunifera Indica, nuce vini formae
Summo pomo innascente, Cajous vel Acajous dicta.
Raii Hist. Cat. Nam.

The Cusheew-Tree.

The trunks of some of these trees are a foot and an half thick, and about twenty feet in height, forming a regular-headed handsome tree with oval leaves. The flowers grow at the ends of the branches in clusters: each flower is composed of a green calix, and five small narrow petals of a purple colour and fragrant smell; and is succeeded by a nut not unlike in form and size, to a Hare's Kidney, of a shining brown colour, containing a kernel resembling an Almond in size and taste. The shell inclosing this kernel is double, and contains an acrimonious caustick inflammable oil. The nut appears next after the flower, and grows almost to its full size before the fruit shows itself, which at length appears between the footstalk and the nut; and not as Madam Merian has luckily figured hers, placing the fruit at the end, and the nut joining to the stalk instead of the fruit. The fruit, when full grown resembles somewhat a Catharine-pear; having a thin smooth skin of a yellow or red colour, and sometimes blended with both colours, hanging three or four in a cluster. This fruit consists of a fibrous, spongy substance, which in eating is to be sucked, but not swallowed and yields a pleasant-tasted viscus juice, somewhat astringent, and esteemed very wholesome.

They grow in Jamaica, Hispaniola, and many other places of America, within the Tropicks.

110.
Ardea cristata maxima Americana.

The largest crested Heron. Fig. 1.

As I did not measure the length of this Birds, I can only guess it to be not less than four feet and an half high, when erect. The bill measured almost eight inches from the angle of the mouth to the end of it; and was of a yellowish brown colour behind the eyes, and under the throat of a light brownish yellow. The crest on its head was made up of long narrow brown feathers; the longest being five inches in length, which it could erect and let fall at pleasure. The neck and breast brown, but paler, and spotted on the under part. The rest of the body and legs brown, except the quill feathers, which are black. They feed not only on Fish and Frogs, but on Lizards, Efts, &c. They are natives of Virginia.

Stellio aquaticus minor Americanus.

The Spotted Eft. Fig. 2.

These are found in ditches, ponds, and standing waters, and are the food of Herons and serpents. This was five inches long, having a large head. It had four toes on each of the fore feet, and five on the hind-feet; a double row of white round spots extending from the crown of the head to the hind-legs, from which, to the end of the tail, they were single. They are as inoffensive as our common Water-Efts.

Pulex minimus, cutem penetrans, Americanus.

The Chego. Fig. 3.

It is a very small kind of Flea, that is found only in warm climates: it is a very troublesome Insect, especially to Negroes and others that go bare-foot, and are flown by. They penetrate the skin, under which they lay a bunch or bag of eggs, which swell to the bigness of a small pear or tase, and give great pain.

till it is taken out; to perform which, great care is required for fear of breaking the bag, which endangers a mortification, and the loss of a leg, and sometimes life itself. This insect, in its natural size, is not above a fourth part so big as the common Flea, but magnified by a microscope it appears of the size of the figure here represented. From the mouth issued a hollow like that of the common Flea, between a pair of antennae. It had six jointed legs, and something resembling a tail, under which is represented one of its eggs the size of which is so small that it can hardly be discerned by the naked eye; but magnified by a glass, appeared as here represented. These Chagoes are a nuisance to most parts of America between the Tropicks. See Sir Hans Sloane's Hist. Jamaica. Introd. p. CXXIV, and vol. II. p. 191, 192.

Scarabaeus capricornus minimus autem penetrans.
Fig. 4.

In the year 1718, I being at the house of his Excellency Mr. Phinney, then Governour of the Bahama Islands, who, as he was searching of his feet for Chagoes, at the time we were viewing them through a microscope, produced an odd Insect on the point of his needle, as at Fig. 4. which he then picked out of his foot. I showed it to Negroes and others, and none of them had seen the like. The natural size of this Insect was that of the spot over its head, but magnified, it appeared of the size and form here exhibited. I think it may be called as above.

Blatta Americana.

The Cockroach. Fig. 5.

These are very troublesome and destructive Vermin, and are so numerous and voracious, that it is impossible to keep victuals of any kind from being devoured by them, without close covering. They are flat, and so thin, that

chests or boxes can exclude them. They eat not only leather, parchment, and woollen, but linen and paper. They disappear in winter, and appear most numerous in the hottest days in summer. It is at night they commit their depredations, and bite people in their beds, especially childrens fingers that are greasy. They lay innumerable eggs, creeping into the holes of old walls and rubbish, where they lie torpid all the winter. Some have wings, and others are without, perhaps of different species.

Blatta maxima fusca peltata. fig. 6.

This is three times bigger than the common cockroach. The head and part of the thorax was covered with an hemispherical shining hard shield; from under which proceeded two other membranes of the like consistence, which covered part of the abdomen. The abdomen was crossed with eight annully of a shining brown colour. The face of it had somewhat the resemblance of a Monkey. The antennae were about an inch long. It had six legs, each having three joints, the lowermost joint set with sharp prickles, and crooked claws at their ends. They are found in Carolina. What they subsist on, and in what manner they are propagated, I know not, having seen but this one of the kind.

Scarabæus Peltatus. Fig. 7.

A membranous yellow shield, with a dark brown spot in the middle of it, covered part of the head and thorax; the wings covering the remaining part of the body, which were of a dusky purple, mottled with shining spots of the same colour. It had six black legs, each leg having two joints only. Each wing was strengthened within-side by a thin membranous yellow ridge, extending the length of them. The remaining under-part of the wing of a shining green colour. This Insect was from Pennsylvania.

pag. iii. *Scarabaeus Pilularis Americanus*
The Tumble-Turds.

This is the most numerous and remarkable of the Beetle kind of any in North America, They appear in April, and continue the Summer months, or till about September, at which time they disappear, and are no more seen till the following Spring. Their constant employ, in which they are indefatigable, is, in order to continue their species, to provide proper nidi to deposit their eggs: this they do by forming round pellets of human dung, or that of cattle, in the middle of which they lay an egg. These pellets, in September, they convey three feet deep in the earth, where they lie till the approach of Spring, when the eggs become animate, burst their nests, and find their way out of the earth. I have attentively admired their industry, and mutual assisting one another in rolling these globular balls from the place they made them to that of their interment, which is usually the distance of some yards, more or less: this they perform breech foremost, by raising their hind part, and forcing along the ball with their hind feet. Two or three are sometimes engaged in rolling one ball, which, often-meeting with impediments by the unevenness of the ground, is deserted by them, yet by others is again attempted with success; except it rolls into a deep hollow or chink, where they are necessitated to leave it; repeating the like action with the next ball that falls in their way. No one seems to know their own ball, but an equal care for all seem to affect the whole community. They form these pellets while the dung remains moist, and leave them to harden in the sun before they attempt to roll them: in doing which, they and the balls are continually tumbling and rolling one over another down the little

eminencies; but not discouraged thereby, repeat their attempts and usually surmount these difficulties.

These Insects being endowed with the like sagacity of the Turkey-buzzard (vol. I. p. 67) find out their subsistence by the excellency of their noses, which direct them in flights to the excrement just fallen from Man or Beast, on which they instantly drop, and fall unanimously to work in forming balls, &c. which they temper with a mixture of earth. So intent they are at their work, that tho' handled, or otherwise interrupted, they persist in their economical employment without apprehension of danger.

The size of it is that of the figure here exhibited. It is all over of a dusky black. It has six legs, two joined to the thorax, and four to the abdomen.

The Male. There are always accompanying these just mentioned, some larger ones of a different and more elegant structure and colour, which are much less numerous, being about one in twenty to the others. The thorax of this is covered with a shield of a crimson metallic lustre, the head and lower part of the shield of a like lustre, blended with green. From the crown of the head rises a shining black horn recurved backward. The sheaths of the wings are ribbed, and of a shining deep green: as are the thighs and under part of the abdomen. These are commonly called King Tumble-Turds, tho' by what appears, they assume no pre-eminence, but without distinction partake of the like dirty druggery with the rest. I think this can be no other than the Male of that first described, notwithstanding the great difference that appears in their outer structure and colour, and the disparity of number.

N. B. It is certain that Pliny, from Aristotle, has made mention in his Nat. Hist. Book XI. Chap. 28. of a kind of Beetles who roll large balls of dung with their feet backwards, and lodge therein, against

the rigour or the winter, small worms, which become their young ones; others fly, &c. But as neither of them have given us a particular description of this species, it is hardly possible to determine, if those in America are precisely the same as those mentioned by these two authors. I shall add to this remark, which I received from the reverend and learned Mr. DuRoi, That I received one of these Beetles from Gibraltar, with its ball, very different from those of America; from which I conjecture, that the Gibraltar fort is probably that of Aristotle.

*. Aliud rursus eorum genus, qui e fimo ingentes pilas avari pedibus volutant, parvosque in eis contra rigorem hiemis vermiculos sui faecis nidulantur, volutant alii &c. Hist. Nat. L. XI. S. 24. Ed. Hard.

+ Et Arist. Hist. Anim. lib. 5. Cap. 18. Hi pilularii dicti, quod sterco volutant, in quo condunt se per hiemem, vermiculosque pariunt, unde Scarabaei proveniunt.

pag. iii. *Lilium sive Martagon Canadense,*
floribus magis flavis, non reflexis.

This singular kind of Martagon rises to the height of almost four feet. On the summit of the stem are set altogether about twelve pedicles, to which are fixed its reclining flowers. The difference between this and other Martagons consists principally in this particular, that whereas the petals of the other kinds of Martagons are reflected with a twist, in this kind they reflect very little, not more than those of the common white Lily.

These Plants were produced from scaly roots sent from Pennsylvania, and have flowered several years in Mr. Collinson's garden at Beckenham.

112. *Perdix Sylvestris virginiana*
The American Partridge.

This is about half the size of the *Perdix Cinerea*, or common Partridge, which it somewhat resembles in colour, though differently marked; particularly the head has three black lines; one above and two below the eyes, with two intermediate yellowish white lines. The bill is black; the iris of the eye red; the quill-feathers of a dark brown, as is the tail; except which, the whole plumage of the body is of a reddish brown colour, variously mixed, black and white: the legs and feet brown. They covey and roost on the branches of trees, frequenting woods and shady Swamps more than open fields. Their flesh is remarkably white, and very delicate, but of a different taste from our common Partridge; they lay a great a number of eggs.

Lilium Narcissus Virginianensis. Park.
The Attamusco Lily.

This Plants sends forth from a bulbous root its narrow Narciss-like leaves. The flowers grow singly on stalks about a foot in height, consisting of one leaf cut in six deep sections. From its center rises a stilius and six Stamina, with yellow apices. The flower just before opening is stained with a rose colour, which, as the flower declines, grows fainter. It is a native of Virginia and Carolina, where in particular places the pastures are as thick sprinkled with them and Martagons, as cowslips and Orchis's are with us in England.

Steuartia.

This Shrub rises from the ground, with several stiff inflexible stems, to an ordinary height. The leaves are serrated, and grow alternately, resembling those of the Syringa. The flower resembles that of a single Rose, consisting of five white concave petals, with a point rising from a pale green ovarium, surrounded by many purple stamina, with blueish apices. It is remarkable, that one particular petal, in every flower is stained with a faint greenish yellow. The calix is divided into five segments. The Capsula has a hairy roughness on the outside, is of a conic form, and when ripe splits open and discloses five membranous cells, every one of which contains a single oblong brown shining seed. For this elegant Plant I am obliged to my good friend Mr. Clayton, who sent it me from Virginia, and three months after its arrival it blossomed in my garden at Fulham in May 1743.

Sir,

The Plant which you shewed me by the name of Steuartia, I take to be a new genus of Plants, the same that I called Malachodendron. But I humbly conceive, that the generical character of it, which you shewed me in the Acta Suecica, is so faulty, that it will not even determine the proper class of this Plant in any system of Botany, instead of establishing the true genus. It is there referred to the class of Polyandria Monogynia, Linnaei, whereas it properly belongs to the class of Monadelphia Polyandria, in which it makes a new tribe or order of Pentagynia, which alone distinguishes it from all the tribe of malvaceous Plants, under which it is properly included in all systems of Botany: for the petals are connected at the base, and drop off united together, which (according to Ray and Tournefort) makes the flower monopetalous. The stamina are connected in a ring at their base, and are inserted, to the base of the petal. There are five styles, as I shewed you in a specimen I have. The fruit is a dry capsula with five sharp angles, five cells, and five valves which open at top, and are not crowned with the calix, which remains on their base. The seeds are single in each celle, of an oblong, oval, triangular shape. John Mitchell.

The right honourable and ingenious Earl of Bute will, I hope, excuse my calling this new genus of Plants after his name.

Regulus cristatus.

As this is an English as well as an American Bird, I shall only observe, that, by comparing this American one with the description of Mr. Willughby's European one, they agreed in every particular; and therefore I refer to his Ornithology, p. 227. of the English Edition.

This Bird, which is the least of all European Birds, is likewise an inhabitant in the parallel latitudes of the Old and New World.

In Winter sun-shine days, they are wont to associate with other Creepers, particularly the *Certhia*, the *Sitta*, the *Parus-ater*, the *Parus caudata*, and other *Tid-mice*; ranging the woods together, from tree to tree, as if they were all of one brood; running up and down the bark of lofty oaks, from the crevices of which they collect their food, which are insects lodged in their winter dormitories, in a torpid state. In like manner, the same little Birds feed in America, frequenting Juniper, Fir, and Pine-trees, this repeating *Zilzilperle*, as *Gmelin* relates his *Parus sylvaticus* to do.

Vespa Ichneumon.

This wasp is a little above an inch long. The wings of a yellowish brown colour. The head, thorax, and abdomen, of a very dark brown, almost black; the whole having some spots of yellow. It had six yellowish legs. The abdomen was oval, joined to the thorax by a small fistula of almost half an inch long.

Avis tropicorum.
The Tropic Bird.

The tail of this Bird is generally, though erroneously, reported by unobserving mariners, to consist of but one feather. Mr. Willughby's description of it, though very particular, was from a dried case of the Bird, which, by being defective, seems to be the cause why his description differs somewhat from ours, which was made from the living Bird. The legs in his, by long keeping, has lost their red colour, which all that I have seen while living have. This Bird is about the size of a Partridge, and has very long wings. The bill is red, with an angle under the lower mandible, like those of the Gull-kind, of which it is a species. The eyes are encompassed with black, which ends in a point towards the back of the head. Three or four of the largest quill-feathers, towards their ends are black, tipped with white: all the rest of the bird is white, except the back, which is variegated with curved lines of black. The legs and feet are of a vermilion red. The toes are webbed. The tail consists of two long straight narrow feathers, almost of equal breadth from their quills to their points. These birds are rarely seen but between the Tropicks, at the remotest distance from land. Their name seems to imply the limits of their abode, and tho' they are seldom seen but a few degrees north or south of either Tropic, yet one of their breeding places is almost nine degrees from the northern Tropic, viz. at Bermudas; where, from the high rocks that environ those Islands, I have shot them at the time of their breeding; but those cliffs being inaccessible, prevented my seeing their nests and eggs. They breed also in great numbers on some little Islands at the east-end of Potto-Pico.

ag. 114. *Larus minimus marinus, naribus tubulatis.*

The Storm-Finck, or Pittrel.

This is about the size of a Chaffinch. The whole bird, except the rump, which is white, is of a dusky brown colour; the back being somewhat darker than the belly. The bill is half an inch long, slender, dark brown, and crooked at the end. By opening the head of one of these birds, I found that the nostrils consisted of two parallel tubes, proceeding from within the head, and running half-way along the upper mandible of the bill, forming thereon a protuberance. The wings extended an inch beyond the tail. The legs were slender. The feet were webbed with a very small claw on each heel, without a toe. They rove all over the Atlantick Ocean, and are seen on the coasts of rove all over the Atlantick Ocean, and are seen on the coasts of America as well as on those of Europe, and many hundred leagues from each shore. Their appearance is generally believed by mariners to prognosticate a storm, or bad weather; and I must confess I never saw them but in a troubled sea. They use their wings and feet with surprising celerity. Their wings are long, and resemble those of Swallows, with which they are equally swift, but without making such angles or short turns in their flight, as Swallows do, but fly in a direct line. Though their feet are formed for swimming, they are likewise so for running, which use they seem most to put them to, being oftenest seen in the action of running swiftly on the surface of the waves in their greatest agitation, but with the assistance of their wings. The Storm-Finck, in Hoies's Epistle to Clusius, is the bird here described; and though its nostrils give it so singular a characteristic, and that they are so numerous in all our adjacent seas, yet they have not been figured before, nor sufficiently described. As contrarily remarkable, it is, that Mr. Edwards, in his Ornithology, lately published, has fortunately brought to light the knowledge of three more of this genus, not known before, which he has well described and figured. This bird, with the three beforementioned, seem to me apparently of the Gull kind.

pag. 115. *Magnolia flore albo, folio majore acuminato
haur albicante. Clayt.*

The seminal parts of this plant, the ovarium and cone, have some affinity and resemblance to the other species of this genus, that is is needless to be particular in their descriptions, otherwise than to observe where in this differs from them. The leaves are broad, some of them being above five inches wide, and eight in length, ending in a sharp point. The flower is five inches wide, consisting of twelve white petals, in the center of which is the ovarium environed by the apices, as in the other kinds. The cone, when full grown, is as big as a small hen's egg, but a little longer, and of the like structure with the rest of the genus. It flowers the first of all the kinds of Magnolia, which I think is in April.

Specimens of this tree were first sent me in the year 1736, by my worthy friend John Clayton, Esq; of Virginia, and from the only tree known in that country. Since which, Mr. Bartram of Pennsylvania has discovered many of them in that province, from the seeds of which I am in hopes of raising some. Mr. Bartram saw them growing on the north branch of Susquehanna River: some of them were above an hundred feet in height. The wood has a fine grain, very tough, and of an orange colour. The Indians make bowls of the wood.

Formica villosa coccinea.

The velvet Ant.

It had six legs, with short crooked antennae. The abdomen large, with a black list crossing the lower part of it, and another black spot at the joining to the thorax; except which, the whole body and head resembled crimson velvet. The trunk, or shell of the body, is of so strong and hard a consistence, that being trod upon by men or cattle, they receive no harm. They have a long sting in their tails, which causes inflammation and great pain, for half an hour, to those who are stung by them, which usually happens to negroes, and others that go bare-footed. They are mostly seen running very nimbly on sandy roads in the hottest summer weather. They are always seen single. What they feed on, and in what manner they breed and where they secure themselves in winter, is to me unknown.

ag. 116. *Caprimulgus minor Americanus*
The Whip-poor-will.

This nocturnal Bird is about a third part less than the *Caprimulgus*, or Goat Sucker of Europe. The length of it, from the bill, is eight inches, and from the shoulder of the wing to the end of it, is seven inches. The length of the bill, from the basis of the upper mandible to the end of it, is half an inch long, two thirds of which being covered with feathers, there is visible so small a part of it, that, in proportion to the bigness of the Bird, it seems to have the smallest bill of any other. From the bases of the bill shot forth some stiff bristly hairs. The throat as a white list half round its neck. The breast is white, faintly stained with red and transverse dark lines. The quill-feathers of the wings are of a dark brown colour, except a broad white list crossing five of them on the middle of each wing. The tail-feathers, except the three uppermost, have also two white spots near their ends. The plumage of all the rest of the body is brown irregularly mixed, or powdered with an obscure reddish colour. The legs are very short, being but half an inch in length, and formed like those of the Goat-Sucker; having also the inside of the middle toe ferrated.

This Bird I have mentioned in the Addenda to this Volume; but having since received two of them from Virginia, it has enabled me to exhibit the figure of it, and also to add to the description of it some remarks sent me by Mr. Clayton concerning it, as follows:

The Whip-poor-will is not so large as the Bird called here the East-India-Boat, i.e. *Caprimulgus*; but in shape, and colour of the feathers, it very much resembles it; having also hat each side of its mouth three or four stiff black hairs: like those of a horse's mane, two or three inches long. These birds visit us about the middle of April, from which time, till the end of June, they are heard every night, beginning about dusk, and continuing till break of day; but it is chiefly in the upper or western parts that they are so very frequent.

" I never heard but one in the maritime parts, although my abode has been always
" there; but near the mountains, within a few minutes after sun set, they begin, and
" make so very loud and thrill a noise all night, which the echoes from the rocks and
" sides of mountains increase to such a degree, that the first time I lodged there I could
" hardly get any sleep. The shooting them in the night is very difficult, they never appearing
" in the day-time. Their cry is pretty much like the sound of the pronunciation of the
" words Whip-poor-Will, with a kind of chucking noise between every other or every
" two or three cries, and they lay the accent very strong upon the last word Will, and
" least of all upon the middle one.

" The Indians say these birds were never known till a great massacre was made of their
" country folks by the English, and that they are the souls or departed spirits of the
" massacred Indians. Abundance of people here look upon them as birds of ill omen
" and are very melancholy if one of them happens to light upon their house, or near
" their door, and set up his cry (as they will sometimes upon the very threshold) for
" they verily believe one of the family will die very soon after. These birds, as I
" have been credibly informed, breed exactly as the Goat Sucker before mentioned,
" which is thus: they lay only two eggs of a dark greenish colour, spotted and
" scrambled about with black, in the plain beaten pats, without the least sign
" of any nest, upon which they sit very close, and will suffer a very near
" approach before they fly off."

N. B. This concludes the whole number of Birds exhibited in both Volumes,
containing in all 119; and in which are also contained all the land birds I have ever
seen, or could discover, in that part of North-America included between the 30th
and 45th degrees of latitude. And though more kinds may not improbably
remain unknown within those limits, yet north of them I think there can
not reasonably be thought to be many new species, because there are not
only but a few birds at the northern limits, but also because animals in
general, and particularly birds, diminish in number of species so much the
nearer they approach the pole.

116. Aureliana Canadensis R. S. Lafiteau.

The Ginseng, or Ninsin of the Chinese.

Ginseng is the root of a medicinal plant of the highest esteem with the Chinese. Their principal physicians have wrote many volumes of its virtues. Most of the writers of China take notice of the Ginseng; yet it was very little known till Father Tartou, a Jesuit and Missionary in China, who being employed, by order of the Emperor, in making a map of Tartary, in the year 1709, had an opportunity of seeing it growing in a village, about four leagues from the Kingdom of Corea. That Father took the opportunity to make a draught of the plant, and give an accurate description thereof, which, being published in the Memoire of the Academy of Sciences at Paris, gave light to the discovery of the same plant in Canada and Pennsylvania; from which last place it was sent to Mr. Collinson, in whose curious garden at Peckham it had, the preceding two or three years, and also this year 1748 produced its blossoms and berries as it appears in the figure here exhibited, and agrees so exactly to the Father's description of the Chinese Ginseng, that no doubt can be made of it being the very species he describes. But as the Jesuit's account is too long to be inserted here, I shall recite only what is most remarkable, adding to my figure the blossoms, which the Father owns he never saw. The Father's account is as follows.

The place of its growth is between the 29th and 36th degrees of latitude, upon the declivities of mountains, in thick forests, and upon the banks of torrents. That part of the country in which this precious root grows, is on every side secured by a barrier of wooden stakes, and about which guards continually patrol, to hinder the Chinese, from going out and looking after this root. Yet how vigilant soever they are, greediness after gain incites the Chinese, to lurk about privately in these deserts, sometimes to the number of two or three thousand, at the hazard of losing their liberty, and all the fruit of their labour, if they are taken either, as they go out of, or come into, the province it grows in.

The Emperor, having a mind that the Tartars should reap all the advantage that is to be made of this plant, rather than the Chinese, gave orders, in 1709, to 10000 Tartars, to go and gather all that they could of the Ginseng, upon condition that each person should give him two ounces, and that the rest should be paid for, weight for weight, in pure silver. It was computed that, by this means, the Emperor would get this year about 20000 Chinese pounds of it, which would not cost him above one fourth part of its real value.

The Ginseng (says Father Tartou) we have observed, is an ingredient in most of the medicines which the Chinese physicians prescribe to the better sort of patients. They affirm that it is

" a Sovereign remedy for all weakneses, occasioned by excessive fatigues, either of body or mind
" that it attenuates and carries off pituitous humours, cures weaknes of the lungs and the pleuris
" stops vomiting, strengthens the stomach, and helps the appetite, disperses fumes or vapours,
" fortifies the breast, and is a remedy for short and weak breathing, strengthens the vital spirits
" and is good against dizziness of the head and dimness of sight, and that it prolongs life to
" extreme old age.

" No body can imagine (adds the Father) that the Chinese and Tartar, would set so high a value upon
" this root, if it did not constantly produce a good effect. Those that are in health often make use
" it to make themselves more vigorous and strong; and I am persuaded (adds the Father) it would prove
" an excellent medicine in the hands of any European who understands Pharmacy, if he had but a
" sufficient quantity of it to make such trials as are necessary, to examine the nature of it, and
" and to apply it in a proper quantity, according to the nature of the disease for which it may be
" beneficial. It is certain that it subtilizes and increases the motion of, and warms the blood; that it
" helps digestion, and invigorates in a very sensible manner.

" After I had designed the root (he goes on) I observed the state of my pulse, and then took half of
" the root, raw as it was, and unprepared; in an hour after I found my pulse much fuller and
" quicker; I had an appetite, and perceived myself much more vigorous, and could bear labour
" and easier than before. Four days after, finding myself so fatigued and weary that I could scarce
" sit on horseback, a Mandarin, who was in company with us perceiving it, gave me one of
" these roots; I took half of it immediately, and in an hour after I was not the least sensible of any
" weaknes. I have often made use of it since, and always with the same success. Thus

For Father Parroux

This plant had a short round stem, and arose to about the height of three inches; from the top of
" which shoot forth three smaller stalks of three or four inches long, each of which had at their ends
" five serrated leaves on short footstalks. From the summit of the stem arose perpendicularly
" another shorter stalk, on the top of which was placed a globular bunch of red berries, the petals
" of which spreading circularly, formed the radii of a sphere. These berries were double, contain-
" ing each two flattish rough seeds covered with a thin skin. The flowers were very small, composed of
" five round white petals, with five stamens and a style, rising from a calyx with five sections.
" The root is white, three or four times the size of the stem, and grows tapering to the end, and is usually about
" three inches in length, more or less; and it often parts in two or three branches.

Chamaerhododendros Lauri-folio semper vivens,
pag. 117. *Floribus bullatis corymbosis.*

This tree riseth to the height of about sixteen feet, producing evergreen leaves, in shape like the *Laurus-Cerasus*, of a shining dark green. The flowers grow in clusters; the buds or rudiment of which appear in autumn, wrapped up in a conical leafy perianthium, on which is lodged a viscous matter which protects them from the severe cold in winter. These buds, dilating in the following spring, break forth into twenty or more monopetalous flowers, divided into five segments, and set singly on pedicels half an inch long. These flowers, when blown, appear white; but on near view, are of a faint blush colour, which as the flower decays grows paler. One of the five petals is longer and more concave than the rest; and is blended with yellow, green, and purple specks, being a viscous matter on the extremities of very fine hairs. The convex side of the same petal is also speckled with yellowish green. The pistil rises from the centre of the flower, and has its head adorned with scarlet, and surrounded by ten stamina, whereof three are long and seven short, whose farina issues out at a small round hole on its top. This elegant tree adorns the western and remote parts of Pennsylvania, always growing in the most fertile soil, or on the rocky declivities of hills and river-banks, in shady moist places.

Several of these young trees have been sent from Pennsylvania by Mr. Bartram, who first discovered them there; but they have not yet produced any blossoms here; and though they have been planted some years, they make but slow progress in their growth, and seem to be one of those American Plants that do not affect our soil and climate.

Chamaedaphne semper vivens, foliis oblongis angustis, foliorum fasciatis oppositis & foliorum alis.

The leaves of this plant are shaped like those of the *Sallow*, or *Salix folio rotundo*, and are ever green, like the *Chamaedaphne foliis tini*, to which it bears a near resemblance. In the structure of its flowers, being monopetalous, with a stilius and ten stamina, which grow in small clusters opposite to each other, out of the axils of the upper leaves. The cup is also intended in the like curious manner, and of a bluish Rose colour. It seems to be of shrub-growth, not rising above four or five feet high. This shrub is a native of Pennsylvania, and produced its blossoms at Beckham, in September 1743, and several succeeding years.

Lepus Javensis.

The Java Hare.

It was about the bigness of an ordinary sized Hare, covered with hair of a reddish brown colour; the head small in proportion to the body: the eyes were large and prominent; the ears like those of a Hare: except which, the head partook of the likeness both of a Deer and an Hare: the hind part of the body and thighs remarkably big: the legs were long; the fore-feet has each four toes, the outermost being very short; the hind-feet had three toes on each foot; it had a very short tail; it was very tame and inquisitive, and fed only on fruit and other vegetables. They are natives of Java and Sumatra. This was in the possession of his Grace the Duke of Richmond, who was pleased to think it worth a place in this collection.

* *Ficus citrii folio, fructu parvo purpureo.*

This tree grows to a large size, having a light-coloured smooth bark. The leaves are shaped like those of the Citron-tree. The fruit grows three or four of them together from the sides of the branches, on a footstalk somewhat less than an inch long. The fruit is about the bigness of a Nole, but shaped like a Fig, and covered with a thin purple skin, containing small seeds in pulp of the same purple colour, which has a sweet insipid taste but is much coveted by Birds and other Animals. They grow on rocks on the Brahama Islands.

* *Ficus indica.* Theophrast. Hist. Plant. lib. IV. c. 5. Strabo Geograph. lib. V. Plin. lib. XII. c. 5. D. Curtius, lib. IX. c. 1.

*Vipera marina.**The Viper-mouth.*

This Fish is eighteen inches in length. The fins six in number, viz. one on the fore-part of the back, which terminates in a stiff hair or bristle, four inches long; a pair of sharp-pointed fins grow under the gullet, and another pair under the middle of the belly; with a single one behind the anus. The number of teeth in each jaw was unequal: the upper jaw had eight teeth; the two second being much longer than the other six; each having an angular bending near their ends. The two fore-teeth of the under jaw are almost of equal length with those two of the upper jaw just mentioned, but without those bendings. These four large teeth being too long to be contained within the mouth, are, at the shutting it, excluded; those of the upper jaw lying close to the under one, and those of the under jaw lying close to the crown of the head. It is without scales. In the state it was sent me, it was of a brown colour, resembling that of the common Viper; but when just taken out of the water, they are, as I am told, of a green colour, but marked all over with small hexangular divisions. This odd Fish was sent me from Gibraltar, in the harbour of which place it was taken; and is now preserved in the celebrated repository of Sir Hans Sloane.

Cataphractus Americanus.

This Fish was ten inches long, and about four broad: The whole upper part of the body was covered with bone. The eyes were large; the mouth was small, and void of teeth. On the back stood, reclining towards the tail, a flat-pointed bone three inches long, and serrated on the upper edge; which being fixed in a socket, the Fish could erect and depress at pleasure. Under each gill was placed another such like bone; except that both edges were serrated; the teeth on one side standing retrograde to the teeth of the other. The fore-part of the body and head was covered intirely with bone, marked with many regular lines, forming octagons, pentagons &c. The hind part of the body was also covered with bones, but in a different manner, viz. with thin narrow plates of bone, extending lengthways from the back to the belly, and lapping over one another. Each side of this Fish had about thirty of these bones, which gradually diminished in size toward the tail; the middle of every one of these bones had a flat sharp point, like that of a lancet, which standing horizontally, and close to one another formed an even line on each side. On the hind-part of the back, in the place of a fin, for about half its length, extended a ridge of a cartilaginous substance ending at its tail. The belly only was membranous, and void of bone. It had five fins; a very small one under each of the gills; one on each side of the abdomen; and a single one near the tail. This Fish being one of those called leather-mouthed, and having no teeth for defence, Nature seems to have compensated that deficiency by giving him weapons and armour in a very extraordinary manner. It was taken on the coast of New England, and is deposited in the Museum of Sir Hans Sloane.

pag. 120. *Bison Americanus.*

This Beast i have already described in the Account of beasts, p. 27. but having then by me only a Sketch of the Animal, which i thought not sufficient to make a true figure from, i have since been enabled to exhibit a perfect likeness of this awful creature.

Pseudo Acacia hispida floribus roseis.

The flowers and leaves differ little in their shape from the *Pseudo Acacia flore albo*. The stalks and larger branches are thick set with prickly hairs, and with sharp spines placed alternately. The flowers, which are papilionaceous, are of a faint purple or rose-colour, and of a fragrant smell. I never saw any of these trees but at one place near the Appalachian mountains, where Buffelos had left their dung; and some of the trees had their branches pulled down, from which i conjecture they had been browsing on the leaves. What with the bright verdure of the leaves, and the beauty of its flowers, few trees make a more elegant appearance. I visited them again at the proper time to get some seeds, but the ravaging Indians had burned the woods many miles round, and totally destroyed them, to my great disappointment; so that all i was able to procure of this specious tree was some specimens of it, which remain in the Herbarium of Sir H. Sloane, and that of Professor Dillenius at Oxford. But since i am informed, that a plant of this tree has been introduced from America, by Sir John Colliton, Bart. to his gardens at Exmouth in Devonshire, i confess it is now time to conclude this extensive and laborious Work;

yet i am conscious it has been no longer in hand than the nature of the
thing required; not indeed can it be thought my Interest to have protracted
The greatest deliberation and caution were necessary in the whole progress,
since errors must have been appparent to the judicious Reader, and would in-
evitably have been but too certain a consequence of a precipitate performance.
However there are other reasons which might plead my excuse, should the
length of time offend any who have encouraged this work. The whole was
done within my house, and by my own hands; for, as my honour and credit
were alone concerned, i was resolved not to hazard them by committing any
part of the work to another person: besides, should any of my original
Paintings have been lost, they would have been irretrievable to me, without
making another voyage to America; since a perpetual inspection of them
was so necessary towards the exhibition of truth and accuracy in my description.
I arrogate nothing to myself upon this performance, so much as the strong
inclination i had to these kinds of subjects, joined to the love of truth, that
were my constant attendants and influencers. Nor can i ever cease to ack-
nowledge the kind dispensation of Providence, in making me the happy
instrument of composing a work of such labour and consequence; the
materials of which were collected from the living subjects themselves, and
in their native abodes; which circumstances, though so very essential to a
Natural Historian, we know of no other History of Animals, in which they
are sufficiently appparent; for the picture of an Animal, taken from its
stuffed skin or case, can afford but a very imperfect idea of the creature,
compared with what is done from the life, not only as to what regards
their shape, spirit, and gesture, but also their beautiful colours.

The charming plumage of Birds loses much of its lustre by death, or by their being removed from their native climates: but of all others, the inhabitants of the waters are subject to the greatest and most sudden changes, and the most brilliant fade the soonest; inasmuch that, some pieces of Fish, deprived but a few minutes of their element, like beauty in a human countenance extinguished with life, visibly degenerate from a pleasing variety of the most glorious colours imaginable, to such as are extremely dull and sordid.

As for Plants, it is easy to conceive how imperfect the figures must be, which are drawn from dried Specimens, in comparison of those taken from living Plants, as all those are which I have exhibited.

From these observations it may be inferred, that however accurately human art may be exercised in the representation of Animals, it falls far more short of that inimitable perfection so visible in Nature itself, than when attended with the circumspection and advantages I was blessed with in the compiling of my History, and which I flatter myself are in some measure conspicuous therein.

Finis.

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To which are added,

Observations on the Air, Soil, and Waters;
 with Remarks upon

Agriculture, Grain, Pulse, Roots, &c.

To the whole is prefixed a new and correct Map of the Countries
 treated of.

By the late Mark Catesby, F. R. S.

Revis'd by Mr. Edwards, of the Royal College of Physicians, London.

VOL. II.

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Printed for C. Marsh, in Round Court in the Strand; and J. Wilcox,
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By JOHN VAUGHAN

London, Printed by J. Sturges, in the Strand, 1729.

Price 10s. 6d.

By the late Mr. John Vaughan, Esq.

Author of the History of the Town of New York

Vol. II.

CRISTO

Printed for G. Smith in Strand Street in the Strand, and T. Bland
at the New Church in the Strand, in the Year 1729.

Umbra minor marina maxillis longioribus.

i. vide Sloan, Hist. Jam. Tab. 247. Fig. 3.

Barracuda.

This Fish grows to a large size: some of them i have seen ten feet in length, and some, i was told, are much longer; though the more common length is that of about six or eight feet. It is long in proportion to its thickness, and in shape resembles somewhat the European Pike. The eyes are large and bright: The mouth is very wide, having the under jaw longer than the upper: The upper jaw is armed with four large teeth, placed at the fore part of the under jaw; next the head are placed ten smaller teeth, being five on each side; and in the fore part of the same jaw grows one single large tooth. On the back grows two short fins, distant from one another, with six ribs in each fin; near the gills grow two more, at a like distance; lower on the belly was another pair, and a single one a little behind the anus; in all seven fins. The tail wide and forked.

This Fish was covered with thin scales of a middling size; dark brown on the back, lightening gradually to the belly, which was white. It is a swift-swimming and very voracious fish, preying on most others; and some of the largest size have frequently attacked, and devoured men, as they were washing in the sea. They are in great plenty in all the shallow seas of the Bahama Islands, and in many other places between the Tropicks. The flesh has a very rank and disagreeable savour both to the nose and palate, and is frequently poisonous, causing great sickness, vomiting and intolerable pain in the head, with loss of hair and nails; yet the hungry Bahamians frequently repast on their unwholesome carcasses.

Vulpis Bahamensis.

The length of this Fish is usually about sixteen inches, and very small and tapering towards the tail, which is remarkably wide and forked: the mouth is pretty wide, with a single row of small sharp teeth in each mandible. It is covered with somewhat large thin scales, of an amber colour on the back, and whitish on the belly. It hath five fins, one on the back, another a little below it on the belly, and another between that and the tail, with a pair under the gills.

pag. 2. *Perca marina gibbosa Cinerea.*
The Margate Fish.

This Fish has a rounding back, making a curved line between the head and tail: the iris of the eye white, with a tincture of yellow: the mouth moderately wide, and red within; the upper mandible hanging a little over the lower; both of them have a single row of small sharp teeth. The scales are rather large, of a blackish brown colour; but as the bellies of most Fish are lightest coloured, so is the belly of this Fish much lighter than the back. From the head, at some distance from the ridge of the back, runs parallel to it a narrow black curved line to the tail. It had six fins, two under the gills, one on the middle of the back, strengthened with several ligulae or sharp-pointed bones; behind which, and joining to it, is another pliant even fin; one under the abdomen, and a sixth behind the anus. They are one of the most numerous kinds of Fish frequenting the Bahama Islands, and are esteemed very good meat.

Saurus ex Cinereo nigricans.
The Sea Sparrow-Hawk.

This is a slender long Fish, with middle sized brown scales: the eye black the iris reddish: the mouth very wide, both mandibles being thick set with small sharp irregular sized teeth. It hath six fins, two behind the gills, one under the abdomen, one behind the anus, and one on the middle of the back besides a very small one between that and the tail. The tail forked. This fish was caught on the coast of Carolina, and is the only one I have ever seen. It was of the size of the figure.

pag. 90. *Perca marina, pinna dorsi Divisa.*

The Croker.

This figure represents the common size of the Fish, as they are found in most of the rivers in Virginia; but in deeper waters, as in the great bay of Chesapeake, they are taken sometimes three feet in length. It is covered with scales of a reddish amber colour. The iris of the eye of a gold colour: The mouth wide, with rows of very small sharp teeth. It had six fins, one on the middle of the back, of a triangular form; one extending from that to the tail, of a red colour; two behind the gills, and two under the belly. The tail was red and notched. This Fish is tolerable good meat.

Perca Marina rubra.

The Squirrel.

These Fish are most commonly of the size of this figure, though some of them grow to four times the bigness. The eye is large, the iris yellow: The mouth rather small, with many small teeth, like those of a Perch. The whole Fish was red; having six fins, one on the back, strengthened with many large pointed bones; behind which, and joining to it, shoots forth a long pliant sharp-pointed fin: it had also a long fin under the abdomen, with another behind the anus, guarded by a strong sharp bone annexed to it by a thin membrane. This is a good eating Fish.

pag. 4. *Perca marina Rhomboidalis fasciata.*

The Pork Fish.

This Fish is broad and short, and somewhat flat, with a rising back: the eye of a bright yellow: the mouth moderately wide, with many very small sharp teeth: the whole body was covered with dark-grey and yellow scales, in rows alternately from the head to the tail. It had five fins, one from the top of the back, reaching almost to the tail, the fore part having sharp-pointed bones, the hind part more thin and pliant; two behind the gills, one under the abdomen, and one behind the anus, guarded with a large pointed bone: all the fins were yellow, as was the tail, which was forked. The Brahamians esteem this a good fish.

Perca marina pinnis branchialibus carens.

The Schoolmaster.

Sometimes these Fish grow to the length of a foot, though this is the more common size. This was covered with large thin scales of a dirty red colour: the eye large, somewhat oval, with a yellow iris: it had no more than three fins, one on the back, the fore part of which had sharp spines; one under the abdomen, and another between the anus and the tail, guarded in the fore part with three sharp bones. The tail was forked: all the fins and tail were of a deep yellow colour.

19. 5. *Perca marina venenosa punctata.*

The Rock-Fish.

These Fish are sometimes found two or three feet in length, though the common length is about one or one foot and an half. The whole Fish was covered with smooth thin scales of a dark brown colour, very dark on the back, and light on the belly, sprinkled over with red spots bordered with black. The eye was deep red: it had five fins; one on the back of different texture, the fore-part having sharp spines, the hind tender and pliant; under the abdomen was another, and another behind the anus, and two behind the gills, the ends of which were yellow. The tail was broad, and a little notched. This Fish has the worst character for its poisonous quality of any other among the Bahama Islands; but whether they are eatable from any particular places, I know not; many of their poisonous Fishes being not so when caught in some places; of which the inhabitants can give a near guess, but sometimes they are miserably deceived.

pag. 6. *Percia Marina capite Striato.*

The Grunt.

This Fish is commonly a foot in length. The eyes of a bright yellow. The body covered with large brown scales edged with yellow: from the eye to the tail extends a row of smaller scales within the large ones. The mouth is wide and red within; the lower mandible longest, having a single row of small sharp teeth: the head elegantly striped with yellow and blue alternately; the back was armed with a sharp spiny fin, joining to which, between it and the tail, was another small and more tender fin. On each side the gills were two long pointed fins, one under the abdomen, and another behind the anus, with a strong pointed bone joining to it.

Albula Bahamensis.

The Mullet.

The figure shews the usual size of these Fish: the eye large, with a light iris: the mouth small and without teeth; about the middle of the back was a small fin, and another near the tail: under the fore-part of the belly was a small fin, and another between the anus and the tail: the tail large and forked: the scales of this Fish were large and of a shining colour. They are esteemed good eating Fish, and are caught in great quantities in particular parts of the Bahama Seas, at the times they go in shoals to spawn.

pag. 7. *Perca marina puncticulata.*

The Negro Fish.

This Fish was in shape not unlike a Pearch, and in length usually from six to ten inches, of a dark brown colour, sprinkled thick all over with small blue spots. The iris of the eye red and yellow, blended in each other: the mouth wide, with a single row of sharp teeth in each mandible. The number of fins were five, one on the back, the forepart of which was strengthened with spiny bones, the hind-part was more tender and pliant: behind the gills were two more, and one under the abdomen, with a fifth behind the anus, having two sharp pointed bones annexed to it. The tail convex at the end.

Perca marina cauda nigra.

The Black-Tail.

This Fish is usually of the size of the precedent; dusky black on the back, and lighter towards the belly, with single rows of yellow scales from the head to the tail. The mouth and teeth like those of a Pearch. The iris of the eyes dark grey; a large prickly fin on the back, was joined by another smaller one, with an even edge: behind the gills were two more; under the abdomen was another, and one behind the anus, with a sharp bone annexed to the forepart of it. The tail was black, and bordered round the edges with a broad list of white, and very forked.

Hirundo. The Flying Fish.

This Fish hath a small mouth without teeth, the body somewhat long and round; the two fins behind the gills are extraordinary large, and spread very wide. On the hind part of the back was another small fin, and under it on the belly, was a fourth. The tail large and forked; the scales like those of a herring but of a darker colour. These Fish are seen in most parts of the torrid Zone, and inhabit not the Northern climates; yet in Summer some few wander to the latitude of 40. degrees.

As they are a prey to both fish and fowl, Nature has given them those large fins, which serve them not only for swimming, but likewise for flight. They are good eating Fish, and are caught plentifully on the coasts of Barbadoes, where at certain seasons of the year the markets are supplied with them.

Perca Marina Sectatrix. The rudder Fish.

This is the common size of this Fish. The fin on the back was pointed before and not behind; two fins were placed behind the gills, one under the abdomen, and a fifth between that and the tail; to the fore-part of which is joined three sharp pointed bones: the upper part of the body was brown, with large spots of dusky yellow; the under part of the

body was alternately streaked with white and yellow; the eyes and gills were variously coloured with white, red and yellow; the tail forked and red at the end. These Fish are most commonly seen in warm climates, and in crossing the Atlantic Ocean, Ships rudders are seldom free from them: they seem to gather their nutriment from the slime adhering to the rudder and bottom of the Ships; and though so small a Fish, they keep pace with Ships in their swiftest course.

Percia fluviatilis gibbosa ventre luteo.

The Fresh-Water Perch.

This Perch is generally small, rarely growing to the size of a man's hand. The upper part of it dusky blue; the back being darkest; the belly yellow; the gills blue, with some streaks of dark yellow, with a red spot at the angle of each gill; joining to which was a black spot, which distinguish it from all the Fish I have ever seen: it had one fin on the back, the fore-part of which had prickly spines, the hind-part smooth; two behind the gills, or prickly one under the abdomen; and another between that and the tail, with two prickles: the tail forked; the tail and fins brown, except that under the abdomen. Of these Fish there are plenty both in Carolina and Virginia; they are found most in mill-ponds and other standing fresh waters; they are called by some Ground Perch, from their burrowing into, and covering themselves, in the mud or sand.

pag. 9. *Turdus pinnis, branchialibus carens.*
The Mangrove Snapper.

The Figure represents the usual size of this Fish; the colour of it was that of amber, dark on the back, and light on the belly. The sides of the mouth were red, as were some parts of the gills, with a faint tincture of blue: the nose was pointed, the mouth wide, and at the end of each mandible were two large teeth; it had no more than three fins, a very long prickly one covering the greater part of the back, one under the abdomen, and a third behind the anus: The tail large, ending in a concave curve. It is esteemed pretty good food.

*Turdus Rhomboidalis.**The Tang.*

The figure shows the common size of this fish, though some are twice as big: the body is covered with small scales of a dusky blue; a large prickly fin reached from over the eyes the length of the back almost to the tail; another grows out from the fore-part of the abdomen, and a third beginning about the middle of the abdomen reaches likewise to the tail. The fins and tail were of a brighter blue than the body; the tail broad, both sides shooting in to sharp-points, the mouth of a singular structure, very small, without teeth, and consequently of no defence; but Nature has supplied that deficiency, by arming in a singular manner the tail on each side with a strong sharp-pointed bone, which in defence of himself he extends, when danger approaches. This weapon with the prickly fins seem to deter the voracious fish that prey on others from attacking him. Yet I have seen a Barracuda pursue and bite off a third part of him behind; which when he had swallowed, he deliberately bit off half the remaining part, and devoured the whole Fish at the third mouthful. These and such like accidents I have often been diverted with in the shallow seas of the Bahama Islands; where the water is so exceeding clear, that the smallest shell may be distinctly seen at several fathom depth, when the water is smooth. It is accounted a good eating Fish.

*Turdus cauda convexa.**The yellow Fish.*

Some of these Fish were a foot in length: this had small thin scales, of a reddish yellow colour, the mouth wide, the under mandible longer than the upper, and with a double row of small teeth: at the end of the upper mandible were fixed three large teeth, with some very small ones within the roof of the mouth; the iris of the eyes red. It had five fins, a long prickly one on the back, two behind the gills, one under the abdomen, and another behind the anus, to which is joined by a thin membrane, a sharp-pointed bone. The tail rounding or convex.

Turdus flavus.

The Hog Fish.

The largest size of this Fish that i have observed, was as big again as this figure. The whole Fish including the eyes and fins of a yellowish red: The head resembles that of a hog, being sharp snouted. The end of the upper mandible is armed with large sharp teeth, opposite to which in the under jaw are two of the like size; the rest of the teeth are small, sharp, and thick set: The upper mandible is cartilaginous and so disjointed from the head, that it can dilate it and contract it at pleasure. On the back was one long spiny fin; two more were placed behind the gills, one under the abdomen, and one behind the anus, guarded before by three sharp bones; the tail of an oblong square, except that the edges terminate in two points.

Turdus cinereus peltatus.

The Shad.

The colour of this Fish is light grey, with some of its scales tinged with purple; the eyes large and yellow; the fore-part of the head growing narrow towards the nose; the mouth small, and without teeth: but what is most singular in this Fish, is, that the fore-part of its head was of a cartilaginous substance, the back-part strong and bony; which seems designed for a shield to secure the defenceless part, which he contracts under it when danger approaches: a long spiny fin covered the greater part of its back, ending almost at his tail; the lower part of which was covered with a double skin the whole length; behind the gills were two more; and one under the abdomen, with a fifth behind the anus; the tail wide and forked. This is esteemed a good Fish.

The Pudding-Wife.

These Fish are sometimes sixteen inches long, though generally of a smaller size; the eye red, from the circumference of which are spread seven blue rays; at the end of each mandible are three large teeth with the ordinary rows of small teeth; the upper mandible is loose, and can be contracted upon occasion under the adjoining bony part of the head, in like manner as in the hog-fish. The body of the fish was covered with large scales of a brownish olive colour, having the edges of every scale blue; the gills are also marked with five or six irregular lines of blue, almost the whole length. On the back was extended a long yellow fin, bordered with a blue indented line; to the hind-part of the belly was fixed another such-like yellow fin bordered also with a blue indented line; and another small yellow fin under the abdomen, verged in the fore-part with blue; besides two behind the gills of a dirty colour. From one of these fins extends obliquely round the belly to the other a broad list, with four lines of blue and yellow alternately. The tail spreads widest at the end, half next the body of a dusky dark colour; the end of a reddish yellow.

*Alburnus Americanus.**The Carolina Whiting.*

This figure shews the general size of these Fish. The iris of the eye yellow; the whole Fish of a light brown colour; the belly lightest; the gills having a faint tincture of red; the mouth wide; with very small teeth; the upper jaw reaches beyond the lower; the under lip having five or six fleshy barbles, resembling teeth hanging to it on the outside. It has one small fin on the middle of the back, two behind the gills, one under the abdomen, and another behind the anus; the tail unequally notched, the lower part extending beyond the upper. The market at Charles-town in Carolina is plentifully supplied with these Fish, and are accounted tolerable good meat.

pag. 13. *Mormyrus ex cinereo nigricans.*
The Bone Fish.

The back of this Fish was dark brown; the belly white, the iris of the eye white; on the back was one long spiny fin: behind the gills were two more, and one behind the anus; the tail black and large making a very wide fork. They are in plenty on the coasts of the Bahama Islands; and, as I remember, are called there Bone-Fish.

*Corallina fruticosa elatior ramis quaqua-versum
expansis teretibus. Sloan. Hist. Jam. Vol. I. p. 57.*

The Sea-Feather.

The size of these Plants is various, some growing to the height of three feet, though usually a foot, and a foot and half: spreading into long, slender, pliant stalks, of an horny, transparent substance, of a light brown colour; but incrustated over with a purple or reddish coralline coat or bark. The horny part divested of the coralline, burns, and stinks like common horn. They grow in the sea, usually in five, or ten, and fifteen fathom waters, and are frequently found on the shores of Virginia, Carolina, and sometimes on the Bahama Islands. These Plants do not grow horizontally, but upright as most land-plants do, as does also the great Sea-Fan; which is usually thought to grow horizontally. This mistake, I conceive, proceeds from the structure of that Plant judging it, from its flat and close conjecture, not able to withstand the impetuosity of the waves, but in that position.

Cugupuguanu Brasil. Sloan Hist. Nam. Tab. 247.

The Hind.

These Fish are usually of the size of this figure, tho' some of them are twice the bigness: the iris of the eyes were bright yellow and red, blended together; the mouth very wide, with rows of very small sharp teeth, besides two large ones at the end of the upper mandible. The whole fish, instead of scales, was covered with a thick skin variously coloured, viz the head of a muddy red, the back of a dark reddish brown, the sides green, and belly white; the whole sprinkled very thick with red spots. It had five fins: one on the back, the fore-part of which was strengthened with strong sharp-pointed bones, the hind-part with a smooth edge and pliant: two behind the gills; one under the abdomen, and another behind the anus, with two sharp-pointed bones joined to the fore-part of it; the tail wide, and rounding at the end when spread, with a black verge. They are esteemed a good fish, and are plentiful in the shallow seas of the Bahama Islands.

Saltatrix.

Skip Jack.

This fish has a bright yellowish eye, the mouth wide, both mandibles armed with a single row of sharp teeth; the scales are small, of a shining brightness; and when just taken are green on the back, which in Virginia has given them the name of Green Fish; but in Carolina it hath obtained the other name, from its frequent skipping out of the water. It has five fins; two behind the gills, one on the hind-part of the back, another opposite to it under the belly, and one under the abdomen; the tail wide and forked. It is esteemed a tolerable good fish.

Svillus. The great Hog Fish.

These Fish are taken of several sizes; but the largest that I have seen was between three and four feet, as this was: the iris of the eye red, the upper mandible of a fleshy callous substance, and of a reddish purple colour; which was guarded by a bony substance as by a shield; the upper part of which to the eye was black, from under the eye to the angle of the mouth it was purple, sprinkled thick over with crooked blue lines in form of worms, the end of the upper mandible was armed with four large teeth, at the end of the under mandible were also two of the like size; the rest of the teeth were small, and in single rows: the inside of the mouth was of a blood-red colour, the under jaw yellow. From the eyes to the tail, the back was covered with large purple scales, those on the belly lighter, with stains of yellow: on the back was a remarkable black fin, dividing at the basis, and branching into four long pliant flagelli, large at the basis, and gradually decreasing to their points, and bending backwards. Behind the gills were two yellow fins, and another imperfect one, or rather beam under the throat. The tail of this Fish being cut off before I had it, I cannot say of what form it was.

pag. 16. *Aurata Bahamensis.*
The Porgy.

Rondelitus, lib. v. cap. 11. describes and names his *Aurata*, from the yellow spots between the eyes: and though ours want those spots, we conceive by the general resemblance, it may be referred to the same kind, and from the yellow irides of its eyes may deserve that golden name. Rondelitus describes his *Aurata* with silver eyes, whereas ours are gold coloured; which is the principal difference between them.

These Fish are commonly twelve and sixteen inches in length, the eyes very large, the irides of a shining gold colour, the back brown, the belly lighter; the end of the upper mandible had one single tooth, the lower mandible having two of the like size; besides many very small ones within the roof of its mouth: one large prickly fin covered the greater part of the back; from behind the gills grow two long fins, one under the abdomen, and another between the anus and the tail; the tail was forked. It is esteemed a good eating Fish; they are plentiful about the Bahama Islands.

pag. 17. *Salpa purpurascens variegata.*
The Lane-Snapper.

All the Fish that i have observed of this Kind exceed not the length of a foot, but were generally of the size of the figure: the eye large with a broad red iris; the whole body was covered with purple scales, darkest on the back, and paler on the belly, with stripes of yellow extending from the nose to the tail. On the back was a long spine yellow fin: on each side the gills were two purple fins; one single fin grows from the fore-part of the belly, and another fin behind the anus, which were both yellow. The tail red and forked.

Petimbubo Brasil.

Will. p. 233. et App. 22.

The Tobaccopipe Fish.

This being the only Fish of the Kind i have seen, i cannot ascertain the usual size of it. This was almost a foot in length; the fore-part from the nose to half way the body, near of an equal bigness; from which it grew tapering to the tail, which was forked, and from which grows a slender taper whip, four inches long, of the consistence of whalebone; the mouth narrow, from which to the eyes were almost three inches. On the back were placed three small fins at equal distances; under the belly, and opposite to those of the back were also three of the like fins: the whole Fish was of a brown colour. They are sometimes taken on the coasts of Namauca, whence i had this.

Novacula Caerulea.

Will. p. 214. T. O. 2.

The Blue Fish.

Some of these Fish are twice the bigness of this; but i think they are seldom found much larger. The head is of an odd structure, and like that of the Whale, which produeth the Spermia Ceti; the mouth is small, each mandible armed with a single row of even teeth, so closely joined, that they seem entire bones; the iris of the eye red. On the back was a long pliciant fin, somewhat indented on the edge; behind the gills were two fins, one under the abdomen, and another behind the anus; the tail forked; the whole Fish entirely blue. They are frequently taken among the Bahama Islands, and in most of the Seas between the Tropicks.

pag. 19. Unicornis, Pisis Bahamensis.

The Bahama Unicorn-Fish.

These Fish sometimes grow to the length of three feet. This was in shape not unlike a rolling pin, the biggest part of it being the middle, growing tapering towards the head and tail; the eye large, with a light-coloured iris incircled with blue; two solid white bones, covered with a thin skin, formed each mandible, in which were inserted six teeth, two in the upper and four in the under jaw, which was longer than the upper. On the back part of the back grows a pretty long stiff fin, opposite to which, under the belly, grows another of the like fins, and two behind the gills; the tail-fin was long, stiff, and bony serrated at the end, in when spread very wide. The structure of this fish, as well as its marks, are very singular and different from any other. Yet the most remarkable part of it is a tapering sharp-pointed bone, growing from the top of the back, a little behind the eyes, which it can raise, and point backward and forward at his pleasure; and, when laid along on its back, reaches to the fin: this bone is very brittle, and easily broke, by which one would think it not so defensive a weapon, as otherwise Nature seems to have designed it for. A brown oliv-coloured skin without scales covered the whole fish, with many blue waved lines of different lengths, some long ones resembling worms, and others maggots, between which were sprinkled many round black patches. The guts were full of corallium porosum, small shells and other corolline substances, most of which was ground very small; which, by the strength and hardness of its jaws, Nature has enabled it to perform. These fish are not eat, being accounted poisonous. They most frequent these seas amongst the Bahama Islands, where the corals are most plentiful.

ag. 20. *Murana maculata, nigra et viridis.*

The Muray.

The Structure of this Fish resembles that of our common Eel; the iris of the eye white; two fleshy barbels hang from the nostrils; a fin with an even white ridge begins behind the head, and extends the whole length of the back. The whole body is covered with a light grey skin, sprinkled with innumerable black spots. One kind of this Fish is green, and spotted in the same manner with black, perhaps of different sex only. However, the inhabitants of the Bahama Isles will eat only the green sort, rejecting those which are black, as thinking them poisonous. It is customary and frequent for these Fish, as they lie lurking among the hollow rocks and corals, to bite peoples legs that are exposed to them, though their bite is of no other ill consequence than fetching blood.

pag. 21. *Muraena maculata nigra.*

The Black Muray.

The form of these is like that of the green Muray, differing only in colour; these being black, and spotted all over very thick with blacker spots; they are very ravenous and strong; and, when pulled out of the water with a hook and line, will, by their violent twistings, break off, and often bring up with them branches of coral or other sea vegetables, amongst which they sport, and are mostly found. Some of them arrive to the length of four feet, though they are most commonly smaller.

*Litophyton longe racemosum cortice
flavo perforato.*

These, as also certain other submarine productions, are mostly found to abound in quiet coves or small bays of the Sea, defended from the impetuosity of the waves by rocks: and as little birds retreat to bushes for security from hawks; so do the small defenceless fish to these quiet places, where these and innumerable other branching coralline plants serve them as a hidden retreat to evade the attacks of the Murays, and others of the rapacious kinds of fish; though I have seen many of the coralline plants growing, I don't remember in what manner these grow, whether erect or lying on the ground, I rather think the latter, from its flexibility and weightiness of its branches, while growing in the sea, or immediately cast ashore; its bark is of a deep yellow colour, and perforated with innumerable little holes.

Turdus oculo radiato.
Guaperva maxima caudata.

Will. Tab. I. Fig. 23.

The Old Wife.

The usual size of this Fish is nearly that of the figure, though some are twice as big; but I don't remember any exceeding that. It is broad and somewhat flat, tapering away gradually, both towards the head and tail; the mouth is very small, armed with about twelve teeth; the lips of a brown colour, bordered with blue; from a little above the nose runs a curved broad list of blue towards the throat, parallel to it from the corner of the mouth extends another narrower blue line; about one third part from the nose, towards the back, are placed the eyes, of a deep yellow colour, from which are displayed irregularly nine or ten blue rays: it had six fins, two seemed as if they were designed for defense, only; one of which was placed on the middle of the back, and another of the same size opposite to it under the belly; that on the back had three very strong sharp bones, the foremost largest; the fin under the belly had only one of these large pointed bones: between the upper armed fin and the tail was placed a large pliant fin, widening from the tail gradually towards the fore-part and running into a tapering whib or flagellum; opposite to this, and under the anus, was another such like broad fin, but without the flagellum as that above, or possibly it might have been broken off. The tail very wide and forked, shooting into very long points:

below the gills, on each side, were placed a broad pliant light-coloured fin, a little curved or turning up; from the ridge of the back extends obliquely towards the belly six obscure dusky lines: the body of the fish is brown, except that the belly and throat are lightest, with a mixture of reddish yellow: the two hindmost fins were of a torrid dark blue, but verged with bright blue. They are tolerable good fish when their rough skin is stripped off. All the fish of this form, I have observed to be slow swimmers, and that they are a prey to the larger and voracious kinds; and though nature seems not to have left them altogether defenceless, their enemies generally evade the danger of their weapons by biting the hind part of the body short off; but as the nature of all rapacious animals is to pursue and devour with furious eagerness, I conjecture that sometimes by advancing a little too far, they are caught by these sharp bones, one entering the upper, and the other the lower jaw, which keeps the mouth from closing, the consequence of which is, that the devoured will soon be drowned, except he can instantly extricate himself from his prey; an instance of which I shall relate in the account of the Water Viper.

23
Bagre secunda Speciei Marggr. affinis.
The Cat-Fish.

Some of these Fish are two feet in length. They are without scales, of a dusky black on the back, and of a pale flesh colour on the belly. It has six fins, one under each gill, one on the fore-part of the back of a conick form, between which and the tail a smaller one; one under the abdomen, and another between it and the tail: the tail small and forked, which with the fins are of a dusky red colour; the eyes small, of a deep yellow or gold colour: from under each eye shoots forth a very long fleshy barb; before the eyes grow likewise two more, very small, and to the under lip hang several more. Its head is very large and rounding, with a very wide mouth, capable of receiving a Fish as big as itself. They prey on their own kind as well as other kinds of Fish, though their teeth are very small; they frequent both fresh and salt waters in most of the rivers in the northern parts of America; their flesh tastes like that of an Eel, and are accounted good eating Fish; there is another kind of this Fish, which has two long sharp bones on each side of the jaws, which it can contract and extend in defence of itself.

pag. 24. *Harengus minor, Bahamensis.*
The Pilchard.

These Fish are very numerous in the Shallows near the low and flat parts of the Bahama Islands; they are carried through small channels a little way within land, where vast quantities of them are taken at the ebbing of the tide, by the inhabitants stopping up the channels they came in at; they are small silver scaled Fish resembling somewhat a Herring, but smaller, and tolerable good food.

*Arbor, Populi nigrae foliis; fructu reni-formi,
mono-Spermo.*

This large Shrub, or small Tree, was of the height of about twelve feet; with leaves resembling those of the black Poplar, set alternately. The fruit are somewhat of the form of a kidney, though more resembling the nut or seed of the Accajou, but not so big: the fruit though not mature, seemed to be at full bigness, and was single, dividing in the middle like a bean, and that inclosed in a film or thin skin, three or four hanging in a cluster on footstalks about an inch long. The flowers I never saw: it grows near the Sea.

Fig. 25. *Anthea quartus Rondeletii*. Vill. 325. T. X. 5:

Fortè etiam *Orypheus veterum*. Rondeletii, Gem. 252.

The Mutton-Fish.

The size of these Fish is various, some being smaller, and others much larger than the figure. The upper part of the head is of a dusky black; the under part and gills are shaded variously with purple and red; the upper part of the back of a dark reddish brown, the red brightening gradually to the belly, which is white, faintly stained with red; the irides of the eyes of a bright red; the mouth somewhat wide, each mandible having a single row of very small sharp teeth: it had five fins, a long spiny one on its back like that of a *Pearch*, of an amber colour, two behind the gills, one under the abdomen, and another near the tail: the tail broad, forked, and red; as are all the fins, except that on the back: the shape of this Fish in general resembles that of a *Pearch*: for the excellency of its taste it is in greater esteem than any other at the Bahama Islands.

The Sucking-Fish.

Sir Hans Sloane, in his natural history of Jamaica, seems to think it need less to describe this Fish, because (says he) it has been described and figured by most natural historians, therefore he little more, than recites the authors that have mentioned it, with the different names they have called it by: but as it has not been exhibited in its natural colours, I hope it may not be thought improper to give it a place here, and to add some remarks not before observed: it is usually about a foot in length, the head large, equal in bigness to the body, which grows smaller gradually to the tail which is small. It hath six fins, two growing from behind the gills, two more under the throat a long one on the back, and opposite to it, under the belly, another of the same form and size, the tail forked. What this Fish hath peculiar to itself is, that the crown of the head is flat and of an oval form, with a ridge, or rising running length-ways and cross-ways to this sixteen ridges, with hollow furrows between; by which structure it can fix itself to any animal or other substance, as they are often found adhering to the sides of ships, and the bodies of sharks and other large fish: but the notion that this small fish was able to stop a ship under sail, or a whale, in swimming, is entirely fabulous; all they can do is no more, than what shells or corals, and other foulnesses, which make her sail somewhat slower. I have taken five of them from off the body of a shark, which were fixed so fast to different parts of his body, that it required great strength to separate them: I have seen them disengaged, and swimming very deliberately near the shark's mouth, without his attempting to swallow them; the reason of which I am not able to give.

Phylanthos Americana Planta flores ad foliorum crenas proferans. Hort. Amstel. Tom. I. 121.

This Shrub rises to the height of five or six feet, with many upright stems growing from the root; the leaves are usually four, and some five inches long; having both edges serrated or widely notched, at somewhat less than an inch distant from one another: from every of these notches grow a very small monopetalous red flower, succeeded by small round red berries. They grow on many of the Bahama Islands.

pag. 27. Solea lunata et punctata.

The Sole.

This Fish was about ten inches long, and five in breadth, of an oval figure; to what bigness they arrive, at I know not, this being the only one of the Kind I have seen; the eyes are both placed on one side, as in others of the Sole Kind: from the nose along the whole length of the back, almost to the tail, runs a stiff prickly fin; a small fin grows under the throat; and where this ends begins such another fin as that on the back, which extends along the belly almost to the tail: the tail is in form of a rhombus or lozenge. The body of the Fish brown, sprinkled over with figures of an oval form, being like semi-circles with their ends pointing to one another, or like circles divided in the middle, of a bright blue colour; whether they are eatable I know not, nor could I be informed, they being very rarely caught.

pag. 28 *Orbis laevis variegatus.*
The Globe-Fish.

This Fish (no doubt of it) has received its name, from the form, which is almost globular, except that the tail extends beyond the spherical form. It has a small mouth, near which the eyes are placed; and behind them two small fins. The fin of the tail is forked. The upper part of the body of an olive colour, marked with many irregular curved white stripes; the belly dusky white. These Fish are found in Virginia, and many other parts of America.

Cornus, foliis Salicis Laureae acuminatis; floribus albis; fructu Sassafras.

This Tree is usually but of small stature, growing to the height of about sixteen feet: the leaves grow alternately on footstalks of about an inch long. They resemble somewhat those of the common Bay, but are more taper and pointing at the end: they are light green, smooth and shining. On the top of the branches are placed many small white hexapetalous flowers, which are succeeded by green berries in a reddish calix, growing to red footstalks of an inch long, resembling much the berries of Sassafras.

An Phaseolus minor lactescens flore purpureo.
Hist. Jam. Vol. I. — 162.

This Plant creeps up, and is supported by trees and shrubs, near which it grows; the leaves are trifoliolate; the flowers papilionaceous, and of a purple colour, succeeded by pods, like those of our common Pease, but thicker, more rounding, and somewhat less: these pods contain usually seven or eight small round brown pease.

1729 *Sittacus piscis viridis, Bahamensis.*

The Parrot-Fish.

The mouth of this Fish is large, paved as it were with blunt teeth, closely connected, after the manner of the *Lupus Marinus*. The body is covered with large green scales; the eyes are red and yellow; the upper part of the head brown, the lower part and the gills blue, bordered with dusky red: a streak of red extends from the throat behind the gills, at the upper end of which is a bright yellow spot. The fins are five in number, one extending almost the length of the back, of a bay or cinnamon colour; there are two behind the gills blended with black, green and purplish colours, with the upper edge verged with blue: under the abdomen is another red fin, verged with blue; under the anus extends another long, narrow, green fin, with a list of red through the middle of it: at the basis of the tail, on each side, was a large yellow spot. The tail large, forked and green, with a curved red line, running through the middle, parallel to the curve of the tail, and ending in two points. This Fish is more remarkable for its beauty, than esteemed for delicacy; they are taken on the coasts of Hispaniola, Cuba, and the Bahama Islands.

Aeus maxima, Squamosa, viridis.
pag. 30. The green Gar-Fish.

These Fish arrive to three feet in length, have a very long mouth, or rather be armed with many small teeth: the eyes were placed very low; the upper part of the body green, the belly pale red: it had six fins, two under the fore-part of the belly, and one near the tail; opposite to which, on the back, was another small one: the tail of an oval form, of a brick red colour, sprinkled with round black spots, as were the two fins next the tail, and of the same colour; the other fins were of a fainter red. The whole body was covered with an white hard bony coat divided into large scales, which on the belly were of an oblong square form, and placed obliquely. These Fish are found in ponds and fresh-water rivers in Virginia.

*Frutex aquaticus, floribus luteis, fructu rotundo
quinque-capsulari.*

These Plants grow usually about twelve feet high, arising with innumerable small stems, alternately bent, from which shoot forth smaller twigs, set with small pointed smooth leaves: the flowers grow on the tops of the branches before they open, being inclosed in small brown pointed Periantherms, set on short footstalks; are heaped petals, of a deep yellow colour, with long Apices of the same colour: they grow in shallow fresh-water ponds, in the woods of Virginia and Carolina: and in the beginning of February adorn the woods, when few other plants appear in blossom: the flowers are succeeded by small round Capsula's, which in March and April divide into four parts, and disclose their seeds, which are very small; and being dispersed by the wind into various places, spring up very thick, and blossom in a short time.

An *Acarauina major pinnis cornutis*; an *Parii*
Pag. 21. *Brasilienfis*: Marg. Will. App. P. T. O. 3.

The Angel-Fish.

The form of this Fish is so odd and singular, that without exhibiting his figure, it would be difficult to give an idea of it by words only. This was somewhat less than two inches thick; the head and whole body, exclusive of the fins and tail, form an oval figure; from the hind-part of the back, and also from the belly, shoot forth two large and very long tapering fins, of equal size, ending in points: the half of these fins next the body are blue, the rest towards the points red: the tail of an orange colour, convex at the end. Two small fins grow behind the gills, one on each side, of an orange colour, the bars being black: under the abdomen grows another small sharp-pointed red fin, the fore-part of which is edged with blue: on the fore-part of the back grows three sharp-pointed bones; under the hind-part of the belly are also three of the like sharp-pointed bones. The irides of the eyes yellow, with two streaks of blue, one crossing the upper, and the other the under part of the irides; the colour of the head yellow and dusky blue; the upper gill was armed with many pointed bones. Though the shape of this Fish is singular, the most remarkable parts of it are the scales, which are of a dusky green colour, upon which large scales are innumerable very small ones. These Fish are taken on the coasts of Carolina; but on the coasts of the Bahama Islands are found the same shaped Fish, with both small and large scales deeply verged with gold. This coat of small scales over the large ones, is a singularity. I believe, peculiar to this Fish. They are esteemed in Carolina an excellent eating Fish, and at the Bahama Islands inferior to none they have.

CANCER terrestris, Cuniculos sub terra agens.
pag. 92. Nat. Hist. Jam. Vol. I. T. II

The Land-Crab.

The Bahama Islands, as well as most land between the Tropicks, abound with these animals; in some places the ground being almost covered with them: so thick they are, that out of their holes, that the earth seems to move as they crawl about. If any one has a stick in their hand, they will not suffer themselves to be approached so near as without one, and, if walking regardless amongst them without any thing in hand, they will approach you with menacing gestures, and, with one of their claws raised, threaten to attack. They make their holes, like rabbits, in sandy lands, in some of the mountainous Islands. They, in breeding time, annually descend the hills, in vast numbers, to lay their eggs near the sea; whatever they meet with in their passage they go over, never going aside, let houses, churches, or what will, stand in their way: they have been known to enter in at a window, and on a bed, where people, who never before had seen any, were not a little surpris'd. They are of various sizes, the largest about six inches wide: they walk side-ways like the Sea Crab, and are shaped like them; some are black, some yellow, some red, and others variegated with red, white and yellow mixed. Some of these, as well as the Fish of this country, are poisonous: of which several people have died, particularly of the black kind. The light-coloured are reckoned best, and when full in flesh are very well tasted. In some of the Sugar Islands they are eat without danger; and are no small help to the negro slaves, with whom on many of the islands would fare very hard without them. They feed on vegetables.

Tapia trifolia fructu majore oblongo.

This usually grows but to a small tree of about twenty feet high, and the body about eight or ten inches diameter: the leaves are trifoliolate, hanging opposite to each other on long stalks; the fruit likewise hang on very long stalks, and are of the size, and shape of Spanish Olives, and of a yellow colour, inclosing a stone like that of a Plum. Of their fruit, amongst many others, these Crabs feed.

1499. *Cancellus terrestris Bahamensis.*

The Hermit-Crab.

The fore-part of this Crab, being about one half of its body, is crustaceous, and of a purple colour; the hindpart is soft and tender, of a livid fleshy colour, and covered over with only a soft skin, which not being more liable to be bruised or hurt by the attacks of animals that prey on them, Nature hath directed it for the security of that tender part, to get into, and inhabit the empty shell of a Fish, that best fits its size and shape. When the Crab grows too big for the shell to contain, it leaves that, and seeks another more commodious; so continues changing his habitation, as he increases in largeness; which, from being no bigger than will fill the shell of a small Snail or Periwinkle, will become, when at full growth, bigger than that here figured. They crawl very fast with the shell on their back; and at the approach of danger, draw themselves within the shell; and, thrusting out the larger claw in a defensive posture, will pinch very hard whatever molests them: they frequent most those parts of the sea-shores which are covered with trees and shrubs, producing various wild fruits, on which they subsist; though I have seen them feed on the fragments of Fish, and other animal substances, cast on shore. They being roasted in the shell are esteemed delicate. I don't remember to have seen any of them to go into the sea. The shells they mostly make use of are of the Buccinum kind, whose spital form is most fit to hold them fast, and secure them in the shell, in which they can fix themselves so fast, by means of short claws at their tails, that in pulling them out of it, the tender part separates from the crustaceous, and remains in the spital part of the shell. Fig. 1. shews the animal in the shell. Fig. 2. shews the animal out of the shell.

pag. 33. *Manghala arbor Curassavica,*
foliis Salignis. Hort. Amst.

Button-Wood, Hist. Nam. Vol. 1. p. 18.

As Sir Hans Sloane, in his natural history of Jamaica, has accurately described this Tree, I conceive it necessary to add only what I know more concerning it. They grow always near the Sea and in salt water; and are found on all the coasts of America, between the Tropicks, in greater plenty than any other Shrub: they being small I know of no mechanic use they are put to; but for burning it is esteemed the best wood in these latitudes. Where these Trees are found there are generally under them great plenty of Hermit-Crabs, who probably may feed on its fallen fruit.

Frutex trifolius resinosis; floribus
tetra-petalis albis racemosis.

This Shrub grows to the height of about six feet; producing trifoliated, pointed, stiff, shining leaves, growing opposite to one another on footstalks two inches long; and at the ends of the branches grow four or five slender stalks set with many very small white flowers.

pag. 24.
The Structure of Crabs, and other crustaceous Fish is so intricate, they being composed of so many irregular parts, that an exact description, without the figure, would be very tedious to the reader; I shall therefore content myself to describe them in fewer words, yet sufficient to distinguish them from others of the same tribe; hoping the figures will make amends for any deficiencies in the descriptions.

Cancellus maximus Bahamensis.

The Sea Hermit-Crab.

This Crab was eight inches long; the eyes, when extended from their sockets, a full inch in length; on each side of the eyes was a short horn: from the nose proceed two pair of feelers; one pair much shorter than the other, and forked at their ends; on each side of the mouth are a pair of pinners or short claws. It had two large scaly claws, alike in size and shape, having three joints in each; the head, legs, claws, and fore-part of the body crustaceous: the hind-part, which is the larger part of the body, is of a tender fleshy substance, and covered only with a thin skin; the head is large and round; the crustaceous part of the body short, with six ribs running length-ways of it: a small semi-circular shield crosses the body, at the joining of the crustaceous to the tender part; from under which, and on the back of the Fish, grow two small legs with four joints each, and forked at the ends; a little above which grow two more such like legs of three joints each, above which are four more, two of a side, much longer and slenderer, having five joints a piece: all these are set with bristly hairs. The fleshy part of the body is divided into eleven parts or joints by ten circular membranes or rings; it tapers and grows very small towards the tail, which is again crustaceous; out of it arises three

crooked claws beset with bristles, by which the creature holds itself in the shell it hath chosen for its habitation, by hooking these claws in the small turns or spiral cavities thereof: from one side of the fleshy part of the body arise four tufts of hair, somewhat resembling feathers each about two inches long, and on the other side are ten or twelve more short tufts of hair. These Crabs inhabit the shells of the *Prucinum nigrum variegatum*, Lister 559. n^o 12. They abide in the shallow part of the sea, near the shores of the Bahama Islands; and, like the Land Hermit-Crab, get into those shells, only that are empty, not disposing any fish of its shell; and therefore have been improperly called the Soldier-Crab.

*Lithophyton compressum obscure lutescens
marginibus purpureis asperis.*

These Plants grow at the bottom of the shallow seas of the Bahama Islands; some of them arrive to the height of near three feet, though most of them not above half so high: the joints are thinner, and grow at greater distances than any other of the coralline kind, I have observed the branches are somewhat flat, of a dusky yellow or straw colour, with a faint stain of purple at the edges, which is not peculiar to this Plant, but is what a great many other substances, besides the sea shrubs are much liable to.

pag. 25. *Cancer arenarius.*

The Sand-Crab.

These Crabs are usually about the size of the figure; most of them light brown or dusky white. It hath eight legs and two claws; one of which is twice the bigness of the other: these claws serve them both to defend and feet themselves with. The head has two square holes, which are receptacles for its eyes; out of which it thrusts them and draws them in again at pleasure. Their abode is on the sandy shores of Nathera, and many others of the Bahama Islands. They run very fast, and retreat from danger into little deep holes they make in the sand.

Litophyton pinnatum purpureum asperum.

This grows usually between three and four feet high, with three or four tapering stiff stalks, with a few smaller ones branching from them: these stalks are thick set with single sprigs of about two inches long: the whole plant incrustated with a purple bark: which being rubbed of, the inner part appears of a shining black like ebony.

pag. 36. *Pagurus maiculatus.*

The red mottled Rock-Crab.

The body of this Crab is round; the legs larger and longer than in other kinds; the claws red, except which, the whole is mottled in a beautiful manner with red and white. These Crabs inhabit the rocks hanging over the Sea: they are the nimblest of all other Crabs; they run with surprising agility along the upright side of a rock, and even under rocks that hang horizontally over the Sea; this they are often necessitated to do, to escaping the assaults of rapacious birds which pursue them. These Crabs, so far as I could observe, never go to land, but frequent mostly those parts of the promontories and islands of rocks in and near the Sea, where, by the continual and violent agitation of the waves against the rocks, they are always wet, continually receiving the spray of the Sea, which often washes them into it; but they instantly return to the rock again, not being able to live under water, and yet requiring more of that element than any of the crustaceous kind that are not fish.

mag. 30.
Cancer chelis crassissimis.

The rough-shell'd Crab.

These Crabs are usually of the size of the figure, and are commonly taken from the bottom of the sea in shallow waters: the legs, contrary to the precedent, are small in proportion to its body; the two claws remarkably large and flat. But as the structure of this Fish is so much better understood by the figure of it, than by the most tedious description, I shall only observe, that the whole shell is covered with innumerable little tubercles, resembling Stagreen: the colour of it is brown, variously stained with purple. The structure of this Crab is singular, and in nothing more than the nearness of the eyes to one another, and the uncommon width and largeness of its claws.

pag. 27. *Cancer marinus chelis rubris.*

The red Claw Crab.

This Crab is commonly of the size of the figure, of a brown colour: it hath two claws of unequal bigness; red at the ends, and eight legs, which seem of less use to them than in other Crabs; for when on the ground they crawl with slow pace, dragging their bodies after them; but are mostly seen grasping with their claws, and hanging to some sea-plant or other marine substance.

Sitanokeratophyton ramocissimum,
crusta eleganti tuberculata.

This Plant rises from one to two feet in height, covered with a very thick tuberculated incrustation; which, while it is growing in the water, is covered with a thick slime or muilage. The whole Plant is pliant, and very sponderous, both which it retains when dry; the colour of it is deep yellow, as well while it is growing as when dry.

28.
Of the different Kinds of Sea Tortoise,
with their properties in general.

The Sea Tortoise is by our sailors vulgarly called Turtle, whereof there are four distinct Kinds: the Green Turtle, the Hawks-Bill, the Logger-head-Turtle, and the Trunk-Turtle. They are all eatable; but the Green-Turtle is that which all the maritime inhabitants in America, that live between the Tropicks, subsist much upon. They much excel the other kinds of Turtle, and are in great esteem for the wholesome and agreeable flesh they afford. All sorts of Turtle, except the Loggerhead-Turtle, are timorous and make little resistance when taken; but in time of coition all the kinds are very furious and regardless of danger: the male copulates by the help of two horns or claws under his fore-fins, by which he holds and clings to the fleshy part of the neck of the female: they usually continue in copulation above fourteen days. They have four legs, which are of much greater use to them as fins to swim with, than as legs to walk with, which they do awkwardly, and with slow pace. They never go on shore, but to lay their eggs, which is in April; they then crawl up from the sea, above the flowing of high-water, and dig a hole above two feet deep in the sand; into which they drop in one night above an hundred eggs: at which time they are so intent on Nature's work, that they regard none that approach them, but will drop their eggs in a hat, if held under them; but if they are disturbed before they begin to lay, they will forsake the place, and seek another. They lay their eggs at three, and sometimes at four different times, there being fourteen days between every time, so that they hatch and creep from their holes into the sea at different times also; when they have laid their complements of eggs, they fill the hole with sand, and leave them to be hatched by the heat of the sun, which is usually performed in about three weeks.

pag. 28. *Testudo marina viridis.*

The Green-Turtle.

There are great plenty of this kind of Turtle amongst the Bahama Islands; yet none breed there; they come from Cuba and the continent. Their eggs, which differ much, and are plainly distinguishable from those of the other kinds, being never found there; whereas most of the islands do plentifully abound with the eggs of the others. This kind is preferred to the rest, and is esteemed a very wholesome and delicious food. It receives its name from the fat of it, being of a green colour. Sir Hans Sloane has informed us, in his natural history of Jamaica, that forty Sloops are employed by the inhabitants of Port-Royal in Jamaica, for the catching them: their markets are supplied with Turtle as ours in England are with butchers meat. The Bahamians carry many of them to Carolina, where they turn to good account; not because that plentiful country want provision, but they are esteemed there as a rarity, and for the delicacy of their flesh. These feed on a kind of grass growing at the bottom of the sea commonly called Turtle-Grass.

Alga marina, graminea angustissima
Folio. Hist. Jam. 61. . . . Vol. I.

This Plants grows in shallow water; several grassy narrow blades shoot from a stringy fibrous socket, which arises from the root, fixed at the bottom of the sea.

Of the Manner of taking Turtle.

The inhabitants of the Bahama Islands by often practice are very dextrous in catching them, particularly the Green Turtle. In April they go in little boats to the coast of Cuba, and other neighbouring islands, where in the evening, especially in moon-light nights, they watch the going and returning of the Turtle, to and from their nests; at which time they turn them on their backs, where they leave them, and proceed on turning all they meet; for they cannot get on their feet again when once turned. Some are so large, that it requires three men to turn one of them. The way by which Turtle are most commonly taken at the Bahama Islands, is, by striking them with a small iron peg of two inches long; this peg is put in a socket at the end of a staff twelve feet long. Two men usually set out for this work, in a little light boat or canoe; one to row and gently steer the boat, while the other stands at the head of it with his striker. The Turtle are sometimes discovered by their swimming with their head and back out of the water; but they are oftener discovered lying at the bottom, a fathom or more deep. If the Turtle perceives he is discovered, he starts up to make his escape, the men in the boat pursuing him, endeavour to keep sight of him, which they often lose and recover again by the Turtle putting his nose out of the water to breathe; thus they pursue him, one paddling or rowing, while the other stands ready with his striker: it is sometimes half an hour before he is tired; then he sinks at once to the bottom, which gives them an opportunity of striking him, which is by piercing the shell of the Turtle through with the iron peg, which slips out of the

socket, but is fastened by a string to the pole. If he is spent and tired by being long pursued, he tamely submits when struck to be taken into the boat or hauled a-shore. There are men, who, by diving will get on their backs; and by pressing down their hind-part, and raising the fore-part of them by force, bring them to the top of the water, while another slips a noose about their necks.

pag. 59. Testudo Caretta. Rochefort.

The Hawk-Bill-Turtle.

This kind of Turtle receives its name from the form of its mouth resembling that of an hawk's beak; the upper jaw hanging more over the under jaw than in the other kinds. As the green Turtle is most valued for the food it affords, this is next in esteem for the usefulness of its shell, so well known in mechanic uses. The strength and beauty of the shell is sufficient to distinguish it from the other kinds of Turtle; besides, their head and neck extended, is longer than in others; the hind-part of the shell is narrower, and indented with sharp pointed notches: the fore-legs are longer than in any of the other kinds. These Turtles are said to feed most on a sea Fungus, by the inhabitants called Jews-ears.

pag. 40. *Testudo marina* Cavuanna.

Raj. Syn. quad. p. 257.

The Loggerhead Turtle.

The head of this Turtle is bigger in proportion, and has a fiercer aspect than the other kinds; its legs are also shorter: The upper shell is broader in the middle and narrower at the hind-part than others. They are the boldest, most voracious, and foulest feeders, of all the Turtles: their flesh is rank, therefore they are little sought after, which occasions them to be more numerous than any of the other kinds. They range the ocean over; an instance of which (amongst many that I have known) happened the 20th of April, 1725, in the latitude of 30 degrees north; when our boat was hoisted out, and a Loggerhead-Turtle struck as it was sleeping on the surface of the water: this by our reckoning appeared to be midway between the Azores and the Bahama Islands, either of which places being the nearest land it could come from, or that they are known to frequent; there being none on the north continent of America, farther north than Cape Florida. It being amphibious, and yet at so great a distance from land in breeding-time, makes it the more remarkable. They feed mostly on shell-fish; the great strength and hardness of their beaks enabling them to break very large shells, particularly the Buccinum, mentioned above, in p. 124. pieces of which I have taken out of their stomachs; and have seen fractures upon large shells, which the turtlers told me were caused by the bite of these Turtles.

Testudo arcuata.

The Trunk-Turtle.

I never saw one of these Turtles; they are not common, being but rarely taken. I was told they grow to a very large size, of a narrow form, but very deep, the upper shell being more convex than in the other kinds of Turtle. Their flesh is rank, but affords a large quantity of oil, which is all it is valued for. In the repository of the Royal Society, is a Turtle preserved in wine, which I take to be of this species.

Of Serpents.

I have seen in Carolina eighteen or nineteen sorts of serpents, whereof four are of the Viper kind, the others of the Snake kind. It is well known, that the most distinguishing characteristics of the Viper is, that it brings forth its young alive; and of the Snake that it lays eggs out of which its young are afterwards hatched. Besides this difference, the Viper has long hollow fangs or tusks with an opening near the point, through which they inject their poison when they bite; its other teeth are like those of Snakes: besides which, I have observed the following external marks; the Viper hath the neck small, the head broad, the cheeks extending wide, their scales rough, the body short and thick in most; is slow of motion; can swell his head and neck when irritated; hath the aspect terrible and ugly: whereas Snakes have the head small, the body long, the scales smooth; are nimble, and of an harmless aspect. All Serpents, as well Vipers as Snakes, have forked tongues, which serve to catch the insects they feed on; when they are disturbed they thrust them out of their mouths and shake them.

pag. 41. *Vipere caudisona Americana.*
The Rattle-Snake.

Of these Vipers, the Rattle-Snake is most formidable, being the largest and most terrible of all the rest: the largest i ever saw, was one about eight feet in length, weighing between eight and nine pounds. This monster was gliding into the house of Colonel Blake of Carolina; and had certainly taken his abode there undiscovered, had not the domestick animals alarmed the family with their repeated outcries: the hogs, dogs, and poultry united in their hatred to him, shewing the greatest consternation, by erecting their bristles and feathers; and, expressing their wrath and indignation, surrounded him but carefully kept their distance; while he, regardless of their threats, glided slowly along.

It is not uncommon to have them come into houses; a very extraordinary instance, of which happened to myself, in the same gentleman's house, in the month of February, 1723; the servant, in making the bed in a grownd-room (but a few minutes after i left it) on turning down the cloaths, discovered a Rattle-Snake lying coiled between the sheets in the middle of the bed.

They are the most inactive and slow moving Snake of all others, and are never the aggressors, except in what they prey upon: for, unless they are disturbed, they will not bite; and, when provoked, they give warning by shaking their rattles. These are commonly believed to be the most deadly venomous Serpent of any in these parts of America; i believe they are so, as being generally the largest, and making a deeper wound, and injecting a greater quantity of poison; though i know not whi any of the three other kinds of Vipers may not be as venomous as a Rattle-Snake, if as big; the structure of their deadly fangs being formed alike in all. The most successful remedy the Indians seem to have, is to suck the wound, which, in a slight bite, has sometimes a good effect; tho' the recovered person never fails of having annual pains at the time they were bit. They use likewise some roots, which they pretend will effect the cure; particularly a kind of Aparum, commonly called Heart-Snake-roots, a kind of Crysanthemum, called St. Anthony's Cross, and some others, but that which they rely on most, and which most of the Virginian and Carolina Indians carry

dry in their pockets, is a small tuberous root, which they procure from the remote parts of the country; this they chew, and swallow the juice, applying some to the wound. Having by travelling much with Indians, had frequent opportunities of seeing the direful effects of the bites of these Snakes, it always seemed and was apparent to me, that the good effects usually attributed to these their remedies, is owing more to the force of nature or the slightness of the bite of a small Snake in a muscular part, &c. The person thus bit, I have known to survive without any assistance for many hours; but where a Rattle-Snake with full force penetrates with his deadly fangs, and pricks a vein or artery, inevitable death ensues; and that, as I have often seen, in less than two minutes. The Indians know their destiny the minute they are bit; and, when they perceive it mortal, apply no remedy, concluding all efforts in vain. If the bite happeneth in a fleshy part, they immediately cut it out, to stop the current of the poison. I could heartily wish, that oil of Olives immediately applied to the wound, might have as good success against the venom of these Snakes as it hath been found in England to have had against the poison of the common Adder.

The colour of the head of this Rattle-Snake is brown; the eye red; the upper part of the body a brownish yellow, transversely marked with irregular broad black lists. The rattle is of a brown colour, composed of several horny, membranous cells, of an undulated pyramidal figure, which are articulated one within the other, so that the point of the first cell reaches as far as the basis or protuberant ring of the third, and so on; which articulation being very loose, gives liberty to the parts of the cells that are inclosed within the outward rings, to strike against the sides of them, and so to cause the rattling noise, which is heard when the Snake shakes its tail. I have given a section of a rattle; that the structure might the better appear.

The charming, as it is commonly called, or attractive power this Snake is said to have of drawing to it animals, and devouring them, is generally believed in America; as for my own part, I never saw the action; but a great many from whom I have had it related, all agree in the manner of the process; which is that the animals, particularly birds and squirrels (which principally are their prey) no sooner spy the Snake than they skip from spray to spray, hovering and approaching gradually nearer their enemy, regardless of any other danger; but with distracted gestures and outcries descend, though from the top of the loftest trees to the mouth of the Snake, who openeth his jaws, takes them in, and in an instant swallows them.

209. 42. *Vipera causidona Americana minor.*
The Small Rattle Snake.

Rattle-Snakes of this size being differently marked and coloured from the large ones, as appears by the figures, makes it generally concluded they are different, though this is not sufficient to prove it; for I have observed, that some kinds change their marks and colours as they cast of their exuvia; others, at the shedding of their exuvia, retain their colours, particularly those that are of one colour. This observation is often proved, by assisting many of them to strip off their old coats. Whether this little Rattle Snake be of a different species or not, must be left to future enquiry. The bite of this Snake is venomous; but it being small, doth not always prove mortal.

The ground colour of this Serpent is brown, shaded on the back with red; along which are large black spots, interlined with a white verge.

All kinds of Serpents, at mature age, retain their specific colours. It is while they are young and growing, that some of them are differently marked at the change of their exuvia, which I shall observe in their following descriptions, so far as I know. The common opinion is, that Rattle Snakes have the same number of joints as they are years old, which can be only conjectural, and seems to be a mistake; for small Snakes have often more joints than large.

pag. 42. *Frutex, foliis oblongis serratis alternis, Acacie*
floribus luteis, fructu brevi, calyculato viridi.

This Shrub grows usually to the height of eight or ten feet, with many tough stalks growing in alternate bendings: the leaves are serrated, and grow alternately at the angles of every bending: the flowers grow in spikes, at the ends of the smaller branches; are papypous, globular and sweet-scented. The fruit is about the size of a large pea, and shape like an acorn, except that the cup is divided into four or five sections. They grow on most of the Bahama Islands.

pag. 42. *Acacia, Buxi foliis rotundioribus, floribus albis,*
Siliqua lata compressa.

These Trees grow very high, with large strait trunks; some being above three feet diameter, with very large spreading limbs; the exterior branches of the Tree are very small and pliant, thick set with spinous leaves. The flowers are papypous, white, and globular, and are succeeded by flat thin pods, an inch broad, and almost five long, and are usually twisted, inclosing many flat brown seeds. This is an excellent wood, and next to what is here called Madera (which is the Mahogany of Jamaica) is the best wood these Islands afford; much of it being brought from thence to England for joiner's work: the grain is not altogether so close as that of the Madera, yet excels it in a variable shining, like watered satten, and is mistakenly called Mahogany by the Bahamians.

pag. 49. *Vipera aquatica.*

The Water Viper.

The back and head of this serpent is brown: the belly marked transversely with black and yellow alternately; as are the sides of the neck. The neck small; the head large, armed with the like destructive weapons as the Rattle-Snake; which, next to it, is reckoned the largest of any other Viper in these parts; and, contrary to most other Vipers, are very nimble, and particularly dextrous in catching fish. In summer great numbers of these serpents are seen lying on the branches of trees hanging over rivers, from which, at the approach of a boat, they drop into the water, and often into the boat on the men's heads; they lie in this manner to surprise either birds or fish; after these last they plunge, and pursue them with great swiftness, and catch some of a large size, which they carry on shore, and swallow whole. One of these serpents I surprised swimming ashore with a large Cat-Fish, of a different kind, from that described in Vol. II. p. 23. this having two sharp bones on each side its gills; which were so fixed in the jaws of the Snake, that he could not disengage himself with all his twists and distortions; and in that condition being in danger of drowning, was necessitated to swim ashore, where the murdered was slain: This serpent in Carolina commonly goes by the name of the Water-Rattle Snake; not that it hath a rattle, but many of them are very large, and

coloured not much unlike the Rattle Snake, and their bite is said to be as mortal. They frequent water, and are never seen at any great distance from it. The tail of this Viper is small towards the end, and terminates in a blunt horny point about half an inch long. This harmless little thing hath given a dreadful character to its owner, attributing to him another instrument of destruction besides that he had before; imposing a belief on the credulous, that he is the terrible horn snake, armed with death at both ends, though in reality of equal truth with that of the two headed *Amphisbana*; yet we are told, that this fatal horn, by a jerk of the tail, not only mortally wounds men and other animals, but if by chance struck into a young tree, whose bark is more easily penetrable than in an old one, the tree instantly withers, turns black, and dies.

Frutex, foliis serratis, floribus longioribus spicatis
pag. 49. *subviridibus, capsula pentagona.*

These shrubs are usually slender in the main stem, spreading into many pliant branches, to the height of about ten feet, with thin leaves set alternately, having their edges finely serrated. The flowers are tubulous, small, of a greenish white; with a point reaching a little above the verge of the cup; they are closely set horizontally on one side of the slender stalks: these flowers are succeeded by round berries, which, when ripe, open dividing into five sections, inclosing many small seeds. They grow in moist places in Carolina and Virginia.

Vipera nigra.

The Black Viper.

This serpent is short and thick, of slow motion; spreads his head, when irritated, surprisingly broad and flat, threatening with a horrid hiss. They are very venomous, having the like fangs of destruction as the Rattle Snake, and their bite is said to be as deadly. They generally frequent the higher lands; and are of a rusty black colour in all their stages of life.

Arbor, foliis pinnatis, spica pendula
Sericea. Alp. p. 2.

This Plant grows usually to the height of eight or ten feet, composed of many stems, arising close together, from the root. The branches grow into bendings, making angles at regular distances; from every of which bend, or angle, shoot forth its pinnated leaves, with very small lobes; and also the flowers, which are papypous: from every of these angles or joints, also grow two sharp thorns: the flowers hang singly, and sometimes two together, on footstalks three inches long; are globulous, and of a perfumed smell. *Alpinus's* differ from mine only in the pods; his growing erect, mine hanging.

Vipera fusca.
The Brown-Viper.

This Viper is the size of the precedent, in length about two feet, and large in proportion. It is also a very slow moving and sluggish reptile, advancing deliberately, even to escape danger; yet will defend himself with much fierceness when attacked; and its bite is said to be as venomous as any: they retain their brown colour in all stages of life. They are found in Virginia and Carolina; in the last of which places they are called the Truncheon-Snake. They prey on Lizards, Efts, and other animals.

Arum maximum Aegyptiacum, quod vulgo Colocasia
C. Bauh. Pin. p. 195. Gloane Hist. Nam. Vol. 1. p. 166.
Arum Aegyptiacum, J. Column. Ephr. Part. 11. p. 1.

The roots of this Plant are tuberous, with many small fibres growing from them: some of them weigh six or eight pound, of an irregular form: the outside of a rusty brown colour, the inside white. The leaves grow out of the earth, with only their footstems to the height of four or five feet: they are shaped something like a heart, of a pale green, very ample, some of them being two feet wide, and more in length. The flowers in form resemble that of the common *Arum*, tho' in colour different; the hood is green without, and of a light yellow within; the pistil is long and slender, of a light purple colour.

Sir Hans Sloane has so amply treated of this useful Plant, that I shall
ask leave only to add a few remarks more. It is a Tropical Plant, not
easing to increase much in Carolina, and will grow no where north of
that colony; yet the negroes there (who are very fond of them) by annually
taking up the roots to prevent rotting, get a small increase. They are
of so acrimonious a quality, that there is a necessity of boiling them
eight or ten hours before they are eatable. A little before I left Caro-
lina, there was introduced a new kind, wholly without that bad quality,
and requiring no more than common time to boil them; and may be
eat raw, without offending the throat or palate. This was a wel-
come improvement among the negroes, and was esteemed a blessing;
they being delighted with all their African food, particularly this,
which a great part of Africa subsists much on.

The subject of this Plate is, as it appeared to me, at a great inund-
ation, where, by the violence of the current, fish, reptiles, with
other animals and Insects, were dislodged from their holes, &c.
floating upon heaps of vegetable refuse; where the voracious and
larger serpents were continually preying upon the smaller, as
well as those of their own kind, as others, which, in that confusion,
were more easily surpris'd.

pag. 46 *Anguis ventre cuprei coloris.*
The Copper-Belly Snake.

These Snakes sometimes approach near to the size of the Rattle-Snake. They are of a brown colour, except their bellies, which are of a muddy red or copper colour. They frequent water, and very probably prey on fish; but birds, and such other animals as they are able to overcome, they devour; frequently entering the houses of poultry, sucking their eggs, and devouring the fowls. They are bold, nimble, and active; but are generally reputed not venomous, and have no fangs like the Viper kind. I never observed the colours to vary.

An Ricinoides Aleagni folio.
The Nathera Bark.

These Shrubs grow plentifully on most of the Bahama Islands, seldom above ten feet high, and rarely so big as a man's leg; though it is probable, that before these Islands were exhausted of so much of it, that it grew to a larger size. The leaves are long, narrow, and sharp pointed, and of a very pale light green colour: at the ends of the smaller branches grow spikes of small, hexapetalous, white flowers, with yellow Apices, which are succeeded by tricapsular, pale green berries, of the size of pease; each berry containing three small black seeds, one in every Capsule. The bark of this Tree being burnt yields a fine perfume; infused in either wine or water, gives a fine aromatic bitter.

pag. 42. *Anguis gracilis caeruleo viridis.*

The blueish green Snake.

This harmless Snake frequents the branches of trees, and very nimbly squirms among the leaves, living on insects, which I believe are its only food. Their usual size and length is that of the figure. They are all over green, inclining more to blue than yellow. The nose of this species turning up, sufficiently distinguishes it from another green Snake, I shall hereafter describe.

*Crutex baccifer, verticillatus; foliis scabris latis
dentatis, et conjugatis; bacis purpureis dense
congestis.*

These Shrubs arise with several stalks from the ground, branching out on each side, and in height about four or five feet: most of the stalks are surrounded with clusters of very small red flowers, having four petals each, with yellow stamina, and growing at the distance of about two inches asunder; beginning to flower at the bottom, and successively proceeding to flower to the top of the branch: from every tuft of flowers grow, opposite to each other, a pair of serrated rough leaves: the berries which succeed the flowers, grow in clusters, so closely connected, that none of their footstalks can be perceived without separating them; which then discovers them to be held together by many small branching stalks. These berries are covered with a shining red skin, containing many very small seeds. They blossom in April and May; the berries are ripe in July. They grow in the woods, near Charles Town in Carolina.

Anguis niger.

The black Snake.

This, at its full growth, is a large, and very long Snake; some being 5 feet in length. They are all over of a shining black, never changing the colour. They are very nimble, and beneficial in killing rats, which they pursue, with wonderful agility, to the roofs, and all parts of houses and barns, where rats are able to run; for which service they are preserved by most of the inhabitants. They are bold and furious, leaping at and biting those that attack them, though no harm ensues, their bite not being venomous. It is commonly said in Carolina, that they will attack and swallow Snakes: it is certain most or all Snakes will devour one another, not only of their own, but of other kinds; which I have often seen, after a long struggle, swallow another, but little less than itself. They are the most numerous of all the Snakes.

Frutex Rubro similis, non spinosus, capreolatus;
fructu racemoso cæruleo Mori-formi.

This twining Plant supports itself by trees and shrubs that grow near it, on which they twist, and are assisted by small tendrils: from the main stem grow alternately smaller branches, with trifoliated leaves, which are indented round the edges, on footstalks an inch long. The flowers are very small, in form of a cup, divided into four pointed petals, growing in spikes many together, on very short stalks. The buds of the flowers, before they are open, are in shape of an acorn. The whole spike of flowers, with their stalks, are red; except the tops of the buds, which are yellow. The berries are of the size of large peas, of a purple colour, round, with protuberancies like those of mulberries, and containing such like seed: one long red stalk, dividing into smaller curved pedicles, supports the fruit, which were straight while the flowers remained. This Plant was in blossom and fruit at the same time, which was in May, on the island Nathera.

pag. 99.
Anguis minor fuscus maculatus.

The little Brown Bead-Snake.

These are always small, seldom appear above ground, but are dug up and found twisting about the roots of shrubs and other plants. All the back and upper part of the body have transverse spots of brown and white, so disposed, as to make some resemblance of a string of beads, which seems to have given its English name.

It is a harmless Snake.

*Corallodendron humile, Spica florum longissima
coccinea radice, cracissimo.*

This shrub rises from the ground with many straight, taper, pithy stalks, to the height of five or six feet: the upper part of which, for about twenty inches, are thick set with papilionaceous scarlet flowers, with yellow stamens. In May, the flowers begin to blow at the bottom, producing successively its beautiful blossoms to the end of the stalk: the flowers are set two and three together, on short footstalks. In August, the fruit is ripe, consisting of pods, in shape and size resembling kidney-beans, containing also such like seeds, but of a bright scarlet colour. In winter the whole plant dies to the ground, leaving as a monument of fading glory its withered stalks, which remain standing the whole winter, and are towards their bottoms as big as the largest walking cane. The leaves consist of three triangular lobes, growing mostly near the ground and lower parts of the plant. The root of this plant resembles that of Oriony, being large at top, running down into the earth four or five feet, white within, and covered with a brown rind; some of them so large, that they weigh upwards of twenty pounds.

pag. 50. *Anguis gracilis fusus.*
The Ribbon-Snake.

This is a slender Snake, usually not much bigger than the figure. The upper part of the body dark brown, with three parallel white lines, extending the whole length of the body: the belly white. They are very nimble and inoffensive.

Arbor lacrifera, laurifolia, aromatica, fructu viridi calyculato racemoso. Hist. Jam. Vol. II. p. 87.
Cortex Winteranus. Ofic.

Winter's Bark.

These Trees grow usually about twenty feet high, and eight or ten inches in thickness, in the thick woods of most of the Bahama Islands; the leaves are narrow at the stalk, growing wider at their ends, which are broad and rounding, having a middle rib only; they are very smooth, and of a light shining green. In May and June, the flowers, which are pentagonal, come forth in clusters at the ends of the branches: they are red and very fragrant, and are succeeded by round berries, in size of large peas, green; and when ripe (which is in February) purple, containing three shining black seeds, flat on one side, otherwise not unlike in shape to a kidney-bean; these seeds in the berry are enveloped in a slimy mucilage. The whole Plant is very aromatick, the bark particularly being more used in distilling, and in greater esteem in the more northern parts of the world than in England. This bark is that which is commonly known at the shops by the name of Winter's-Bark, though truly not the right, as Sir Hans Sloane has judiciously informed us.

Anguis gracilis inaequalis.

The Spotted Ribbon Snake.

This is a slender Snake, usually about the size of the figure; the upper part of it was brown, spotted with black; the belly white; on the ridge of the back extends a list of white the whole length of it. They are harmless, and without any characteristic of a Viper.

Pseudo-Santalum croceum. Hist. Jam. Vol. II. p. 184.
Brasiletto.

The value of this wood has occasioned a scarcity of it on the Bahama Islands, particularly the largest trees being cut down; so that to what dimensions they grow, where largest, I know not; the biggest of those remaining not exceeding two or three inches in thickness, and eight or nine feet in height; the branches are slender, and full of small prickles; the leaves are pinnated; the lobes growing opposite to each other, broad at their ends, with one notch. The flowers are white, papilionaceous, with many stamens and yellow anthers, growing in a pyramidal spike, at the end of a long slender stalk: the pods inclose several small round seeds. The inhabitants of the Bahama Islands formerly got great part of their subsistence by cutting this wood, but it is now much exhausted. It is used in dying; there being yearly great quantities of it sent from these Islands, and other parts of the West-Indies, to England, for that use.

Flos Passionis minimus, trilobatus flore sub caeruleo.

The leaves of this Passions-flower resemble that of the Hepatica, consisting of three lobes, or rather a leaf divided by three segments. The flower is of a peach colour, formed like others of the kind, except that the cup is longer than ordinary. The fruit is small, round, and of a deep blue colour.

pag. 52. *Anguis annulatus.*
The Chain-Snake.

This serpent was of the size of the figure; it was the only one of the kind I ever saw, nor was it known to any of the inhabitants. I shew'd it to. Therefore, as it wanted a name, the best I could think of was, that of Chain-Snake, from some resemblance of a chain that seems in many places to environ the body, though these marks extend but half-way round; the belly being marked as the piece cut of reptiles. The colour of this Snake was of a dark dusky blue, except the chain-like marks of the back, which were yellow; as were likewise some square spots on the belly; the angular form of its lips were singular. It seem'd not to be of the Viper kind.

Frutex Lauri longiore folio.

This Shrub is a native of Virginia, and grows in wet swamps and standing waters: it rises from the ground, with many stems, to the height of eight or ten feet, of a reddish colour. The leaves are plac'd alternately an inch from one another, and are in shape like those of a Bay, stiff and shining: at the pedicles of the leaves grow the flowers, which are tubulous, of a pale red colour, and set on stalks two or three inches long. These flowers are succeeded by small conic seed-vessels about the size of large peas, which, when ripe, open in two parts, and display many small black seeds. It retains the leaves all the winter.

pag. 50. *Anguis viridis maculatus.*

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The green spotted Snake.

These serpents sometimes grow to four times the bigness of the figure; are said not to be venomous; and are great robbers of hen-roosts, sucking eggs; though their size seldom enables them to devour the fowls. As the change of marks and colour in some Serpents cause confusion in distinguishing them, I would willingly avoid mistakes, by describing the same Snake twice, and multiplying the kinds to more than there are: And I am diffident in determining, whether this be a different kind from the spotted Ribbon-Snake, pag. 51. which somewhat resembles it, though of a different colour.

Apocynum scandens, Salicis folio, flore amplo pleno.

This Plants trails upon, and is supported by trees and shrubs, to the height of ten, and sometimes twenty feet: the leaves stand by pairs on footstalks an inch long, shaped not unlike those of a fallow, of a shining green, and stiff; their veins hardly discernable. These leaves are apt to curl, or turn back, as the figure represents: the flowers grow at the ends of the smaller branches, six or eight in a cluster, on footstalks above an inch long, are tubulous, having five petals at the mouth of the tube, with broad square ends. They resemble in shape the flowers of the Mangus. Hort. Malab. T. 39.

The seed vessels, as is usual in this tribe, grow by pairs, are eight or ten inches long, cylindrical, and bend inwards, growing a little tapering towards their points, which meet and touch one another exactly: the colour of the whole flower is yellow. The pods, when ripe, discharge small flat milky seeds, with white down, like most other Apocynums. They grow on many of the Bahama Islands.

pag. 54. *Anguis flagelli formis.*
The Coach-Whip Snake.

This is a very long slender Snake, particularly the hind part, it diminishes gradually to the tail; and, from the resemblance of a coach whip, has received its name. The colour of it is brown; it is very active and nimble, running very swiftly. They are inoffensive; yet the Indians report (not without gaining many proselytes to their silly belief) that they will, by a jerk of their tail, separate a man in two parts: they are generally about the size of the figure, though sometimes they are twice as big. They retain their colour in all stages.

Lychnis viscosa, virginiana, flore amplo coccinea.
Seu Muscipula Regia. D. Panisset Phytogr. T. 203. fig. 1.

The height of this plant is usually about a foot, rising with several stems, which divide into smaller stalks; on which grow the flowers on footstalks half an inch long: the flower is red, tubulous, consisting of five petals, with a deep notch at the end of each, besides an angular point on each side: the leaves grow opposite to one another without footstalks. They are frequently found in the sandy woods near Charles Town in Carolina.

pag. 55. *Anguis e rubro et albo varius.*

The corn Snake.

This Snake is sometimes twice as big as the figure. It is all over beautifully marked with red and white, which seems to have given it the name of Corn-Snake; there being some Maize, or Indian Corn much resembling this in colour: they are robbers of hen-roosts, otherwise they are harmless. They are common in Virginia and Carolina.

Viscum Caryophylloides ramosum,
floribus minimis albis.

This Plant from a bulbous root rises with four or five, and sometimes more succulent leaves; which, before it flowers, resemble both in root and leaf a *Narcissus*: from the middle of the leaves rises a slender stiff stem, about eighteen inches long; at the upper part of which are alternately placed its flowers, singly on short footstalks. The flower is hollow, the back of the cup growing into a pointed petal; and from the bottom of the cup, on each side, spreads two pointed petals; the whole flower of a light green; within the hollow of it are yellow stamina. These flowers are succeeded by small semilunar seed vessels, both ends being blunt, and one bigger than the other, containing very small dusty seeds. They grow on bare rocks on many of the Bahama-Islands, and sometimes upon trees, in the manner of *Mistletoe*.

pag. 56. *Anguis capite viperino.*

The hog-nose Snake.

These Snakes are seldom much larger than the figure; Short-bodied and very large towards the head; with cheeks swelling out like those of Vipers; the nose turning up like that of a hog: his whole visage being very ugly. I suspected he was of the venomous tribe, till searching in his mouth for the hollow Viper's fangs, I could discover only small teeth; yet being a small one, they might not yet appear. It having so much of the characteristic of Vipers, besides its slow motion and sluggishness, that I cannot help suspecting him to be a Viper. The crown of the head and back of this serpent was covered with many large black spots, regularly placed; the hindmost part of the body having transverse yellow bars between the black spots: the belly dusky white, with smaller black spots.

*Lilium, sive Martagon Canadense, flore
luteo punctato. Acad. R. Par.*

A Martagon being so singular in its structure, and so well known, I shall only mention wherein these differ and excel in beauty all the other kinds hitherto known.

This Plate exhibits the Flowers of two kinds, because I conceive their difference being little, may be expressed in few words, without giving an unnecessary plate. This Plant has its flowers grow alternately on long footstalks, of an orange and lemon colour, thick spotted with dark brown. The largest flower is from another kind of Martagon. The flowers of this have their pedicels arising all together from the top of the stalk: the flowers are much larger, as are its scaly roots; and the usual height of the Plant is six feet. This elegant and stately Martagon was introduced into England from Pennsylvania, by my friend Mr. Peter Collinson, in whose curious garden it flowered in perfection, after the manner described.

Anguis viridis.

The green Snake.

This inoffensive little Snake abides among the branches of trees and shrubs, catching flies and other insects, on which they feed. They are generally about the size of the figure. They are easily reclaimed from their wildness, becoming tame and familiar, and are very harmless, so that some people will carry them in their bosoms.

*Casena vera Floridanorum, Arbuscula
baccifera Alaterni fauce, foliis alternatim
sitis terrapyrene. Pluk. Mant.*

This shrub usually arises from the ground with several stems, to the height of twelve feet, shooting into many upright, slender, stiff branches, covered with whitish smooth bark, set alternately with small evergreen serrated leaves, resembling those of *Alaternus*. Its flowers are small, white, and grow promiscuously amongst the leaves, and are succeeded by small spherical berries on short footstalks: these berries turn red in October, and remain so all the winter, which, with the green leaves and white bark, make an elegant appearance. But the great esteem and use the American Indians have for it, gives it a greater character. They say, that, from the earliest times, the virtue of this shrub has been known, and in use among them, prepared in the manner they now do it, which is after having dried, or rather parched the leaves

in a porrage-pot over a slow fire, they keep it for use: of this they prepare their beloved liquor, making a strong decoction of it, which they drink in large quantities, as well for their health as with great gust and pleasure, without any sugar or other mixture, yet they drink and disgorge it with ease, repeating it very often, and swallowing many quarts. They have an annual custom in the spring drinking it with ceremony; the town having notice from the king or principal, the inhabitants assemble at the Town-house, having previously by fire purged their houses of all their old furniture; and supplied them with new, the king is first served with a bowl or conch-shell, never used before, of this emetic broth, by the next to him in eminence; and by the next is served; and so on, till he comes to the women and children. They say it restores lost appetite, strengthens the stomach, gives them agility and courage in war, &c. It grows chiefly in the maritime parts of the country; from whence those Indians supply the Mountain Indians with it; carrying on the like trade with it in Florida, as the Spaniards do with the South-Sea tea from Paraguay to Buenos-ayres; Florida being in the same latitude north, as Paraguay is south: and observing by comparing the leaves of both, no apparent difference in them, induces me to believe they are both the same plant. In South Carolina it is called Casena. In Virginia and North Carolina it is known by the name of Yupon; in the latter of which places it is as much in use among the white people as among the Indians, at least among those who inhabit the sea coasts.

no. 58. *Anguis e caeruleo et albo varius.*

The Wampum Snake.

This Snake receives its name from the resemblance it has to Indian money called Wampum, which is made of shells cut into regular pieces, and strung with a mixture of blue and white. Some of these Snakes are large, being five feet in length; yet there is no harm in their bite; but as all the largest Snakes are voracious, so will they devour what animals they are able to overcome. The back of this Serpent was dark blue, the belly finely divided with brighter blue, the head small in proportion to its body. They seem to retain their colour and marks at every change of their Exuviae. They are found in Virginia and Carolina.

*Lilium Carolinianum, flore croceo punctato,
Petalis longioribus et angustioribus.*

The Red Lily.

This Lily grows from a single bulbous, scaly root, about the size of a walnut, rising with a single stalk to the height of about two feet; to which, from the bottom of the flower, are set opposite to each other narrow leaves. One flower only is produced on the top of the stalk, consisting of six petals, every of which have a footstalk an inch long: these petals turn back in a graceful manner, and are tapering, terminating in points, and edged with small indentures; from the bottom of the flower rises six very long stamina with their apices, surrounding a Pistillum. The whole flower is variously shaded with red, orange and lemon colours. They grow on open moist Savannas, in many parts of Carolina.

pag. 59. *Cecilia maculata.*

The glass Snake.

The head of this Snake is very small; the tongue of a singular form, as in the figure is represented: they are of various sizes, most of them are less than the figure; the upper part of the body is of a colour blend of brown and green, most regularly and elegantly spotted with yellow; the belly yellow, the under-most part of which is brightest. Their skin is very smooth, and shines with smaller scales, more closely connected, and of a different structure from other Serpents. A small blow with a stick will cause the body to separate, not only at the place struck, but at two or three other places; the muscles being articulated in a singular manner quite through to the vertebra. They are generally said to be harmless: they appear earlier in the spring than any other Serpent, and are numerous in the sandy woods of Virginia and Carolina.

Chrysanthemum Americanum, Doronici folio, flore Persici coloris, umbone magno prominente, ex atro purpureo, viredi, et aureo fulgente.

This Plant usually rises about six feet from the ground, with several large stalks, producing on their tops the first blown and largest flowers, succeeded by many smaller ones from the side branches: it continues flowering at least three months. The leaves grow alternately along the stalks, resembling, in form and manner of growing, those of a Tulip. The flower is of a peach colour, crowned with a very large scaly cone or seed vessel; from the basis of which proceeds the petals of the flower hanging round it, in form of an umbrella. The petals are narrow, four inches long, and deeply notched at their ends. They grow on the banks of the Savanna River, about five hundred miles from the mouth of it. We have had it flower in England, but it is now lost.

pag. 60. *Anguis niger, maculis rubris et luteis
elegantet varius.*

The Bead-Snake.

These Snakes are usually about the size of the figure, some less; and some I have seen three or four times as big. The ground colour of them is black, deeper on the back, and fainter under the belly. The upper part of the body is adorned with large spots of a bright red colour; between which, at regular distances, are yellow spots. They live mostly under ground, and are seldom seen above; but are frequently found and dug up with Potatoes, at the time those roots are taken out of the ground, which is in September and October. They have nothing of a Viper, either in form or quality, but are very inoffensive.

Convulvus Radice tuberoso esulento. Hist. Sam. Vol. I. pp. 150.

The Virginian Potato.

This excellent root seems to merit the preference of all others: not only in regard to the wholesomeness and delicacy of its food, but for its in more general use to mankind than any other root; it being one great part, if not the principal substance of the greater part of Africa; and is likewise in great use, both in America and in the southern parts of Asia. They being of so easy culture, so quick of growth, and of so vast an increase, that the propagating it seems more agreeable to the indolence of the Barbarians, than cultivating grains, which requires a longer time, with more labour and uncertainty. In all our Colonies of America, as wells Islands as Continent, these roots are in great esteem and use; the common white people, as well as the negro Slaves, subsisting much upon them: nor are they thought unworthy a place at principal tables. In Virginia and to the north thereof, they are annuals, and produce no flowers. They plant them in March, and dig them up in October, and,

to prevent their rotting, keep them in holes under ground near their fires. In Carolina, where the winters are more moderate, they are not necessitated to keep them so warm: and in the Bahama Islands, and other places between the Tropics they are perennial, and produce flowers, yet are annually planted. The most kind and best Potatoes, that I observed, were in Virginia; and because the names they are called by, in different Colonies, are so various, I shall call them by those names only, by which they are known there.

I have observed only five kind of Potatoes specifically different from one another, the Common, the Bermudas, the Brimstone, the Carrot, and the Claret Potatoes.

The Common Potato is of a muddy red colour on the outside, but being cut appears white with a reddish cast: they commonly weigh from half a pound to four, five or six pounds; usually are long irregularly shaped, and pointed at both ends: this is an excellent kind, and is most planted.

The Bermudas Potato is larger and rounder than the Common, very white within, and covered with a white skin: this is a tender kind, requiring more warmth in keeping, and a different culture from the rest; this is the most delicate sort, but not so much planted as the Common Potato, because of its not keeping so well. This Potato only produces a white flower; the flowers of the other kinds being purple.

The Brimstone Potato grows to a large size, and is shaped like the Common; the colour of it hath given its name, and in goodness it is esteemed next to the Common.

The Carrot Potato is named so, from its colour both without and within, being like that of a carrot: these grow to a very large size, and are of great increase, though of little esteem, being the most insipid.

The Claret Potato seems to be propagated more as curiosity than for any peculiar excellencies it hath. The colour of it, without and within is that of claret.

99. *Magnolia altissima, flore ingenti candido.*
The Laurel-Tree of Carolina.

These Trees are commonly two feet and an half, and sometime three feet in diameter, rising with a strait trunk, to the height of eighty feet and upwards, with a regular shaped head. The leaves are shaped like those of the Laurel-Cerasus, but much larger; of a shining bright green, except their under sides, which are of a russet red colour, with a hoary roughness, like buff. This particularity in the leaves doth not appear before the Tree is large, the young ones having their leaves green on both sides. In May the blossoms open, which are large, white, and very fragrant, somewhat resembling in form a single peony. The petals are usually ten, and sometimes eleven and twelve in number; they are thick and succulent: in the midst of which is placed the ovarium, closely surrounded with cyries, which, before the petals all of, swell to the size of a pigeon's egg, and when fully grown, is formed into a oval one, in size of a goose's egg. It is green at first, but when ripe of a reddish purple. In the superficies are many little protuberances, in each of which lies a single seed, somewhat less than a kidney-bean, covered with a red film. In August, at which time the fruit is ripe, every one of these little swellings openeth, and dischargeth its seeds, which do not fall immediately to the ground, but hang pendant by small white threads, about two inches long.

This stately Tree perfumes the woods, and displays its beauties, from May till November, producing first its fragrant and ample blossoms, succeeded by its glittering fruit. It retains the leaves all the year; which, being of two colours, have a pretty effect, when waied by the wind, displaying first one side, and then the other.

What much adds to the value of this Tree is, that it is so far naturalized and become a Denison to our country and climate, as to adorn first the garden of that worthy and curious Baronet, Sir John Colliton, of Lamouth in Devonshire, where, for these three years past, it has produced plenty of blossoms: since that, and in the year 1707, one of them blossomed at Parsons-Green, in the garden of the Right Honourable Sir Charles Wages: one of which blossoms expanded, measured eleven inches over. Their native place is Florida and South-Carolina; to the north of which I have never seen any, nor heard that they grow.

pag. 62. *Putorius Americanus Striatus.*

The Pol-Cat.

This in shape is not unlike our common Pol-cat, except that the nose of this is somewhat longer: the colour of all I have seen is black and white, though not always alike marked; this had a list of white, extending from the hind-part of the head, along the ridge of the back, to the rump; with four others, two on each side, running parallel with it. When one of them is attacked by a dog, to appear formidable, it so changes its usual form, by bristling up its hair and contracting its length into a round form, that it makes a very odd and terrible appearance. This menacing behaviour, however insufficient to deter its enemy, is seconded by a repulse far more prevailing; for, from some secret duct, it emits such fetid effluvia, that the atmosphere for a large space round shall be so infected with them, that men and other animals are impatient till they are quit of it. This stench is insupportable to some dogs, and necessitates them to let their game escape: others, by thrusting their noses into the earth, renew their attacks till they have killed it, but rarely care to have more to do with such noisome game, which, for four or five hours, distracts them. The Indians notwithstanding, esteem their flesh a dainty, of which I have eat, and found it well tasted. I have known them brought up young, made domestic, and prove tame and very active, without exercising that faculty, which fear and self-preservation perhaps only prompts them to. They hide themselves in hollow trees and rocks, and are found in most of the northern continent of America. Their food is insects and wild fruit.

Pseudo-Phalangium ramosum.

This plant trails on the ground. The top of each stalk terminates in a single hollow leaf, which clasps almost close; and from its foot-stalk arises short round pedicles, supporting the flowers, which consist of two blue petals, standing erect on one side, and one very small white petal lying flat facing them, included by a calix of three leaves: they contain several yellow stamina, and are succeeded by a seedvessel, containing three seeds.

pag. 63. *Lacertus omnium maximus,*
Crocodilus dictus.

The Alligator.

The largeness, strength, and terrible appearance, of this formidable animal, occasioning it to be so often observed and described, I conceive, it less necessary to be so particular in its description as otherwise I should be in so remarkable a creature: I shall therefore endeavour to observe some things which have been omitted by others. They are amphibious; and though the largest and greatest numbers inhabit the Torrid Zone, the Continent abounds with them ten degrees more north, particularly as far as the River Neus in North-Carolina, in the latitude of about 33, beyond which I have never heard of any; which latitude nearly answers to the northernmost parts of Africa, where they are likewise found. They frequent not only salt-rivers near the sea, but streams of fresh water in the upper parts of the country, and in lakes: salt and fresh water, on the banks of which they lie lurking among reeds, to surprise cattle and other animals.

In Namaria, and many parts of the Continent, they are found above twenty feet in length: they cannot be more terrible in their aspect than they are formidable and Mischievous in their natures, sparing neither man nor beast they can surprise pulling them under water, that, being dead, they may, with greater facility, and without struggle or resistance, devour them. As Quadrupeds do not so often come in their way, they mostly subsist on fish; but as Providence for the preservation, or to prevent the extinction, of defenceless creatures, hath, in many instances, restrained the devouring appetites of voracious animals, by some impediment of other; so this destructive Monster, by the close connection of the joints of his vertebra, can neither swim, nor run any other ways than straight forward, and is consequently disabled from turning, with that agility, requisite, to catch his prey by pursuit; therefore they do it by surprise in the water, as well as by land: for effecting of which, Nature seems in some measure, to

have recompensed their want of agility, by giving them a power of deceiving and catching their prey, by a sagacity peculiar to them, as well as by the odder form and colour of their body, which on land resembles an old dirty log or tree, and in the water, frequently lies floating on the surface, and there, has the like appearance: by which and his silent artifices, Fish, Fox, Turtle, and all other animals are deceived, suddenly caught, and devoured.

Carnivorous Animals get their food with more difficulty and less certainty than others, and are necessitated to fast a long time, which a slow concoction enables them to endure: Reptiles particularly, by swallowing what they eat whole, digest slowly, eat seldom, and live long without food: Wolves are said to gorge themselves with mud, to supply the want of better food: for the like cause may Alligators swallow Stones and other substances, to distend and prevent the contracture of their intestines when empty, and not to help digestion, which they seem to be in need of. For in the greatest number of many I have opened, nothing has appeared but lumps of light wood and pieces of pine-tree, coal, some of which weighed eight pounds, and were reduced and wore so smooth from their first angular roughness, that they seemed to have remained in them many months. They lay a great number of eggs at one time, in the banks of rivers and lakes, which are hatched by the heat of the sun, without further care of the parents. The young ones, so soon as they are disengaged from their shells, betake them to the water, and trust for themselves; but, while young, they serve as a prey, not only to ravenous fish, but to their own species. It is to be admitted, that so vast an Animal should at first be contained in an egg, no bigger than that of a Turkey.

In South Carolina they are very numerous, but the northern situation of that country occasions their being of a smaller size than those nearest the Line; and they rarely attack men or cattle, yet are great devourers of hogs. In Carolina they lie torpid, from about October to March, in caverns and hollows in the banks of rivers, and at their coming out in the Spring, make an hideous bellowing noise. The hind-part of their belly and tail are eat by the Indians. The flesh is delicately white, but has so perfumed a taste and smell, that I could never relish it with pleasure. The figure here exhibited, represents the size and figure of an Alligator, soon after the breaking out of the shell.

*Candela Americana, foliis Laurinis, flore
tetrapetalo luteo, fructu angustiore.*

The Mangrove-Tree.

These Trees vary in height, being in some places twenty, in others above thirty feet high, in proportion to the depth or richness of the muddy soil in which they grow. The bark is smooth, of a light brown; in the smaller branches inclining to red; the leaves are somewhat like those of the Bay, with their middle veins yellow; having inch-long footstalks: the smaller branches are jointed at the distance of every inch. The flowers grow usually two or three together, and sometimes on single footstalks, of two or three inches in length, having each four yellow petals; which, before they open, are covered with a greenish calix, dividing into four parts: the flower is succeeded by green succulent substances, in form not unlike a pea: at the small end of which hangs a single seed, about six inches in length, in form of a bobbin, with which lace is made. These seeds, when they fall, are carried floating on the water, and lodged on muddy banks, where their larger ends settle in the mud, and take root; the smaller ends sprouting, as in the figure. These Trees propagate not only by their seeds in this manner, but the smaller branches, falling into the mud, strike root, and in a few years become trees, which increase in like manner, and extend their progress some miles.

In shallow salt-water, these impenetrable woods of Mangroves are frequented by great Numbers of Alligators; which being too big to enter the closest recesses of these thickets, the smallest ones find a secure retreat from the jaws of their voracious parents. These watery woods are also plentifully stored with ravenous Fish, Turtles, and other animals, which prey continually one upon the other, and the Alligators on them all; so that in no place have I ever seen such remarkable scenes of devastation as amongst these Mangroves were usually floating on the water. They grow in most parts of the earth under the Torrid-Zone, and are found but little north or south of the Tropicks. The Hortus Malabarius describes two or three Kinds, Vol. VI. pag. 59. 61. 63. 65.

pag. 64. *Lacertus indicus, Senembi et Iguana dictus.*
Raii Synop. Quad. p. 265.

The Guana.

This kind of Lizard somewhat resembles the Crocodile or Alligator in shape, but has a shorter head, and a serrated crest on the ridge of the back, extending from behind its head to the middle of the tail. They are of various sizes, from two to five feet in length: their mouths are furnished with exceeding small teeth, but their jaws are armed with a boney beak, with which they bite with great strength; they inhabit warm countries only, and are rarely to be met with any where north south of the Tropicks: many of the Bahama Islands abound with them; they nestle in hollow rocks and trees: their eggs have not an hard shell like the eggs of Alligators, but a skin only like those of Turtle, and are esteemed good food: they lay a great number of them at a time in the earth, which are there hatched by the sun's heat. The Guana's are a great part of the subsistence of the inhabitants of the Bahama Islands, which purpose they visit many of the remote Keys and Islands, in their Sloops, catch them, which they do by dogs trained up for that purpose, which are so dextrous as not often to kill them, which if they do, they serve only for present sport; if otherwise, they sew up their mouths to prevent their biting, and put them in the hold of their Sloop, till they have caught a sufficient number, which they either carry alive, for sale to Carolina, or salt and barrel up, for the use of their families at home. These Guana's feed wholly on vegetables and fruit: particularly on a kind of fungus, growing at the roots of trees, and of this and others of the Seneca kind. Their flesh is easy of digestion, delicate, and well tasted: they are sometimes roasted, but the more common way is to boil them, taking out the leaves

of fat, which they melt and clarify: this they put into a calabash or dish, into which they dip the flesh of the Guana as they eat it. It is remarkable, that this fat, which adheres to the inside of the abdomen, imbibes the colour of the fruit they last eat, which I have frequently seen tinged with palered, yellow, and sometimes of a purple colour, which last was from eating the *Srunus Maritima* which fruit at the same time I took out of them. Though they are not amphibious, they are said to keep under water above an hour: when they swim, they use not their feet, but clasp them close to their body, and guide themselves with their tails: they swallow all they eat whole. They cannot run fast; their holes being a greater security to them than their heels. They are so impatient of cold, that they rarely appear out of their holes but when the sun shines.

*Anona maxima, foliis latis fructu maximo
luteo conoide, cortice glabro.*

This shrub or small tree grows to the height of about sixteen feet, with a small trunk, and smooth greenish bark: the leaves thick, stiff, and shaped like those of a lemon, the flowers I did not see. The fruit is in size and form of the figure, covered with a smooth yellowish green skin. The pulp or flesh of the fruit of the consistence of a ripe peat, containing many conic brown seeds. This is an eatable fruit, very sweet, but somewhat insipid; yet it is the food of Guana's and other wild creatures.

pag. 65. *Lacertus viridis Carolinensis.*

The Green Lizard of Carolina.

These Lizards are usually about five inches long, of a dusky green colour. They frequent houses, are familiar and harmless, and are suffered with impunity to sport and catch flies on tables and windows which they do very dexterously, and no less divertingly. They appear chief in summer; and at the approach of cold weather, they retreat to their winter recesses, and lie torpid in the hollows and crevices of rotten trees. These Lizards change their colour, in some measure, like the Camelin for, in a hot day, their colour has been a bright green; the next day changing cold, the same Lizard appeared brown. They are a prey to cats, and ravenous birds. It frequently happens, that a few warm sun-shiny days so invigorates them, that they will come out of their winter retirements, and appear abroad; when, on a sudden, the weather changing to cold, so enfeebles them, that they are incapacitated to creep to their winter holes, and die of cold.

*Liquid-ambarsi Arbor, seu Styraciflua, Aëris foliis
fructu Tribulaide, i.e. Pericarpio orbiculari ex quam
plurimis cupicibus coagmentato, semen recondens.*

Plukenet. Almagest. Bot. pag. 224. Phytogr. Tab. 42. Fig. 6.

The Sweet Gum-Tree.

The trunk of this tree is commonly two feet in diameter, straight and free from branches, to the height of about fifteen feet; from

which the branches spread and rise in a cone from to the height of forty feet and upward, from the ground. The leaves are five-pointed; being divided into so many deep sections, and are set on long slender pedicles. In February, before the leaves are formed, the blossoms begin to break forth from the tops of the branches into spikes of yellowish red, pappyous, globular flowers, which, when the apices are blown off by the wind, swell gradually, retaining their round form, to the full maturity of their seed-vessels, which are thick set with pointed hollow protuberances, and, splitting open, discharge their seeds, each cell containing a seed, winged at one end with many small grains distinct from the seed.

The wood is good timber, and is used in wainscoting, &c. The grain is fine, and some of it beautifully variegated, and very fit for curious works in joinery; but when wrought too green, is apt to shrink and fly from its joints, to prevent which, no less than eight or ten years it is sufficient to season its planks: yet the regular form and beauty of this tree deserves the regard of the curious, none of the American trees affecting more our soil and climate. From between the wood and the bark of this tree issues a fragrant gum, which trickles from the wounded trees, and by the heat of the sun, congeals into transparent resinous drops, which the Indians chew, esteeming it a preservative of their teeth. The bark is also of singular use to them, for covering their houses, which has frequently given me an opportunity of gathering the gum from trees so stripped of their bark, one of which would yield an hat full of gum. This gum smells so like the balsam of Tolu, that it is not easy to distinguish them.

pag. 66. *Lacertus viridis Jamaicensis.*

The Green Lizard of Jamaica.

This Lizard is usually six inches long, of a shining grass green colour. It is common in Jamaica, frequenting hedges and trees, but are not seen in houses, that I observed. When they are approached to, they, by filling their throat with wind, swell it into a globular form, and a scarlet colour; which, when contracted, the red disappears and returns to the colour of the rest of the body. This swelling action seems to proceed from menacing, or deterring one from coming near him, though they are inoffensive.

Lignum campechianum; Species quadam Brasil. Joh. de Lae Sloane, Hist. Jamaica. Vol. II. p. 183.

Logwood.

In the year 1725, I saw three of these Trees in the Island of Providence, which were raised from seeds brought from the Bay of Honduras, by Mr. Spatches, a person of more than common curiosity. He told me, they were of three years growth from the seeds. They were then about fourteen feet high; their trunks straight, and about seven or eight inches thick: their heads branching regularly, and being in full blossom, made a beautiful appearance. The leaves are pinnated, consisting of four, and some five pair of leaflets opposite to each other, and are in shape of an heart: from the tops of the branches shoot forth many spikes of small pentapetalous yellow flowers, every one of which, before it opens, is covered with a purple calix. The flowers are succeeded by small flat pods, about two inches long, which, when ripe, split open in the middle, and disclose five or six small flat seeds.

The bloody disputes which this useful Tree has occasioned between the Spaniards and English, are too well known to say much of here; only I could wish that the inhabitants of our southern plantations could be induced to propagate it, as well for their own advantage, as that we may be supplied by them, when wholly deprived of getting it from the Spaniards, as we have hitherto done, either by force or stealth. If upon a rock, these Trees will in four years bear seeds, and grow to the thickness of eight inches, a much quicker progress may be expected when planted in a deep moist soil, which Jamaica and many other of our islands abound in.

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Cacertus cauda caerulea.
The blue Tail Lizard.

This Lizard is usually small, seldom exceeding six inches in length; the head short; the tail is blue; the rest of the body brown; except that from the nose runs five yellow lines, at equal distances, along the back to the tail. They are seen often on the ground, and frequent hollow trees. Some people suspect them to be venomous, though I never heard of an instance to confirm it. They are found in Virginia and Carolina.

Anona fructu viridi laevi, Pyri inversi forma.

This shrub grows usually to the height of about ten or twelve feet; the branches grow with bendings, at the distances of two inches from one another, at the angles of which shoot forth its leaves alternately, which, in shape, are like those of the Bay-tree, with very short footstalks. The flowers hand single, on footstalks about an inch long, and are composed of six petals, viz. three which are round and white; and three larger green ones, which are pointed, and cover the round ones. In the middle of the flower appears the ovarium, encircled with stamens yellow stamina. The flower, when spread open, is in form of a triangle. The fruit is in form somewhat like a Pear inverted, and as big as one of the largest size, covered with a smooth green skin, which contains a pulp like that of an over-ripe Pear; with many conic dark brown seeds, placed at distances within the fruit. These, with most of the other kinds of Anona, are food for Guana's, Smaller Lizards, and other animals: these are natives of Hispaniola, Guayana, Andros Isles &c. but no where north of the Northern Tropic.

The fruit of some of the sorts of Anona have, from their taste, obtained among the English the names of Custard-Apple, Sugar-Apple, and Sout-Soops.

Lacertus Griseus.
The Lion Lizard.

These Lizards are usually five or six inches long; they are all over of a grey colour, but streaked with lines of a lighter grey. The legs are long. It locks its tail with a round twirl, and looks fierce, from which it may perhaps have taken its English name. They are inoffensive, frequenting the rocks on the sea-shores of Cuba, Hispaniola, &c. They are nimble, and run with surprising swiftness, yet are a prey to sea-gulls and other ravenous birds.

Viscum Caryophylloides, foliis longis in apice incisis, floris labello albo trifido, petalis luteis, longis angustissimis.

These Plants usually grow to the height of about eighteen inches, with one, and sometimes two upright stalks, bearing long leaves, notched at the ends, alternately placed on them, the foot or basis of the leaf encompassing the stalk: on the top of this plant shoot forth two foot-stalks; on one was placed a flower, and on the other a seed-vessel, formed. The flowers consisted of five long narrow yellow petals placed on the ovarium, which was long and swelling towards the upper end of a pale green colour: from the center of the five petals grew a cylindrical succulent white stem; from the top of which shoot forth three other white petals, the middlemost of which was longest. At the end of the other foot-stalk was formed a seed-vessel, in shape not unlike a ninepin, having four prominent ribs extending from end to end, at equal distances, in which were many small seeds divided by thin membranes, and the withered flower remained at the top.

Rana terrestris
The Land Frog.

The back and upper part of this Frog is grey, and thick spotted with dark brown spots; the belly dusky white, and faintly spotted; the irides of the eyes red. They vary somewhat in colour; some being more grey, others inclining to brown; their bodies are large, resembling more a Toad than a Frog; yet they do not crawl as Toads do, but leap: they are seen most in wet weather, yet are very frequent in the higher lands, and appear in the hottest time of the day. They feed on Insects, particularly of one kind, which the following accident seems to confirm: as I was sitting, in a tully evening, with some company without door, one of us let fall, from a pipe of tobacco, some light burning ashes, which was immediately caught up and swallowed by a Frog of this kind. This put us upon tempting him with a red-hot wood-coal, not less than the end of ones finger, which he also swallowed greedily; thus afterwards I always found one or other of them easily deceived in this manner, as I imagine, by taking it to be a Cicindela, or Fire-Fly, which, in hot nights, are very numerous in Virginia and Carolina, where also these Frogs abound.

Sarracena, foliis longioribus et angustioribus:

Bucanephyllon elatius Virginianum, &c.

Pluk. Alm. p. 72. T. 152. f. 3.

As this and the following Plate exhibit two Plants of the same genus, and which, in many parts of their structure, agree with the description of each other, I found it necessary to refer, from one to the other, in

ories to explain some parts, which are not alike displayed in both
Plates, and consequently cannot give so perfect an idea without such reference.
The leaves of this Plant are tubulous and ribbed, arising from a knotty
fibrous root, to the height of about three feet: they are small at the root,
widening gradually to the mouth of the tube; which, in young leaves, are
closed, but open by degrees, as the leaf increases; and, when near its full
growth, arches over the mouth of the tube, in form of a friar's cowl, fig. 1. The
cowl expands itself till the leaf is at full bigness, having its inside of a green
yellow, veined with purple, fig. 2. yet retaining somewhat the position it first
had, by hanging over the mouth of the tube, which otherwise would be filled
with rain, and fall by the weight of water; it being of a thin substance, and
of a yellowish green colour. The flowers, which hang inclining, grow each on
a single footstalk, of between two and three feet high, springing from the
root, in like manner with the leaves. While the flower is in bloom, many
small yellow apices, hanging by threads, surround the ovarium, to which is fixed
by a stilius. a pentagonal thin membrane, in form of a shield, hanging horizon-
tally; between the interstices of which hang five thin petals, growing from the
basis of the ovarium: on the top is placed the calix. divided into five sections,
and completes the whole flower, which remains not long in this perfect state; for
five petals, after continuing a day or two, fall off, leaving the remains of the flower,
which continue several months in the state and form represented in the next Plate,
fig. 3. The capsula, or seed-vessel incloses a core, from which it separates when
the seeds are ripe, and divides into five parts, each of which is again divided by a
thin membrane, by which ten cells are formed, in which the seeds lie, fig. 4. When
the under part of the flower, as it appears when spread open, with the shield
reflected, resembling somewhat the seat of a side-saddle, from which, in Virginia
it has received its name of side-saddle flower. These Plants grow in bogs and
watery places in Carolina, Virginia, Maryland, and Pennsylvania.

Rana aquatica.

The Water Frog.

These Frogs are of various sizes, though commonly about the bigness of the figure: their limbs are very long; the upper part of the head, body, and limbs, dusky green, spotted with black: from the eyes to the rump extend two yellow lines; two white lines also reach from each eye to the nose: the eyes are large, black, and circled with yellow irides. These are not seen on dry land; they frequent rivulets and ditches of water, and will leap at once five or six yards.

Sarracena, foliis brevioribus latioribus.

Sarracena Canadensis, foliis cavis et auritis. Hist. R. H. 657.

The leaves of this, like the precedent, spring from a fibrous root, to the height of six or eight inches; they are likewise hollow, swelling, and more protuberant than the former, and differently shaped, as in the figure: they are of a yellow green colour, striped and veined with purple.

The flowers of this Plant rise considerably higher than the leaves, and are of a purple colour; except which, the flowers and seed-vessels of this and the precedent, are formed alike. The hollows of these leaves, as well as of the other kind, always retain some water; and seem to serve as an asylum or secure retreat for numerous insects, from Frogs and other animals, which feed on them.

These Plants grow usually in the same places with the foregoing.

*Rana viridis arborea.**The Green-Tree Frog.*

This Frog was of a bright grass green, with two light yellow lines extending the length of its body on both sides: the eyes were black and large, with a yellow circle round them. But what is most remarkable in this Frog were its feet, which, as in all the other kinds of Frogs, had four toes on each of the fore feet, and five on the hind feet; but of a different structure from other Frogs, they being round, fleshy, and concave somewhat like the mouth of a Leech. They most commonly are found adhering to the under sides of green leaves, which they seem to do for their security, to conceal themselves from their rapacious enemies, as Birds, Snakes, &c. which they could not do without this extraordinary structure of their toes, by which they cleave to the innermost leaf by suction; and, if they are held at four yards distance from a reclining looking-glass, will, at one leap, stick fast to it. They are numerous in Virginia and Carolina, frequenting both herbaceous plants and the loftiest trees. They appear seldom in the day, but at night are very active and noisy, leaping from spray to spray, on the tallest trees, catching fire-flies, and other Insects, incessantly chit, chit, chit, chit.

*Arum Americanum, Betae folio.**The Stunk Weed.*

This Plant, before the leaves appeared, arrived at its full size, as is here exhibited, consisting of three succulent, monopetalous, hollow flowers, with short stems, divided as within an nitch, its pointed, of an oval form, having its superficies impressed with check'd lines: before the leaves open, they appear pale green, but in a short time become spotted with green and purple blended together. At the decay of the flowers, the leaves appear of the size here exhibited, and usually four or five in number.

The introduction of this most curious Plant, with innumerable others, is owing to the indefatigable attachment of Mr. Collinson, who, in the year 1735, received it from Pennsylvania, and in the spring following it displayed itself in this manner at Beckham. As the flowers of this Plant were engraven before I had an opportunity of seeing the leaves, I was obliged to introduce a leaf in the manner as in the Plate.

pag. 72. *Rana maxima Americana aquatica.*

The Bull-Frog.

The figure here exhibited is smaller than many of these Frogs I have seen. The eyes were oval, very large, and prominent; the pupils having yellow circles round them: the irides of a dusky red, encompassed with a yellow circle behind: and a little below the eyes appear the ears, of a circular form, and covered with a thin transparent membrane, which is the membrana tympani itself, which in this species of animals, lies quite bare and exposed, being even with the surface of the rest of the skin, having no meatus auditorius, or passage leading to it, nor any thing like an outward ear to guard it.

The colour of the upper part of this Frog was dusky brown, thick set with large irregular shaped spots, of a dark brown colour; the whole being blended with a yellowish green, particularly the fore-part of the head and chaps; the belly dusky white, with a mixture of yellow, and faintly spotted. These Frogs are less numerous than any other of the Frog kind, and frequent springs only, which in Virginia abound in the sides of every little hill, where, by the continual running of the water, a small pond or hole is usually made before the mouth of the spring, which is rarely without being possessed by a pair of these Frogs: they are usually sitting on the verge of the hole, and when surprised, with a long leap or two, enter the mouth of the spring, where they are secure. It is the general belief of the people in Virginia, that they keep the springs clean, and purify the water; wherefore they never kill, or molest them, but superstitiously believe it bodes them ill so to do.

The noise they make has caused their name; for, at a few yards distance, their bellowing sound very much like that of a Bull a quarter of a mile off; and what adds to the force of the sound, is their sitting within the hollow mouth of the spring. Though the imaginary usefulness of these

Frogs is frequently a means of their preservation, yet their voracious appetites often causes their destruction, they being great devourers of young Ducks and Goslings, which they swallow whole. This provokes the good wives to destroy them; but as they are not very numerous, the mischief is the easiest prevented.

pag. 72.

Helleborine.

The Lady's Slipper of Pennsylvania.

This Plant, from a fibrous root, rises with two or three single stems, the height of ten or twelve inches, with long ribbed leaves growing alternately; the flower, as it is longer, resembles more a Slipper than another of this tribe that I have seen: it differs also from others of the kind, in having a slit from the top to the bottom of the Slipper; over the hollow of which is fixed two small oval bodies or knobs, over which hangs a thin membrane or lappet, of a pale red or rose colour; and over these knobs is another membrane of the like form, but of a green colour. The four exterior petals that complete the flower are placed crossways, and are of a yellowish green, ribbed and stained with red. The Slipper is of a greenish yellow, with a tincture of red. This curious Helleborine was sent from Pennsylvania, by Mr. John Bartram, who by his industry and inclination to the searches into Nature, has discovered and sent over a great many new productions, both animal and vegetable. This Plant flowered in Mr. Collinson's garden in April 1738.

Sciurus niger.
The Black-Squirrel.

This Squirrel is about the size of the precedent, many of these being intirely black: some have their noses only white, some their feet white; others the end of the tail white, and some others have white round their necks. The tails of these are somewhat less, and not so long as those of the grey Fox-Squirrel; yet this little difference, with that of their colour, seemed to me at first hardly sufficient to determine them two species; but by their breeding, associating, and other circumstances I observed, am convinced of the common opinion, that they are two different species. These, with the grey Fox-Squirrel, are very numerous and destructive to corn in the fields; for which reason, as well as for the delicaty of their flesh, no quarter is given them.

Calceolus Marianus glaber, Petalis angustis. Pet. H. 1. 5.

Raii, Hist. III. App. 245. vid. Flux Tab 418. Fig. 2.

The yellow Lady's Slipper.

This Plant rises, with three or more stems, to the height of twelve or sixteen inches; each stem having three or four rough, pointed, nervous leaves, growing alternately, and inclosing their stalk at their basis: on the top of every stalk grows the flower, which is yellow, hollow, of an oblong form, resembling an egg on the back-part, tho' on the fore-part open, having an apron or lappet hanging over the hollow: at the pedicles of which are fixed two small oval parts or knobs, of the size of Ants eggs. From the back of this yellow concave flower grow four petals, or leaves of different dimensions, viz. one standing upright, two more slender and wreathed, spreading on each side horizontally, and a fourth to the joining of the stalk to the ovarium, to which the flower is fixed: these four petals are green, thick spotted with brownish red: the seed-vessel, as I remember, is pentagonal, of an oblong form, containing innumerable small dusty seeds. They grow on the sandy banks of rivers in Carolina, Virginia and Pennsylvania; from which last place they were introduced to the garden of Mr. Peter Collinson at Petkham, where they flowered in perfection.

pag. 74. *Sciurus virginianus cinereus major.*
Rait, Syn. Quad. p. 215.

The Grey Fox-Squirrel.

These Squirrels are as large as an half grown Rabbit; the whole Structure of their bodies and limbs, thicker in proportion, and of a grosser and more clumsy make than our common Squirrels; their heads and ears are also shorter. The colour of their bodies is grey, as is their tails, which, when they turn back, extend the whole length of, and cover their bodies. They have the like active gestures as the common Squirrels. Their size is no protection against the assaults and ravages of ravenous Hawks. They are injurious to the planters of Virginia and Carolina, by destroying their corn and pulse.

Viscum Caryophylloides, floribus parvis luteis punctatis.

This Plant rises, from a bulbous root, with three or four leaves, like those of the Narcissus, having one straight single stem, to the height of twelve or more inches: on each side of which, are eight, ten, or more flowers, set alternately on pretty long footstalks: five yellow petals, spotted with dark brown, set on a green, cylindrical, ribbed capsula, with stamina, compose the flower: in the seed-vessel are contained a great many very small seeds, divided by thin membranes. These Plants grow on rocks, and to the trunks of Trees, in many of the Bahama Islands.

Sciurus Striatus.

The Ground-Squirrel.

This is about half the size of an English Squirrel, and almost of the same colour; except that a pair of black lists, with a yellowish white list between them extend almost the length of the body on both sides: also a single black ridge runs along the ridge of the back. The eyes are black and large; the ears rounding; the tail long, flat, and thick set with hairs, which are much shorter than those of other Squirrels. These Squirrels abide in the woods of Carolina, Virginia &c. Their food is nuts, acorns, and such like as other Squirrels feed on. They being brought up tame, are very familiar and active.

The fruit, which the Squirrel is feeding on, belongs to a Tree or Shrub which General Oglethorpe brought from Georgia, by the name of the Wild Nutmeg; from its being aromatic, and other circumstances, induces me to think it is the fruit of the Plant I have described, p. 26. vol. 1. which description is imperfect, because the fruit was not then formed: the size and form of this is as it is here represented. It divides into four openings, discovering four dark green seeds within the fruit.

Cornus, foliis Laurinis, fructu majore luteo.

The Mastick Tree.

This Tree grows usually to the height of about fifty feet, with a trunk two or three feet thick, having a greenish white smooth bark. The leaves hang promiscuously on long footstalks, and are in form somewhat like those of a Pear-tree; from the sides of the branches grow small pentapetalous yellow flowers, which are succeeded by yellow oval fruit, in size and shape of small Plumbs, inclosing an oval brown Stone. The fruit is eat, and is sweet and luscious, but serves chiefly for the sustenance of birds and other animals. The wood is esteemed good timber. They grow in Abbaco, and other of the Bahama-Islands.

*Sciurus volans.**The Flying-Squirrel.*

This is about the size of the Ground Squirrel, but as a somewhat shorter body and head: the ears were round; the eyes black, and large; the body covered with very fine hair, as soft, though longer than that of a Mole, of a light mouse-dun colour: the tail long, broad and flat; the hairs of it exceeding fine and soft.

These Squirrels have not membranous wings like those of a Bat, whereby they can fly to any great distance; but have only membranes covered with their furs, which grow along their sides, and are attached to their legs, by which they can expand them, and so help themselves in leaping from one tree to another, as I shall mention in the following pages.

These species of Squirrels hath been lately discovered in Poland, an accurate description and print thereof, communicated by the ingenious and curious Mr. Klein Secretary to the City of Danzig, is published in the Philosophical Transactions, N. 427. pag. 32.

Guajacana.

These Trees are from fourteen to eighteen, and sometimes twenty feet in height, with a trunk seldom above ten inches thick, and leaves like those of a Pear. In April the blossoms appear, growing along the sides of the branches, on very short footstalks: they are monopetalous, succulent, and of a green colour, divided into four segments; in the middle of which stands the ovarium, which, when grown to their full size, are nearly as big as Orleans Plumbs: as the fruit swells, the four petals, which composed the flower, spread, and become hard and dry. The fruit, which is of a transparent reddish yellow colour, incloses four flat stones. These Trees grow plentifully in Carolina, Virginia, and most of the northern colonies in America, and are lately become naturalized to our climate, having here ripened its fruit in the open air. The fruit of these Trees are ripe at different times, some in August, others in November, and will hang after the leaves are dropped till December; the fruit, having then lost much of its watry parts, is shrivelled, candied, and very luscious, resembling, in taste and consistence, Raisins of the Sun. The fruit of these Trees are a great support to Birds, Squirrels and various other animals. The stone split in two parts exhibits the Tree in embryo, with its stem or trunk, with the two folia terminalia in a more conspicuous manner than in any other seed I have ever met with.

pag. 77. *The Flying-Squirrel.*
Its Posture and Manner of Flying.

These Squirrels are gregarious, travelling from one tree to another, in companies of ten or twelve together. When I first saw them, I took them for dead leaves, blown one way by the wind; but was not long deceived, when I perceived many of them to follow one another in one direction. They will fly four or five yards from one tree to another: they cannot rise in their flight, nor keep in a horizontal line, but descend gradually; so that in proportion to the distance of the tree, they design to fly to it, is from them, so much the higher they mount on the tree they fly from, that they may reach some part of the tree, even the lowest part, rather than fall to the ground, which exposes them to peril; but having once recovered the trunk of a tree, no animal seems nimble enough to take them.

Their food is that of other Squirrels, viz. Nuts, Acorns, Pine-seeds, Dishimon, Berries, *Viscum Caryophylloides, Aloes foliis viridibus acuminatis, floribus racemosis luteis.*

The root of this Plant is tuberous, having many small fibres, which grow spreading on rocks, and adhere closely to the bare surface of them, and sometimes to the trunks and limbs of trees. This succulent Plant is maintained only by what nutriment its fibres receive from the crevices of the bark, into which they insinuate. It is usually from one to two feet in height, its leaves and manner of growing resemble those of an Aloe, but are more concave, and spotted with white on both sides, resembling mould. From the middle of the leaves arose a stiff stalk, which divided at the top into seven or eight smaller stalks on which were placed alternately, on short footstalks, yellow flowers, not blown open; and having never seen a plant that was blown, I can only refer to the figure of this here exhibited.

pag. 78. *Vulpis cinereus Americanus.*
The Grey Fox.

These Foxes are all over of a grisly grey colour, in shape and size little different from those in Europe. They live not in holes under ground, but in hollow trees, to which they retreat when hunted, affording the hunter seldom above a mile chase before they enter their hole, from which they are usually smothered out. They are equally mischievous with those in Europe, destroying poultry, &c.

Gentiana forte: quae Periclymeni Virginiani flore coccineo,
Planta Marylandica spicata erecta, foliis conjugatis.

D. Sherard R. Hist. III. Dendr. 3. N. 23.

This Plant rises usually with four or five stalks, of about twelve or fourteen inches in height; every one of which has three or four pair of sharp-pointed leaves, set opposite to each other. On the top of the stalks, on one side, are placed about ten or twelve monopetalous, tubelous, red flowers: the flower divides at top into five sections, the inside of which is yellow; from the middle of the flower arose a long yellow stibus, with stamina. This Plant was in blossom, the first of August 1738. in the garden of Mr. Christ. Gray at Fulham, and endures the winter without any protection.

A decoction made of this Plant is good against worms.

pag. 79. *Cuniculus Bahamensis.*

The Bahama Coney.

This creature is a little less than the common Wild Rabbit, and of a brown colour, without a mixture of grey hairs. Its ears, feet, and tail resemble those of a Hare; in other parts it is somewhat like a Rabbit. They feed wholly on wild fruit and other vegetables; when surprized by hunters they retreat to holes in rocks. Their flesh is esteemed very good, it has more the taste of a Pig than that of a Rabbit. I take it to be nearly of the kind of the *Mus Alpineus* or Marmot. *Plin. Syn. Quad. p. 221.*

*Sittonia similis, Laureola foliis, floribus
albis, baccis rubris.*

This Shrub rises to the height of twelve feet, more or less; the leaves grow alternately on long footstalks: the flowers grow many together on footstalks half an inch long, on the tops of the branches: they are tubulous, monopetalous, and divided round the edges by five sections, as is the calix. The flowers are succeeded by spherical red berries, of the size represented, inclosing several seeds, like those of the white Thorn. This Plant grows on many of the Bahama Islands, and is called there Strong-Bark. The inhabitants there make decoctions of its bark, of which they make much use, attributing to it great virtues; as Strengthening the Stomach, restoring lost appetite, and other like virtues, as the *Casena* is said to have on the continent. The Conies, Guana's, and Birds are great lovers of the berries. They grow on rocks on many of the Bahama Islands.

pag. 80. *Magnolia, amplissimo flore albo, fructu cocineo.*

The Umbrella-Tree.

These Trees are from sixteen to twenty feet in height, with a trunk seldom above five inches thick; the bark of which is white; the wood soft and spongy; the leaves are usually thirty inches in length, and about five broad at the widest part: they grow in horizontal circles, representing somewhat the appearance of an Umbrella. From the middle of one of these circles of leaves rises the flower, which is white, composed of ten or eleven petals, the three outermost of which are of a pale green, and, before the blossom opens, incloses the rest of the petals; and when the flower is full blown, they hang in the manner here represented. The structure of the ovarium, seed-vessel, &c. so nearly resembles those parts of the *Magnolia altissima*, that I conceive the figures, as they are here exhibited, without any further description, will give a sufficient idea of them.

In Virginia I have never seen above two or three of these Trees, which grow at one place: in Carolina they are more frequent, and grow in rich land. They drop their leaves at the approach of winter.

pag. 81. Arbor foliis pinnatis, nullo impari Alam claudente,
nervo ad latus unum excurrente, fructu anguloso
magno, semine alato instar Pinus.

The Mahogany Tree.

These Trees grow to a great height, and are usually four feet diameter; the bark is of a brown colour: the leaves are pinnated growing by pairs on slender stalks; the ribs of the leaves (like those of the Tilia) run on one side, dividing the leaf unequally. Not having an opportunity of seeing its flowers in their perfect state, I was necessitated to figure the best fragment of it I could find, which was withered and imperfect; but by spreading the petals, I could distinguish the little flowers to be pentapetalous, as represented by a spring at 17. The curious structure of the seed-vessel is thus: the whole fruit, before the parts are divided, is a very hard smooth cone, in size and form of a Goose's egg growing erect on a stalk four or five inches long. At this fruit grows when ripe, it begins to open and separate into five equal parts; each consisting of an hard shell, near half an inch thick, lined within by a thin skin or membrane, which immediately incloses the seeds: the seeds lie disposed in the manner of those of an Apocynum; they are winged, and are attached to the hollow of an hard pentagonal core, which forms the middle of the cone: when the shell falls off, the seeds are left exposed to the wind, and are soon dissipated by it, leaving the core standing, which continues so many months after. The excellency of this wood for all domestic uses is now sufficiently known in England: and at the Bahama Islands, and other countries, where it grows naturally, it is in no less esteem for ship-building, having properties for that use exceeding oak, and all other wood, viz, durability, resisting gunshots, and burning the shot without splintering. No one would imagine, that Trees of this magnitude should grow on solid rock.

and that these rocks should afford sufficient nutriment to raise and increase the trunks of them to the thickness of four feet or more in diameter; but so it is, and the manner of their rise and progress I have observed as follows: the seeds being winged, are dispersed on the surface of the ground, some falling into the chinks of the rocks, and strike root: if the fibres find resistance from the hardness of the rock, they creep out on the surface of it, and seek another chink, into which they creep, and swell to such a size and strength, that at length the rock breaks, and is forced to admit of the roots deeper penetration; and with this little nutriment the Tree increases to a stupendous size in a few years, it being a quick grower.

1. The flowers.
2. A cone beginning to open.
3. A cone opened, with its winged seeds as they lie in it.
4. A single seed.
5. One of the parts of the shell of the cone.
6. The core to which the seeds hang.
7. A plant of Mistletoe growing on the Mahogany-tree.

Viscum foliis longioribus bacis rubris.

This mistletoe had long, smooth, shining, green leaves, growing by pairs, the berries were round, red, and somewhat smaller than those of the common Mistletoe. They grow in clusters, to stalks of above an inch long, which shoot forth by pairs, from between the joinings of the leaves to the stalk. They grow to Mahogany and other Trees of the Bahama Islands.

pag. 82. *Bignonia Americana*, *capreolis* Donata,
Siliqua brevior. Tournefort Inst.

These Plants usually grow on the shady banks of rivers, rising with many slender piliant stems to the height of twenty, and some times thirty feet; being supported by Trees and Shrubs, growing near them, on which they climb and clasp their tendrils. From the joints of these trailing stalks shoot forth their leaves, flowers, and tendrils; four leaves grow at every joint, set by pairs on two horizontal short stalks: the flowers are set on footstalks, of above an inch in length, are monopetalous, and divided into five sections, which reflect back, and are of a bright yellow within; but the outside of the flower is of a bright cinnamon colour, and has within it four stamina with a stibus. The seeds are winged, and fixed to a Placenta within a pod. This elegant Plant is a native of both Virginia and Carolina, and blows there in May, but in England not before August.

N. B. In the following Plates are interspersed some remarkable Butterflies, whose colours are so various and intricately blended, that their figures and descriptions would give but a faint idea of their beauty, without being illuminated; which alone answers the purpose. But, as some copies may appear uncoloured, it will be necessary to supply that deficiency by words.

89. *Rutex virginianus trifolius ulmi Samaris;*
Banisteri. Pluk. Almu, 159.

These Trees usually grow to the height of twelve, or fifteen feet, with a trunk as big as one's leg, having a pale greenish smooth bark. Its leaves are trifoliate, set on long footstalks. The flowers grow in spiked bunches, many of them together, each flower having four white petals; and are succeeded by bunches or clusters of seeds.

These Trees grow on the upper parts of the Savannah River in Carolina and nowhere that ever I saw in the lower inhabited parts of the country.

Papilio caudatus maximus, Carolinianus,
umbris strisque nigris. Pet. Mus. N^o 505.

The body of this Butterfly has its back black and sides yellow, the whole length of it. The ground of all the wings is yellow; the two fore wings have their upper margins verged with black, besides other marks of black. The lower parts of the four wings are deeply verged with black, through which, in the upper wings, run a row of yellow spots: from the lower part of the two under wings shoot forth two tails. These Butterflies are inhabitants of Virginia and Carolina.

pag. 84. *Philadelphus flore albo majore
inodoro.*

This is a Small Tree, rising to the height of about sixteen feet or upwards, with a slender trunk; the wood hard and brittle; from the larger upright stalks grow smaller ones, horizontally and opposite to one another, on which are placed the leaves by pairs, shaped like those of a Pear. At the ends of these smaller stalks were also placed the flowers, growing usually two or three together on footstalks of about an inch long. These flowers are composed of four white petals, adorned in the middle with a tuft of thirty stamina, or triple stili, and crowned with yellow apices. These flowers are succeeded by round mucronated capsulas containing many small seeds in cells, divided by thin membranes. The only tree of this kind I ever saw, was growing on the bank of the Savannah River, near its cataracts.

Smilax non spinosa baccis rubris.

These plants are always supported by trees and shrubs, on which they creep and clasp with their tendrils; the leaves are long and narrow at both ends; they are thick, stiff, and shining, with a single rib in the middle, and are set alternately at wide distances. At the ends of the smallest branches are produced hexapetalous, greenish white flowers which grow in umbelliferous tufts, and are succeeded by globular, mucilaginous, red berries: each berry containing a very hard round

stone. These Plants, with their glittering scarlet fruit, and by retaining their green leaves, make an elegant appearance all the winter; at which season the berries serve as food to Thrushes and other birds, and the whole Plant as a warm shelter for them in that cold season. They grow in bogs and watery lands in Carolina.

Phalena plumata caudata, Caroliniana,
virescens oculata. Pet. Mus. p. 69. N.º 733.

The four-ey'd Night Butterfly.

The body of this is dusky white, except that near the head is a transverse stripe of copper colour; its legs are copper colour; the antennae broad pointed at the ends, and pinnated; the ground colour of all the wings is greenish yellow; the upper edge of the two upper wings are verged with copper colour; as are the exterior edges of all four wings: in the middle of every wing is a spot resembling an eye, the sight of which is transparent likeising-glass; the place of the iris is a white border below, and a red one above, joined to a list of black of equal length.

The singular form of the lower wings seem to distinguish it from all other Butterflies. The Chrysalises of these Flies are found in winter hanging pendant to the twigs of leafless trees, of an oval form and silky consistence. These Flies are found in Virginia, Carolina, Maryland, and Philadelphia, &c.

pag. 85. *Anona fructu lutescente, lavi, scrotum
Arietis referente.*

The trunks of these Trees are seldom bigger than the small
of a man's leg, and are about ten or twelve feet high, having
a smooth greenish brown bark. In March, when the leaves begin
to sprout, its blossoms appear, consisting each of six greenish
petals. The fruit grows in clusters of three, and sometimes four
together: they are at first green, and when ripe, yellow, covered
with a thin smooth skin, which contains a yellow pulp of a
sweet luscious taste; in the middle of which lie, in two rows,
twelve seeds, divided by so many thin membranes. All parts of
the Tree have a rank, if not a fetid smell: not is the fruit
relished but by very few, except negroes. These Trees grow usually
in low shady swamps, and in a very fat soil.

29. 30.
Anona maxima, foliis oblongis, angustis;
fructu maximo luteo conoide; cortice glabro
in areolas angulares distincto.

This differs from the Custard-Apple, Hist. Jam. vol. II. p. 162. in having the areolæ angular; whereas those are round like the scales of fish.

These shrubs grow sometimes with a single trunk, but more commonly they rise with several small stems to the height of about ten feet: the leaves are shaped like those of the Bay, set alternately on stiff slender stalks, from which also hang single flowers, consisting each of three greenish sharp-pointed petals; the whole plant has a strong fetid smell. The fruit, when ripe, is of a roundish conic form, covered with angular protuberances, within which is a sweet insipid pulp, with several shining black seeds lodged therein. The fruit of this tree is esteemed not unwholesome, and are eat by some people; but they serve mostly for food to Guana's, and other animals inhabiting the Bahama Islands, on which they grow.

*Phalæna magna, ex rufo et albo
varia, Americana.*

The largest Carolina Moth.

This moth has a large body; the abdomen is encompassed by five rings of a muddy red colour; the eyes are large and spherical; the legs six in number, and large; the antennæ broad and feathered: the area or ground colour of all the wings is of a reddish brown colour, with these following additional marks; in the middle of every wing is a large red and white spot, in form resembling a kidney: one third of the lower part of every wing is bordered with alternate lists of white, red, yellow, black and brown; the further corner of the two upper wings have each an oval black spot, in which is a semicircular white mark. Thus much of its description, with the bare figure, is sufficient to distinguish the Butterfly.

The Caterpillar of this Moth is inclosed by two silk bags of an oval shape the innermost smooth within: on the outside the silk lying loose and is covered by another membrane of a thinner, smoother, and of a more compact texture, and not of so uniform a structure, as appears by the figure, though they frequently vary in size, and somewhat in form. These bags are found artfully fixed to the twigs of trees, some hanging pendent, others horizontally. This Moth is a native of Carolina and other provinces more north.

*Anona foliis Laurinis, in summitate incis; fructu
no. 87. compresso scabro fusco, in medio acumine longo.*

The Sappadillo Tree.

These Trees grow to a middling height and size, having a rough brown bark. Their leaves are of an oblong oval form, with a notch at their ends. The flowers seem-
ed to be monopetalous; but, as i had not an opportunity of seeing them in
blossom, i am necessitated to refer to this Plate, which shews at Fig. 1. the frag-
ments of the decayed flowers; and Fig. 2. the buds of the blossoms hanging pendant;
though the fruit generally grow erect to footstalks of above an inch long, and are
usually of the size of a large Walnut round, but compressed; having a very rough
russet coat of a brown colour, with a sharp brittle spine growing out of it.
Under this coat is a spongy pulp, full of milky juice, of a pleasant sweetness
when the fruit is perfectly ripe; but if not, very astringent and disagreeable.
Several hard seeds are contained within the fruit, of the form here exhibited.
These Trees grow on Andros, and some other of the Bahama Islands, and are food
for, and much covered by Birds, Guana's, and other animals.

*Convolvulus foliis variis, inferioribus trifarium divisis,
superioribus sagittatis; floribus ex rubro purpureis.*

This Convolvulus climbs upon trees and shrubs in dark thickets and
shady woods. The leaves are sharp-pointed, in form not unlike
the head of an arrow or javelin; except some, leaves towards the root
were trifoliate, and remarkably different from the rest. The flower
is tubulous, with an open pentagonal cup, and of a purple red colour.
This with the Anona i found joined in the manner here exhibited.

*Viscum radice bulbosa, Floris labello carneo,
ceteris sordide luteis.*

This bulbous-rooted Plant grows only to the trunks, and on the limbs of trees: its fibres insinuating into the crevices of the bark, where they take such firm rooting, that great strength is required to tear them from the trees. The roots grow many of them in a cluster; from each bulb rise one, and sometimes two smooth yellow green leaves, like those of a Narcissus, except that they are concave on the inside, and capable of receiving and conveying water to the roots also arise a single stiff, small stalk, of about sixteen inches in length; on the top of which are set several flowers, each consisting of five dirty yellow petals, spreading open at equal distances, in the center of which came forth the remaining part of the flower resembling somewhat the flower of an Orchis, as exhibited here in its proper appearance in different positions. They grow on the Bahama Islands.

*Viscum Caryophylloides, Liliæ albi foliis, Floris labello brevi
purpureo, ceteris petalis ex luteo virescentibus.*

These Plants, after the manner of the precedent, grow upon trees, and sometimes upon rocks, being also bulbous; one bulb producing usually two lily-like leaves, between which shoots up a green succulent stalk, with flowers at the top, set alternately on inch-long footstalks, as appears in the figure. These also grow on the Bahama Islands.

Papilio, &c.

The body of this Butterfly is black, with a few white spots near the head. The ground of all the wings is red, through which runs many black lines or ribs in different directions: the wings are verged round with black, through which runs a double line of white spots. The outermost corner of the two fore wings are blended with red and black, with some larger spots of white. These butterflies are common in most of the northern colonies in America.

pp. 89.
*Cuscuta Caryophylloides angustifolium, Floribus longis tubulosis
caeruleis, ex spicis Squamosis, caeruleis erumpentibus.*

The Wild Pine.

This Plant rises from a round tuberous root with many fibres spreading on the surface of the limbs and branches of Trees; insinuating a little way into the bark; from the root grow many concave leaves, folded in a manner like those of the Anonas; the outsides are prominent and large below, tapering into narrow grassy points, reflected back and hanging down: from the middle rises a round straight stalk, at the top of which are placed five (more or less) red scaly spikes, five or six inches long; from the sides of which shoot forth obliquely, several cylindrical, tubulous, monopetalous, blue flowers, with several stamina, and a yellow stilius: the flower, consisting of one leaf only, is folded spirally in a singular manner. These Plants grow to various sizes, from one to two feet and upwards in height, growing always erect.

But what recommends this useful and very singular Plant is, that its hollow leaves overlapping over one another, are so closely placed, that one Plant will contain two quarts of clear water. In many countries between the Tropicks, that are destitute of water, having neither springs nor rivers, these Plants abound, and are of great benefit in relieving the thirsty in distress, as I have often experienced in draughts of this refreshing water, which, though receiving the heat of the Sun's perpendicular rays, was always as cool as from a spring.

These Plants are common on many of the Bahama Islands, and usually grow on large Trees, particularly to Mahogany, Sappadillo, Mancanel, &c. which are sometimes so covered with them, that they seem to be the leaves and blossoms of the Tree on which they grow, and make a very elegant appearance.

*Locusta Caroliniana, elytris fuscis; alis interioribus
nigris, ad extremitates luteis.*

The whole body, with the legs and the two fore wings, of this Grasshopper are of a brown colour; the two broad wings which are placed behind, are black, and bordered with yellow towards their extremities. These Grasshoppers are found in Carolina.

pag. 90
Ketmia, amplissimo Tilia folio, subtus
argenteo, flore magno luteo.

The Maho-Tree.

These Trees usually rise with several stems about five or six inches thick, and twenty-five or thirty feet high, with a light brown smooth bark. The leaves are set on pretty long footstalks, and are in shape of an heart, their under sides being of a pale light green. Its flowers are composed of five yellow petals, standing in a green perianth or phyllous calix. Its seed-vessel is divided into five cells, by the same number of thin membranes, and contain many black seeds, formed like those of the Mallow kind. The inner rind of this Tree is very strong, and of great esteem, which the following recital from Dampier may serve to illustrate: "They the Musketo Indians make their lines, both for fishing and striking, with the bark of maho, which is a sort of Tree or shrub that grows plentifully all over the West Indies, and whose bark is made up of strings, or threads, very strong; you may draw it off either in flakes or small threads, as you have occasion. It is fit for any manner of cordage; and privateers often make their rigging of it."

Sir Hans Sloane, in his Nat. Hist. of Jamaica, vol. 1. p. 215. has been yet more particular in the uses of this Tree.

pag. 90. *Phalena fusca*, &c.

The under part of the body of this Moth is of a dusky white, encompassed by five brown rings; the ground colour of all the rings on the under side is brown, and blended with innumerable waved lines: near the shoulder of each upper wing is a black spot, in form of an horseshoe, in the curve of which is a white spot, at the further corners of the same wing is another black spot shaped like an heart, near which are two other black marks, in form of Pellemmites. The lower part of these upper wings are also bordered with broad waved white lines. On the upper part of the lower part of the wings are two black spots, in form likewise of an heart, with a crescent of yellow in the middle of each; below which are two other yellow crescents bordered with black, and below them are two large black spots, in each of which is a narrow semicircle of white, and bordered with a list of yellow, over which joins a crescent of black, and above that another of brown.

pag. 91. *Caryophyllus Spurius inodorus*, Florio
subrotundo scabro, flore racemoso hexa-
petaloide coccineo speciosissimo.

Hist. Jam. Vol. II. p. 20. T. 164.

These shrubby trees grow from eight to twelve feet in height, and are usually four or five inches thick, with a yellowish brown bark, the leaves are placed alternately: they are of a dark green colour, and very rough, shaped like an heart. The flowers grow many of them together: they are red, tubulous, spreading open at the top, and divided into six sections, the whole standing in a yellowish brown calix. The fruit is in size and form of a pigeon's egg, covered with a pale green smooth skin. The flesh is of the consistence of an apple, and, when ripe, smells very much like it: in the middle lies a large stone, in form of a pear, and resembles a dry tulip-root. The wood is of a very dark brown colour, approaching to black, very poudorous, and contains much gum, in smell and appearance resembling aloes; and is by the inhabitants of the Bahama Islands (where it grows) called lignum aloes.

Fig. 91
This *Convolvulus minor Pentaphyllos flore purpureo minore.*

This convolvulus is always found trailing upon Trees and Shrubs; and, as I found two such elegant Plants in their natural embraces, I thought it better to exhibit them here in that very appearance, than to divorce them: the leaves are digitated; the flowers are rather tubulous than bell shaped, the outsides of them are light green, the inside purple, with their verges reflected hairs, and divided into six sections. They grow on rocks on many of the Bahama Islands.

*Phalana ingens, Caroliniana, oculata è luteo
fusca, lineis dilute purpureis insignata.*

The Great Moth.

This moth hath a large hairy body, encompassed by six brown rings: the antennae are feathered: the ground colour of the backside of both pair of wings is of a reddish yellow colour, with the following marks; in the middle of each of the upper wings is an oval eye, or transparent spot bordered with black: and at the further corner of the same pair of wings, are in each two small black spots; a purple and white angular line crosses each of these wings towards the bottom. The lower part of the wings are adorned also with two transparent spots or eyes, encompassed with black, blue, and yellow borders. A broad black list, joined to another of purple, crosses these wings toward the bottom.

pag. 92. *Plumeria Flore roseo odoratissimo.*
Tournef. Inst.

These Trees rise usually to the height of about fourteen or sixteen feet, with a trunk five or six inches thick, from which shoot irregularly its branches, which are large and succulent, on the top of which are placed the leaves and flowers. The leaves grow many of them together; they are about seven or eight inches in length, and two or three broad, of a shining green. The flowers are tubulous, and are divided into five segments; they are of a rose colour, and very fragrant. The seeds are contained in a double pod, like the rest of the *Meriums*. This elegant Plant was at first introduced from the continent of America to Barbadoes, and other of our Sugar Islands, where it is planted in gardens, and in great esteem for its odour and ornament.

19. *Plumeria flore niveo, foliis brevioribus obtusis.*

Plum. Cot

This shrub grows usually to the height of ten feet. Its leaves are long, in form like those of the Oleander, but somewhat blunted at their ends: they grow in bunches, at the ends of the branches, from which also rises a succulent shining green stalk, five inches long; on the top of which grow the flowers, in a cluster, which are mostly white, monopetalous, and tubulous, divided at the top into five deep sections, the inside of which is yellow, as is the outside of the tube, though not so bright. The seed vessel is a double pod, seven inches long, curved at the inside, and both ends meeting. At their times of maturity, the curved side of each pod splits open, and displays the seeds, which are disposed in like manner as the scales of fish.

Grandilla foliis Sarsaparillae trinerviis; flore purpureo;
Fructu Olive formi caeruleo.

The leaves of this kind of Papions-flower are of an oblong oval form having three parallel ribs, extending from the stalk to the end, with smaller veins, running obliquely to their edges; the flower is made up of ten narrow purple petals; five of which are long, the other five about half as long: the pointal, arising from the center of the flower, is longer than any other of this tribe, that I have observed. The embryo, at the end of it, swells to a fruit, of the size and form of an olive. These plants, as likewise the plant on which this is supported, grow plentifully on many of the Bahama Islands, where I painted them in the natural appearance as is here represented.

pag. 94. *Cerasus latiore folio; fructu racemoso
purpureo majore.*

Pigeon Plum.

This is a large tree, with a smooth light coloured bark; the leaves are about the size of those of a pear, but more rounding at the points. The fruit is round, and grows in bunches like currants, but larger, and of a purple colour, with a single stone in the middle. In December the fruit is ripe, and is the food of Pigeons, and many wild animals: it is a pleasant tasted fruit; the wood is hard and durable. It grows on rocks, on many of the Bahama Islands.

Eruca maxima cornuta. Hist. Nam. Vol. II. p. 220.

The great horned Caterpillar.

This Caterpillar is about four inches long, besides the head and tail; it consists of ten joints, or rings of a yellow colour: on the head, which is black, grows four pair of horns, smooth, and of a reddish brown towards the bottom, jagged or bearded, and black towards the top: on each of the rings arise short jagged black horns, one standing on the back and two on each side, below which is a round trachea on each side: likewise the horn of the back of the last ring is longest: the flap of the tail is of a bright bay colour. It hath eight feet, and six papillae.

pag. 95: *Mancanilla Pyri facie.*

Plumier Plant. Americ.

Juglandi affinis Arbor Dulcifera, &c.

Hist. Jam. Vol. II. p. 3.

The Mancaneel Tree.

These Trees usually grow to a large size, having a light coloured smooth bark under which is contained a white milky juice, of a very poisonous nature: the leaves are smooth, serrated, somewhat short and pointed. The flowers grow at the ends of the branches, consisting of small tufts of little yellow papery blossoms, placed at intervals, the length of about three inches. The fruit was the size of the figure, growing erect, and shaped like a pear, or rather a fig; but not being ripe, or even full grown, I had no opportunity of seeing its seeds which Sir Hans Sloane in his Nat. Hist. of Jamaica, says, are several, somewhat resembling those of a melon, and are contained in a roundish very hard stone, with many sharp points on each side of it.

The wood of this Tree is close grained, very heavy and durable, beautifully shaded with dark and lighter streaks, for which it is in great esteem for tables and cabinets, and other curious works in joinery: but the virulent and dangerous properties of these Trees causes a general fear, or at least caution in felling them. This I was not sufficiently satisfied of, till, assisting in the cutting down a Tree of this kind on Andros Island, I paid for my incredulity; some of the milky poisonous juice spouting in my eyes. I was two days totally deprived of sight, and my eyes and face much swelled, and felt a violent pricking pain the first twenty-four hours, which from that time, abated gradually with the swelling, and went off without any application or remedy; none in that uninhabited

habited island being to be had. It is no wonder that the sap of the Tree should be so virulent, when rain or dew, falling from its leaves on the naked flesh, causes blisters on the skin; and even the effluvia of it are so noxious, as to affect the senses of those, which stand any times under its shade. Other malignant effects are commonly attributed to it, but I think with little probability; one charge of their pernicious quality is, that animals which feed on the fruit, are so infected by it, that death is often the fate of those that feed on such animals: this is refuted in the instance of Guana's feeding on the Apples of Mancaneel, without harm to those, who eat these same Guana's, p. 64. vol. II. The report also that the Paracoudas, and other fish receive their poisonous quality by feeding on Mancaneel Apples, this is likewise erroneous: there being very few of these Trees on those of the Bahama Islands I was at, and none growing on the sea shore, nor within many miles of those parts of the Bahama seas, where these infectious fish are known to abound; and, admitting they were in plenty, the nature and position of the land admits of no conveyance, by channels or otherwise, into the sea. Thus it is evident, that the fruit of these Trees will not infect the flesh of animals, and, supposing they had that effect, the quantity of the fruit received into the sea, would not be sufficient to infect the thousandth part of the fish that are generally known to be poisonous. As to the real cause of poisoned fish in the Bahama seas, and elsewhere near the Tropicks, I shall attempt to account for it in another place. In the mean time, I beg leave to refer to the above learned author, who has given farther particulars relating to this remarkable Tree, in his Natural History of Jamaica, Vol. II. p. 4.

pag. 95. *Viscum foliis latioribus; baccis purpureis
pediculis incidentibus.*

The leaves of this Mistletoe grow by pairs; they are narrow at their beginning, and broad at their ends, set on slender pliant stalks growing confusedly, after the manner of the common Mistletoe: between every pair of leaves shoot forth two slender stalks of about two inches long, with pairs of oblong purple-coloured berries, set opposite to each other. These plants I found growing on many of the Mancaeel Trees, but did not observe them on any other Tree.

*Papilio medius, Gadetanus, ex nigro et
Sulphureo varius, maculis coccineis
notatus.*

The upper part of the body of this Fly is black, with two rows of red spots, between which, on each side, are the like number of white spots; the upper sides of the four wings are variously marked with yellow, brown, and red spots, which last are all encompassed with brown: the under part of the wings are differently marked, though with the same colours, except that the two lower wings have a large portion of white.

pag. 96. *Prunus maritima racemosa*, folio
rotundo glabro; fructu minore purpureo.

Hist. Nam. Vol. II. p. 129.

The Mangrove Grape-Tree.

The trunk of these Trees are frequently two feet thick, and seldom
aspire above the height of twenty or twenty-five feet; the bark
is smooth, and of a brown colour: The leaves are set alternately,
they are thick, broad, and almost round, and are eight, and some-
ten inches diameter; their middle ribs are large, and of a purple
colour, as are the smaller veins: below the pedicles of the leaves
the stalks are surrounded with a thin purple skin, or membrane
an inch in width. The flower stalks are usually ten inches long,
thick, succulent, and spongy, and rise at the pedicles of the leaves,
usually standing upright; these stalks, except about three inches
of their lower parts, are thick set to the end, with small pento-
petalous, greenish white flowers, with yellow stamina: these flowers
are succeeded by pear-shaped fruit, about the bigness of cherries,
resembling them also in the consistence of their pulp, and smooth
skin; but are of a purple colour, inclosing a roundish shell,
thinner than that of a filbert, and pointed at one end, within
which lies the Kernel, of a singular and pretty form, being flat

at one end, and conic at the other, divided by three deep furrows. This fruit as a refreshing agreeable taste, and is esteemed very wholesome; but if the stone be kept long in the mouth, it is violently astringent: I never saw any but what grew near the sea. They are plentiful on many of the Bahama Islands, and in many other countries between the Tropicks, but are no where to be found north or south of them. The flower-stalk, when the fruit approaches to ripeness, is shrunk, and much less than when the blossoms were on it.

Dampier says, the wood of this Tree makes a strong fire, therefore used by the privateers to harden the steels of their guns, when faulty.

*Phalena Caroliniana, minor; fulva, maculis
nigris alba linea, pulchre aspersis.*

Pet. Gaz. Nat. Tab. III. Fig. 2.

This Moth has a dusky white body, with a few black spots near the head: the two upper wings are yellow; each of which is crossed by six white lines, spotted with black: the two under wings are red, with their lower parts verged with black. These Moths are found in Carolina.

pag. 97. *Acacia foliis amplioribus;*
Siliquis cincinnatis.

Plum. Cat.

In the Bahama Islands, these Trees grow to about fifteen inches in thickness, and thirty or more feet in height, with a rough brown bark. The leaves are like those of the *Phillirea*, growing by pairs. The flowers are globular, composed of numerous scarlet filaments, produced from small green capsulas: many of the flowers grow together on long foot-stalks, at the ends of slender branches, making an elegant appearance. The flowers are succeeded by pods, of a reddish brown colour, containing many flattish round shining black seeds, which when ripe, are discharged from out of the pods, but hang thereto by a scarlet mucilaginous substance, which incloses a third part of every seed. The pods grow three or four together, in a wreathed or spiral manner which nature seems to have designed for displaying its beauty to advantage; for, had the pods been strait, as those of French Beans, these glittering seeds would have been much obscured. The seeds are food of wild pigeons, &c.

pag. 97. *Papilio diurna*, prima, omnium maxima.
Mouffet, p. 98. Raii Hist. Insect. p. 111. Mamankanois
in M. S. D.ⁿⁱ Gualteri Raleigh penes D. Hans Sloane.

The body of this Fly is yellow and black, the eyes Spherical;
it is eight inches from the extremity of one upper wing
to the other, which are pointed, as are likewise the bottom
of the under wings: The edges of the four wings are indented,
except the upper margin of each pair: The area or ground
of the four wings is of a brimstone colour: The anterior margins
of the upper wings are verged with black, having several
stripes or lists running transversely across the wings, from which
run many black lines. The under part of all four wings are
deeply verged with black, and spotted with yellow crescents: The
verges of the lower wings having also some round blue spots.

pag. 98. *Chamaedaphne foliis Tini,*
floribus bullatis umbellatis.

This ever-green Shrub rises usually to the height of five or six feet, and sometimes to twice that height: The stems of some are as big as the small of a man's leg, though generally they are smaller, and covered with a rough brown bark. The wood is very close grain'd, heavy and hard like Box. The limbs in general are crooked, and grow irregular, but are thick clad with stiff smooth leaves, of a shining bright green, most of which are contracted, as in the figure. The flowers grow in bunches, on the tops of the branches, to footstalks of three inches long; they are white, stained with purplish red, consisting of one leaf in form of a cup, divided at the verge into five sections, form of a cup, divided at the verge into five sections; in the middle is a stibus and ten stamina, which, when the flowers first open appear lying close to the sides of the cup, at equal distances, their apices being lodget in ten little hollow cells, which, being prominent on the outside, appear as so many little tubercles: the flowers are succeeded by small round capsulas, which, when ripe, open in five parts, and discharge its small dust like seeds. This Plant is a native of Carolina, Virginia, and other parts of the northern continent of America, yet are not common, but are

found only in particular places. They grow on rocks, hanging over rivulets, and running streams, and on the sides of barren hills, in a soil the most sterile, and least productive, of any I ever saw.

The noxious qualities of this elegant Plant lessens that esteem which its beauty claims; for the deer feed on its green leaves with impunity: yet when cattle and sheep, by severe winters deprived of better food, feed on the leaves of these Plants, a great many of them die annually. They blossom in May, and continue in flower a great part of the Summer.

As all Plants have their peculiar beauties, it is difficult to assign to any one an elegance, excelling all others; yet, considering the curious structure of the flower, and beautiful appearance of this whole Plant, I know of no shrub that has a better claim to it. After several unsuccessful attempts to propagate it from seeds, I procured Plants of it at several times from America, but with little better success; for they gradually diminished, and produced no blossoms, till my curious friend Mr. Peter Collinson, excited by a view of its dried specimens, and description of it, procured some Plants of it from Pennsylvania; which climate being nearest to that of England, than from whence mine came, some bunches of blossoms were produced in July 1740, and in 1741. in my garden at Fulham.

pag. 99. *Xenchrameda Arbor saxis adnascens,*
obrotundo pingui folio; fructu pomi forma, in
plurimas capsulas granula fixa stilo columnari
octogono praeduro adhaerentia continentibus diviso;
Balsamum fundens. Pluk. Almag.

The Balsam-Tree.

These Trees usually grow about six inches thick, and twenty feet in height, having a smooth light coloured bark. The leaves grow by pairs; they are thick and succulent, having a large rib in the middle, from which run transversely narrow striae, parallel and close to one another. In June, it produces ample flowers, composed of six white petals, stained with purple: in the middle of the flower is formed the rudiment of the fruit, which is almost spherical, and increases to the size of a middling apple from the stalk to the crown of the fruit rung eight lines, like the meridians on a globe, from pole to pole.

When the fruit becomes ripe, it opens at these lines, and divides into eight parts, disclosing many mucilaginous scarlet seeds resembling those of a pomegranate; the mucilage being washed off, the seeds appear white, and hard, containing a kernel: these seeds are contained in the hollow furrows of an octogon.

one. The whole plant is exceeding beautiful; and particularly the structure of the fruit, in all its parts, is a most exquisite piece of natural mechanism.

These Trees grow on rocks, and frequently on the limbs and trunks of Trees, occasioned by Birds scattering or voiding the seeds; which, being glutinous, like those of Mistletoe, take root and grow. But, finding not sufficient nutriment to increase in growth, the roots spread on the bark or superficies of the Tree, till they find a decayed hole or other indolment, wherein is some small portion of soil, into which they penetrate and become a Tree: but the fertility of this second plantation being exhausted, one or more of the roots are discharged out of the hole, and fall directly to the ground, though at forty feet distance; here again they take root, and become a much larger Tree than before. The resin of this Tree is used for the cure of sores in horses, and also instead of tallow for boats and other vessels. They grow on the Bahama Islands, and on many other islands of America, between the Tropicks.

- N^o 1 Shews the appearance of the flower before it opens.
2. The same in another position.
3. The flower wide open.
4. The fruit white, young, with the resin sticking to it.
5. The fruit at its full size.
6. The fruit open, and displaying its scarlet seeds.

*Frutex spinosus Buxi foliis, plurimis
simul nascentibus; flore tetrapetaloides, pendulo,
sordide flavo, tubo longissimo; fructu ovali croceo,
semina parva continente.*

Catesbea + Lycium Catesbii, Authore D. Gronovio

*Calix. Perianthium quadridentatum, minimum, acutum,
persistens.*

*Corolla. Monopetala, infundibuli-formis: Tubus omnium
longissimus, rectus; superne sensim crassior. Limbus
semiquadrifidus, latus, erecto planus.*

*Stamina. Filamenta quatuor, intra collum tubi enata. Anthe
oblongae, erectae, corolla fere longiores.*

*Pistillum. Germen subrotundum, infra receptaculum floris. Stylus
filiformis, longitudine corollae. Stigma simplex.*

Pericarpium. Bacca ovalis, coronata, unilocularis.

Semina. Plura angulata.

Near the Town of Nassau, in Providence, one of the Bahama
Islands, I saw two of these Trees growing, which were all I ever
saw; the largest of them was about four inches thick, and twelve or
fourteen feet in height: the bark was smooth, of a greenish russet colour
and the wood seemingly tough and hard. The leaves were like those of *Bac-*

but smaller, they grow in clusters round the stalks, by intervals of an inch space, more or less: from every cluster shoot forth two sharp spliant spines. The flowers are tubulous, of a yellow colour, about six inches long, hanging pendulous: they are monopetalous, being very small at the calix, and wide at the mouth, in form of a Roman trumpet, except that their verge is divided into four deep segments, which are usually reflected back.

The fruit is of an oval form, and of the size of a pullet's egg: the flesh or pulp of it is like that of a ripe apple, covered with a smooth yellow skin; the middle of the fruit is hollow, containing many small triangular seeds, adhering to a pithy Placenta, which runs through the fruit.

The fruit has an agreeable tartness and good flavour, and seems as if it was capable of being improved by cultivation, but is little known. In the year 1726, there were several young Plants of it raised by many, to whom I distributed seeds, that I brought from Providence; but none were so successful in raising it, as Mr. Powers, a skilful and curious gardenet, at Mr. Blashwait's, of Dertam, near Bath, who raised a Plant which produced many fair and ample blossoms: some specimens of which he sent to my friend Mr. Peter Collinson, in the year 1724.

T. N. B. It is not without reluctancy, that I here exhibit a Plant with my own Name annexed to it; but the regard and obligations I owe to my learned friend Dr. J. F. Gronovius, of Leiden, who was pleased some years since to honour me, though undeservedly, with the title of this genus, obliges me not to suppress it.

Papilio caudatus Carolinianus;
fuscus, striis pallentibus; linea et maculis
sanguineis subtus ornatus.

Per. Mus. p. 50. N.º 508.

The back of this Butterfly is black, as is the ground of the four wings: Several white lists cross the upper wings obliquely, the two under wings have likewise two white list extending downwards: they have besides four white spots, with one red and a blue spot in each wing; the under side of the wing, besides seven white lines, has two red, and three blue spots.

Tinis.

An Account of
Carolina,
And The
Bahama Islands.
of Carolina.

Carolina was first discovered by Sir Sebastian Cabot, a native of Bristol, in the reign of King Henry the Seventh, about the year 1500; but the settling of it being neglected by the English, a colony of French Protestants, by the encouragement of Gaspar Coligni, Admiral of that Kingdom, were transported thither, and named the place of their first settlement Arx Carolina, in honour of their Prince Charles IX. King of France; but in a short time after, that Colony was by the Spaniards cut off and destroyed, and no other attempt made by any European Power to resettle it, till the 29th of May 1604. when eight hundred English landed at Cape Fear, and took possession of the Country; and in the year 1670, King Charles II. in pursuance of his claim by virtue of the discovery, granted it to certain noble persons, with extraordinary privileges, as appears by the patent of that King unto George Duke of Albemarle, Edward Earl of Clarendon, William Earl of Craven, John Lord Berkeley, Antony Lord Ashley, Sir George Carterwright, Sir William Berkeley, and Sir John Colinton, Baronet. who were thereby created true and absolute Lords and Proprietors of the Province of Carolina, to hold the same in Capite of the Crown of England to them, their Heirs, and Assigns, for ever.

of the Air of Carolina. pag. I

Carolina contains the northernmost part of Florida, and lies in the Northern Temperate Zone, between the Latitude of twenty-nine and thirty-six degrees, thirty minutes North. It is bounded on the East by the Atlantic Ocean, on the West by the Pacific or South Sea, on the North by Virginia, and on the South by the remaining part of Florida. Carolina, thus happily situated in a Climate parallel to the best parts of the Old World, enjoys in some measure the like blessing. It is very little incommoded by excess either of heat or cold. June, July, and August are part of them sultry, but where the Country is opened and cleared of Wood, the winds have a freer passage, and thereby the heats are much mitigated, and the air grows daily more healthy. About the middle of August the declining of the heat begins to be perceiv'd by the coolness of the nights, and from September to June, following no Country enjoys a more temperate a The winter months are so moderate, and the air so serene, that sufficiently compensates for the heats in Summer, in which it has the advantage of all our other Colonies on the Continent; even in Virginia, though joining to Carolina, the winters are so extreme cold and the frosts so intense, that James River, where it is three miles wide is sometimes froze over in one night, so as to be passed. The colder winds in Carolina usually blow from the North-west, which in December and January produce some days of frost, but the Sun's elevation soon dissipates and allays the sharpness of the wind, so that the days are moderately warm, though the nights are cold; after three or four

Days of such weather usually follow warm sun-shiny days; that is continues many days with some intervals of cloudy weather, which is succeeded by moderate soaking showers of rain, continuing not often longer than a day, then the air clears up with a sudden shift of wind from South to North west, which again usually brings cold days, and so on.

Tho' in the beginning of February some few Trees and smaller Plants decorate the Woods with their Blossoms, yet the Spring makes but slow progress till the beginning of April, when it advances suddenly with frequent rains.

In May, June and July, it rains not often but vehemently, with much lightning, and very loud thunder, which produces numerous effects of its vehemence on Trees split from top to bottom; but as the Country is not populous, the terrible effects of these destructive phenomena happen not very often on the Inhabitants. At the latter end of July or August it rains in great quantities, usually a fortnight or three weeks, overflowing all the Savannah and lower Ground: at which time there appears wild Fowls of various sorts, particularly of the wading kinds, which retire at the fall of the water.

Usually once in about seven years these rains are attended with violent storms and inundations, which commonly happen about the time of the hurricanes that rage so fatally amongst the Sugar Islands between the Tropicks, and seem to be agitated by them, or from the same cause, but are much mitigated in their force by the time they reach Carolina; and though they affect all the Coast of Florida, yet the further North they proceed, so much the more they decrease in their fury, Virginia not having often much of it, and North of that still less. Though these hurricanes are seldom so violent as in the more Southern parts, yet in September 1718, the winds raged so furiously, that it drove the Sea into Charles-Town, damaging much the fortifications, whose resistance it was thought preserved the town. Some low situated houses, not

fast from the Sea, were undermined and carried away with the Inhabitant
Ships were drove from their anchors far within Land; particularly a Sloop
in North Carolina was drove three miles over Marshes into the Woods. Another
in like manner was drove on Land, and wedged in between two Trees, the
hull of which in that situation I saw some years after; and to the best of my
memory, the Keel was ten or twelve feet above the ground: This last was in
Nathera, one of the Bahama Islands.

In Woods of Pine Trees are frequently seen glades or openings, occasioned
the fall of Trees, which lie prostrate one way, by which is formed a strict
and regular avenue an hundred feet wide, more or less, and some miles long.
These are likewise the effects of violent gusts of Wind.

Those parts of Carolina near the Sea are not always exempt from fogs; but
the upper parts of the Country are seldom otherwise than serene.

In February and March the Inhabitants have a custom of burning the Woods
which causes such a continual Smoke, that not knowing the cause, it
might be imagined to proceed from fog, or a natural thicknes in the
p. II. Likewise the Smoke of the Tar-Kilns contribute not a little to deceive
Strangers, and possesses them with an ill opinion of the air of Carolina.
To these, an annual custom of the Indians in their huntings, of setting
the Woods on fire many miles in extent.

p. III. The Northern Continent of America is much colder than those parts of
Europe which are parallel to it in Latitude. This is evident from the
real effects the frosts have on many Plants in Virginia, that grow as
stand the Winters in England, though 15. Degrees more North; and
what more confirms this is the violent and sudden freezing of
large Rivers, as before-mentioned.

Admitting from these circumstances, that in the northernmost part of our Island the frosts are not more intense than in Virginia, it will then appear that the Winters in Virginia, though in the Latitude of 37. Degrees North, and parallel with the South-Part of Spain, are as cold as in the North Part of Scotland, which is in the Latitude of 57, that is 20 Degrees more North.

This great disparity of Climate, holds throughout our Northern Colonies: Newfoundland, and the South of Hudson's Bay, being not habitable for cold, though in the Latitude of the South Parts of England.

The frosts of Carolina and Virginia continue not long without intervals of warmer weather, yet by their ill effects cause a deficiency of many useful productions, which Countries in the same Latitude in Europe are blessed with, such as Wine, Oil, Dates, Oranges, and many things impatient of hard frost.

There has indeed of late been some efforts towards the making of Wine both in Virginia and Carolina; the success of which, time will discover.

Some Oranges there are in Carolina, but in the Maritime Parts only. I never have nor heard of one produced ten miles from Salt Water. Such is the great difference of Temperature between the Maritime Parts, and those lying distant from the Sea, as the following instance may serve to illustrate.

Accomack is a narrow slip of Land in Virginia, having the Sea on one side, and the Bay of Chesapeak on the other. Here I saw Fig-trees, with trunks of a large size, and of many years standing ^{p. iii.} without any injury received by hard weather. On the opposite shore were only Fig-trees of a very small size occasioned by their being often killed to the ground.

Yet this is not so remarkable, as that the same kind of Tree will endure the cold of Carolina, five miles distant from the Sea, so well as Accomack, though five or six Degrees North of it.

Many, or most part of the Trees and Shrubs in Carolina, retain their verdure

all winter, though in most of the low and herbarious Plants, Nature has required a respite; so that the grass, and what appears on the ground looks withered and rusty, from October to March.

Of the Soil of Carolina.

The whole Coast of Florida, particularly Carolina, is low; defended from the Sea by Sand-banks, which are generally two or three hundred yards from low-water mark, the Sand rising gradually from the sea to the foot of the Bank, ascending to the height of fourteen or sixteen feet. The Banks are cast up by the sea, and serve as a boundary to keep it within its limits. But in hurricanes, and when strong winds set on the shore, they are then overflowed, raising innumerable hills of loose sand further within Land, in the hollows of which, when the water subsides, are frequently left infinite variety of Shells, Fish, Bones, and other refuse of the Ocean. The sea on these Coasts seldom makes any sudden or remarkable revolution but gets and loses alternately and gradually.

A Grampus cast on the shore of North Edisto River, sixteen feet long, observed was in less than a month covered with sand. Great winds often blow away the sand two or three feet deep, and expose to view numbers of shells and other things, that has lain buried many months, and sometimes years.

At Sullivan's Island, which is on the North side of the entrance of Charleston Harbour, the Sea on the West side has so incroached (though most defended, it being on the contrary side to the Ocean) that it has gained in three years time, a quarter of a mile, laying prostrate, and swallowing up vast Pine and Palmeto-trees. By such a progress, with the assistance of a few hurricanes, it probably, in some few years, may wash away

the whole Island, which is about six miles in circumference.

At about half a mile back from the Sand-banks before-mentioned, the soil begins to mend gradually, producing Bays, and other Shrubs; yet till at the distance of some miles, it is very sandy and unfit for tillage, lying in small hills, which appear as if they had been formerly some of those Sand-hills formed by the Sea, though now some miles from it.

Most of the Coast of Florida and Carolina, for many miles within Land, consists of low Islands, and extensive Marshes, divided also by innumerable Creeks, and narrow muddy Channels, thro' which only Boats, Canoes, and Beriguanas can pass.

These Creeks or rather Gutters, run very intricately through the Marshes, by which in many places a communication is necessitated to be cut from one Creek to another, to shorten the passage, and avoid those tedious meanders.

These inland passages are of great use to the Inhabitants, who without being exposed to the open Sea, travel with safety in Boats and Beriguanas; yet are necessitated sometimes to cross some Rivers and Sounds, eight or ten miles wide, or go far about. The further parts of these Marshes from the Sea, are confined by higher Lands, covered with Woods, through which, by intervals, the Marsh extends in narrow tracts higher up the Country, and contracts gradually as the ground rises. These upper tracts of Marsh-Land, by their advantageous situation, might with small expence be drained, and made excellent Meadow-land, the soil being exceeding good. But so long as such spacious tracts of higher Lands lie uncultivated, and continue of no other use than for their Cattle to range in, such improvements are like to lie neglected, and the Marshes, which is a considerable part of the Country,

remain of little or no use.

The Soil of Carolina is various; but that which is generally cultivated consists principally of three kinds, which are distinguished by the names of Rice Land, Oak and Hickory Land, and Pine barren Land. Rice Land is most valuable, though only productive of that grain, it being too wet for any thing else. The situation of this Land is various, but always low, and usually at the head of Creeks and Rivers, and before they are cleared of wood are called Swamps; which being impregnated by the washings from the higher Land in a series of years are become vastly rich, and deep of soil, consisting of a sandy loam of a dark brown colour. These Swamps, before they are prepared for Rice, are thick, over-grown with Underwood and lofty Trees of mighty bulk, which by excluding the Sun's beams, and preventing the p. iv. exhalation of these Stagnating Waters, occasions the Land to be always wet, but by cutting down the wood is partly evaporated, and the Earth better adapted to the culture of rice; yet great Rains, which usually fall in the latter part of the Summer, raises the Water two or three feet, and frequently cover the Rice wholly, which nevertheless, though it usually remains in that state for Weeks, receives no detriment.

The next Land in esteem is that called Oak, and Hickory Land; these Trees, particularly the latter, being observed to grow mostly on good Land. This Land is of most use, in general producing the best Grain, Pulse, Roots, and Herbage, and is not liable to inundations; on it are also found the best kinds of Oak for timber, and Hickory, an excellent wood for burning. This Land is generally light and sandy with a mixture of loam.

The third and worst kind of Land is the Pine barren Land, the name implying

its character. The soil is a light Steril sand, productive of little else, but Pine-Trees, from which notwithstanding are drawn beneficial commodities, of absolute use, in Ship-
ping, and other uses, such as Masts, Timber &c. Pitch, Tar, Resin and Turpentine. One
third part of the Country is, I believe, of this Soil.

Though what is already said may suffice for a general description of the inhabited Land
of Carolina, and of which the greatest part of the Soil consists, yet there are some Tracts
interspersed of a different nature and quality; particularly Pine-Lands are often
intermixed with narrow tracts of low Lands, called Bay-Swamps, which are not confined
by steep banks, but by their gradual sinking seem little lower than the Pine-Land
through which they run. In the middle of these Swamps, the Water stands two or three
feet deep, shallowing gradually on each side. Their breadth is unequal, from a quarter
to half a mile, more or less, extending in length several miles. On this wet Land grows
a variety of ever-green Trees and Shrubs, most of them Aquaticks, as the Alcea Flo-
ridana, Red Bay, Water Tupelo, Alaternus, Whorts, Smilax, Cistus Virg. or the upright
Tomysuckle, Magnolia Lauri, folio &c.

The Swamps so filled with a profusion of fragrant and beautiful Plants, give a most
pleasing entertainment to the Senses; therein excelling other parts of the Country; and
by their closeness and warmth in Winter are a relief to many of the wading and
waterfowls. This Soil is composed of a blackish sandy Loam, and proves good Rice-
Land; but the trouble of grubbing up, and clearing it of the Trees and Underwood has
been hitherto a discouragement to the culture of it.

Another kind of Land may be observed more Steril than that of Pine barren Land.
This Land is rejected, and not capable of cultivation, and produces nothing but shrub-
by Oaks, bearing Acorns at the height of two feet. I think it is called Shrubby
Oak Land.

All the lower (which are the inhabited) parts of Carolina, are a flat sandy Coun-
try; the Land rising imperceptibly to the distance of about one hundred miles

From the Sea, where loose Stones begin to appear, and at length Rocks, which at the nearest approach to the Mountains, increase in quantity and magnitude, forming gradual Hills, which also increase in height, exhibiting extensive and most delightful prospects. Many spacious tracts of Meadow Land are confined by these rugged Hills, burdened with grass six feet high. Other of these Vallies are replenished with Brooks and Rivulets of clear water, whose banks are covered with spacious tracts of Canes, which retaining their leaves the year round, are an excellent food for Horses and Cattle, and are of great benefit particularly to Indian Traders, whose Caravans travel these uninhabited Countries; to these shady thickets of Canes (in sultry weather) resort numerous herds of Buffelo's, where solacing in their limpid streams they enjoy a cool and secret retreat. Pine barren, Oak, and Hickory Land, as has been before observed to abound in the lower parts of the Country, engross also a considerable share of these upper parts.

The richest Soil in the Country lies on the Banks of those larger Rivers, that have their sources in the mountains, from whence in a series of time has been accumulated by inundations such a depth of prolific matter, that the vast burden of mighty Trees it bears, and all other productions, demonstrates it to be the deepest and most fertile of any in the Country. Yet pity it is that this excellent Soil should be liable to annual damage from the same cause that enrich'd it, for being subject to be overflow'd lessens the value of it. In other places on the banks of these Rivers extend vast thickets of Cane, of a much larger stature than those before-mentioned, they being between twenty and thirty feet high, growing so close, that they are hardly penetrable but by Bears, Panthers, Wild Cats, and the like. This Land, in depth of Soil, seems equal to the preceding, and is equally liable to inundations. Though the worst Land is generally remote from Rivers, yet there are interspersed

spacious tracts of rocky ground, covered with a shallow but fertile soil. Many of these vallies are so regularly ^{p.v.} bounded by steep rocks, that in several of them remain only an isthmus, or narrow neck of land, to enter otherwise would be wholly inclosed. From these rocks gush out plentiful streams of limpid water, refreshing the lower grounds, and in many places are received into spacious basins, formed naturally by the rocks.

At the distance of about half way between the sea and mountains, ten miles wide of fort Savannah, there lies, scattered on the earth, irregular pieces of white stone, or alabaster, some very large, but in general they were from the size of a bushel to various degrees less; some lay under the surface, but none seemed to lie deep in the earth. These stones or pieces of rock extended five miles in width, where we crossed them, and, as the traders and Indians affirmed to me, three hundred in length, running in a north-westerly direction.

The Apalatchian mountains have their southern beginning near the bay of Mexico, in the latitude of 20, extending northerly on the bank of the British Colonies, and running parallel with the sea coast, to the latitude of 40. By this parallel situation of the mountains and sea coast, the distances between the mountains and the maritime parts of most of our colonies on the continent, must consequently be pretty near equal in the course of their whole extent: but as the geography of these extensive countries is hitherto imperfect, the western distances between the sea and mountains cannot be ascertained, though they are generally said to be above two hundred miles. The lower parts of the country, to about half way toward the mountains, by its low and level situation, differ considerably from those parts above them, the latter abounding with blessings, conducing much more to health and pleasure; but as the maritime parts are much more adapted for commerce, and luxury,

these delightful countries are as yet left unpeopled, and possessed by wolves, bears, panthers, and other beasts.

A great part of these mountains are covered with rocks, some of which are of a stupendous height and bulk; the soil between them is generally black and sandy, but in some places differently coloured, and composed of pieces of broken rock, and spar, of a glittering appearance, which seem to be indications of minerals and ores, if proper search was made after them. Fossil coal fit for fuel hath been discovered on Colonel Byrnes estate in Virginia: chernuts and small oaks are the trees that principally grow on these mountains, with some Chinapin, and other smaller shrubs; the grass is thin, mixed with vetch and wild peas: on some other tracts of these mountains is very little vegetable appearance.

In this state, with regard to the soil, and apparent productions, the mountains appear at the sources of the Savannah river, continuing to with little variation, as 'tis thought, some hundred miles north.

In the year 1714. I travelled from the lower part of St James's river in Virginia to that part of the Appalachian mountains where the sources of that river rise, from which to the head of the Savannah river, is about four degrees distance in latitude. As some remarks I then made may serve to illustrate what I have now said, I hope it may not be amiss to relate so much of them as may serve for that purpose.

At sixty miles from the mountains, the river, which fifty miles below was a mile wide, is here contracted to an eighth part, and very shallow being fordable in many places, and so full of rocks, that by stepping from one to another it was every where passable. Here we kill'd plenty of a particularly kind of wild geese; they were very fat by feeding

on fresh water snails, which were in great plenty, sticking to the tops and sides of the rocks. The low lands joining to the rivers were vastly rich, shaded with trees that naturally dislike a barren soil, such as black walnut, plane, and oaks of vast stature. This low land stretched along the river many miles, extending back half a mile more or less, and was bounded by a ridge of steep and very lofty rocks, on the top of which we climbed, and could discern some of the nearest mountains, and beheld most delightful prospects, but the country being an entire forest, the meanders of the rivers with other beauties, were much obscured by the trees. On the bank of this ridge of rocks the land was high, rising in broken hills, alternately good and bad. Some miles further the banks of the river on both sides were formed of high perpendicular rocks, with many lesser ones scattered all over the river, between which innumerable torrents of water were continually rushing.

At the distance of twelve miles from the mountains we left the river, and directed our course to the nearest of them. But first we viewed the river, and crossed it several times, admiring its beauties, as well as those of the circumjacent parts. Ascending the higher grounds we had a large prospect of the mountains, as well as of the ^{p. vi.} river below us, which here divided into narrow rocky channels, and formed many little islands.

So soon as we had left the river, the land grew very rugged and hilly increasing gradually in height all the way. Arriving at the foot of the first steep hill we pursued a bear, but he, climbing the rocks with much more agility than we, he took his leave. Proceeding further up, we found by many beaten tracks, and dung of bears, that the mountains were much frequented by them, for the sake of chestnuts, with which at this time these mountains abounded.

The rocks of these mountains seem to engross one half of the surface; they are most of a light gray colour; some are of a coarse grain'd alabaster, others of a

metallic lustre, some pieces were in form of flate and brittle, others in lumps and hard; some appeared with spangles, others thick, sprinkled with innumerable small shining specks like silver, which frequently appeared in stratum at the roots of trees when blown down.

These different spars appeared most on the highest and steepest parts of the hills where was little grass and fewest trees, but the greatest part of the soil between the rocks is generally of a dark coloured sandy mould, and shallow, yet fertile, and productive of good corn, which encourages the Tallipooses, a clan of the Cherikee nation of Indians, to settle amongst them, in the latitude of 34, and is the only Indian nation that has a constant residence upon any part of this whole range of mountains.

Certain places in Virginia, towards the heads of rivers, are very much impregnated with a nitrous salt, which attracts for many miles round numerous herds of cattle, for the sake of licking the earth, which at one place is so wore away into a cave, that a church, which stands near it, has attained the indecent name of licking hole Church.

Of the Water.

The largest rivers in Carolina and Virginia have their sources in the Appalachian mountains, generally springing from rocks, and forming cascades and waterfalls in various manners, which being collected in their course, and uniting into single streams, cause abundance of narrow rapide torrents, falling into the lower grounds, fill innumerable brooks and rivulets, all which contribute to form and supply the large rivers.

Those rivers which have not their sources in the mountains rise from cypress swamps, ponds, and low marshy grounds at different distances from the sea. All those rivers which have their sources in the mountains, have cataraets about one third of the distance from the mountains to the sea. These cataraets

consist of infinite numbers of various sized rocks, scattered promiscuously in all parts of the river, so close to one another, and in many places so high, that violent torrents and lofty cascades are continually flowing from between and over them. The extent of these Cataracts (or falls, as they are commonly called) is usually four or five miles; nor are the rivers destitute of rocks all the way between them and the mountains: but between these falls and the sea, the rivers are open, and void of rocks, and consequently are navigable, so far, and no further, which necessitates the Indians in their passage from the mountains, to drag their canoes some miles by land, till they get below the cataracts, from which they have an open passage down to the sea, except that the rivers in some places are incumbered by trees carried down and lodged by violent torrents from the mountains.

The coasts of Florida, including Carolina and Virginia, with the sounds, inlets, and lower parts of the rivers, have a muddy and soft bottom.

At low water there appears in the rivers and creeks immense beds of oysters, covering the muddy banks many miles together; in some great rivers extending thirty or forty miles from the sea; they do not lie separate, but are closely joined to one another, and appear as a solid rock a foot and a half or two feet in depth, with their edges upwards.

The rivers springing from the mountains are liable to great inundations, occasioned not only from the numerous channels feeding them from the mountains, but the height and steepness of their banks, and obstructions of the rocks.

When great rains fall on the mountains, these rapide torrents are very sudden and violent; an instance of which may give a general idea of them, and their ill consequences. p. VII.

In September 1722. at Fort Moor, a little fort on the Savannah river, about midway between the Sea and Mountains the waters rose twenty-nine feet in less than forty hours. This proceeded only from what rain fell on the mountains,

they at the Fort having had none in that space of time. It came rushing down the river so suddenly, and with that impetuosity that it not only destroyed all their grain, but swept away and drowned the cattle belonging to the garrison. Islands were formed, and others joined to the land. And in some places the course of the river was turned. A large and fertile tract of low land, lying on the south side of the river, opposite to the Fort, which was a former settlement of the Savannah Indians, was covered with sand three feet in depth, and made unfit for cultivation. The sterile land was not carried from the higher grounds, but was washed from the steep banks of the river. Panthers, Bears and Deer were drowned, and found lodged on the limbs of trees. The smallest animals suffered also in this calamity; even reptiles and insects were dislodged from their holes, and violently hurried away, and mixing with harder substances were beat in pieces, and their fragments (after the waters fell) were seen in many places to cover the ground.

There is no part of the Globe where the signs of a deluge more evidently appears than in many parts of the Northern Continent of America; which though I could illustrate in many instances, let this one suffice. Mr. Woodward at his plantation in Virginia, above an hundred miles from the Sea, towards the sources of Rappahannock river, in digging a well about seventy feet deep, to find a spring, discovered at that depth a bed of the *Glossopetra* one of which was sent me.

All parts of Virginia, at the distance of sixty miles, or more, abound in fossil shells of various kinds, which in strata lie imbedded a great depth in the earth, in the banks of rivers and other places, among which are frequently found the vertebrae, and other bones of sea animals. At a

place in Carolina called Stone, was dug out of the earth three or four teeth of a large animal, which, by the concurring opinion of all the Negroes, native Africans, that saw them, were the grinders of an Elephant: And in my opinion they could be no other; i having seen some of the like that are brought from Africa.

Of the Aborigines of America.

Concerning the first peoplin of America, there has been various conjectures how that part of the Globe became inhabited. The most general opinion is, that it was from the Northern Parts of Asia. The distance between the Western Parts of the old World and America is too well known to suppose a passage that way practicable from one Continent to the other. The difference from the Eastermost Part of the old World to America not being known, there is a probability that the Continent of the North-East Part of Asia may be very near, if not contiguous to that of America; or according to the Japanese Maps in Sir Hans Sloane's Museum, the passage may be very easy from a chain of islands at no great distance from each other there, laid down. The great affinity of the Americans with the Eastern Tartars in the resemblances of their features, hair, customs &c. adds some weight to this conjecture. But, without taking upon me to determine this point, i shall attempt to give some account of these American Aborigines as they now exist.

Though the difference between the inhabitants of the various parts of the old World is such as would startle one's faith, to consider them all as descendants of Adam; in America it is otherwise. The inhabitants there (at least of the Northern hemisphere, if not from pole to pole) seem to be the same people, or sprung from the same stock; this affinity in the Aborigines of America

with one another, holds not only in regard to resemblance, in form and features, but their customs, and knowledge of arts are in a manner the same; some little differences may be in the industry of one nation more than others, and a small mechanic knowledge that some may have more than others. I am the more persuaded to this opinion, having had many opportunities of seeing and observing the various nations of Indians inhabiting the whole extent of North America from the Equinoctial to Canada, particularly the Charibbeans, Muskitoes, Mexicans, Floridans, and those extending on the bank of all our colonies, the North most of which differ no otherwise from the Charibbeans (who inhabit near the Equinoctial) than in being not altogether so swarthy, and generally somewhat of a larger stature.

I have not the like knowledge of the inhabitants of South America, but from what I could ever learn of them, the characters of their people, customs &c. differ but little from those of the North.

If the relations of Herrera, Solis and other Spanish Authors could be relied on, they were, I confess, enough to excite in us an high opinion of the knowledge and politeness of the Mexicans, even in the more abstruse arts of Sculpture and Architecture, the darling sciences of the Ancients, and which added such glory to the Greeks and Romans, whose unparallel'd fabrick's still remain a testimony of their superior knowledge in these arts, though above 2000 years have passed since the finishing of some of them. Yet that all those stupendous buildings which the Spanish Authors describe, standing at the time of their conquering the city and territory of Mexico, should be so totally destroyed, that an hundred years

after its conquest there should remain not the least fragment of art or magnificence in any of their buildgins; hard fate!
For my own part i cannot help my incredulity, suspecting much the truth of the above-mentioned relations, which (agreeable to the humour of that nation) seems calculated to aggrandize their achievements in conquering a formidable people, who in reality were only a numerous herd of defenceless Indians, and still continue as perfect Barbarians as any of their neighbours.

Of the Indians of Carolina and Florida.

Mr. Lawson, in his account of Carolina, printed anno 1714, has given a curious sketch of the natural dispositions, customs &c. of these savages. As i had the same opportunities of attesting that Author's account as he had in writing it. I shall take the liberty to select from him what is most material, which otherwise could not have omitted from my own observation. I cannot but here lament the hard fate of this inquisitive traveller, who though partial in his favourable opinion of these Barbarians, died by their bloody hands, for they roasted him alive in revenge for injuries they pretended to have received from him.

The Indians of Carolina are generally tall, and well shap'd, with well-proportion'd limbs, though their wrists are small, their fingers long and slender. their faces are rather broad, yet have good features and manly aspects; their noses are not flat, nor their lips too thick; their eyes are black, and placed wide from one another; their hair is black, lank, and very coarse, approaching to the substance of horsehair; the colour of their skin is tawny, yet would not be so dark did they not daub themselves over with Pear's oyl continually from their infancy, mixing therewith some vegetable juices, particularly that of the Sanguinaria, figur'd in Hort. Elt. pag. 334. Vol. II. The Women before marriage are generally finely shap'd, and many of them have pretty features. No people

have stronger eyes, or see better in the night or day than Indians, though in their houses they live in perpetual smoke; their beards are naturally very thin of hair which they are continually plucking away by the roots; they never pare their nails but laugh at the Europeans for paring theirs, which they say disarms them of that which Nature designed them for; they have generally good teeth, and a sweet breath. There are few amongst these Americans so robust, and of so athletic a form as is amongst Europeans, nor are they so capable of lifting great burthen and enduring so hard labour; but in hunting they are indefatigable, and will travel further, and endure more fatigue than a European is capable of. In this employment their women serve instead of pack-horses, carrying the skins of the Deer they kill which by much practice they perform with incredible labour and patience. I have often travelled with them 15 and 20 miles a day for many days successively, each woman carrying at least 60, and some above 80 weight at their back.

Running and leaping these savages perform with surpassing agility. They are naturally a very sweet people, their bodies emitting nothing of that rankness that is so remarkable in Negroes; and as in travelling I have been sometimes contented to sleep with them, I never perceived any ill smell; and though their cabins are never paved nor swept, and kept with the utmost neglect and slovenliness, yet are void of those stinks or unsavoury smells that we meet with in the dwellings of our poor and indolent.

Their Indians wear no covering on their heads, their hair, being very long in Habits. is twisted and rolled up in various manners, sometimes in a bunch at each ear, sometimes on one ear only, the hair on the other side hanging at length, or cut off. Others having their hair growing on one side of the head at full length, while the hair of the other side is cut within an inch or two of the roots, standing upright. Some of the modish wear

a large bunch of downy feathers thrust through a hole made in one and sometimes both ears; others show their heads usually with the down of Swans.

In summer they go naked, except a piece of cloth between their legs, that is tack'd into a belt, and hangs in a flap before and behind. Their ordinary winter dress is a loose open waistcoat without sleeves, which is usually made of a Deer skin, wearing the hairy side inwards or outwards in proportion to the cold or warmth of the season; in the coldest weather they cloath themselves with the skins of Beavers, Raccoons, &c. besides warm and very pretty garments made of feathers. They wear leather buskins on their legs, which they tie below the knee. Their Moccasins, or shoes ^{p. ix} are made of bear or buck skins, without heels, and are made as fit for the feet as a glove to the hand.

The women wear short petticoats of woollen, and some of moss. In summer they generally go naked from the waste upwards, but in winter they wrap themselves in a mantle of skins or woollen cloth, which they purchase of the English. Their hair they manage in a different manner from the men, sometimes rolling it up in a bunch to the crown of their head, others braid it, and bind it with wreaths of peack and ronoack, which are shells ground into regular pieces, with holes bored through them, and strung; this is their money, and both sexes use it for their principal ornaments with which they deck themselves, making of them pendants, bracelets, girdles, garters, &c. Besides which, the military men especially, wear at their breasts a concave shell, cut to the form of, tho' somewhat less than a gorget; this is an universal decoration with all the Indians of the northern continent; and as all their mechanism, for want of good tools, is performed with great labour, so these gorgets bear a great price in proportion to their largeness and carving. Their war captains and men of distinction have usually the portrait of a serpent, or other animal,

on their naked bodies; this is done by puncture and a black powder conveyed under the skin. These figures are esteemed not only as ornamental, but serve to distinguish the warriors, making them more known and dreaded by their enemies. In their hunting marches, at the entrance of the territories, or hunting grounds of an enemy, the captain, or leader of them chips off the bark from one side of a tree, on which he delineates his own person, with the dreadful hieroglyphick figure before mentioned, which is sometimes a rattle-snake's open mouth'd, at a corner of his mouth, twisting in spiral meanders round his neck and body, the hero also holding in his hand a bloody Tommahawk. By this menace or challenge is signified, that he whose portrait is there displayed hunts in these grounds, where if any of his enemies dare intrude, they shall feel the force of his Tommahawk.

At their going on enterprizes of war, they dress in their greatest gallantry, daubing their hair with bear's-fat and the juice of the pukoon-root and another red root, sticking therein the wings and feathers of birds, besides rings of copper, Peak and Wampum in their ears, at the same time painting their faces in various manner, sometimes red, with a little of black round one eye, others have one side of their face red and the other black, whilst others daub their faces with white clay, black lead, and other colours. This they do not only to terrify their enemies, but that they should not be known again; for in all their hostilities against the English the savages always appeared in this disguise.

There are very few Indians (and those very remote) that retain the use of bows and arrows, they being now supplied with guns by the Arms. English. Their bows were made of the locust-tree i.e. Pseudo-acacia

it being when old a very tough and pliant wood. Their arrows were reeds, headed with pieces of stone, spurs of turkey-cocks, and the bones of fish. Besides bows and arrows, Tommahawks were the only weapons of war they had. These were of two kinds: one was a staff about three feet long, with a large knob at the end; the others were made of stone, ground to an edge, of the form and size of a small hatchet, and fixed to a strong handle; these would cut, and were of most use, as well for war as for hollowing their canoes, and other mechanic uses; with these they fought and worked, but since the introduction of iron hatchets, which they still call Tommahawks, they have wholly laid aside their stone ones.

The Indians are a temperate people, not from a Principle of Virtue, but from an ancient savage and indolent custom, which all the examples of industry and economy can never eradicate. They have a vast country to range in, and the choice of the most delightful and fertile parts of it to inhabit, by which with little labour they might indulge the greatest luxury. Yet so little are they inclined that way, or even make so little use of these blessings, that, by depending wholly on providence, they are sometimes drove to necessity. Except a few hens, which were first brought among them by the Europeans, the Indians breed no tame animals for food, and consequently eat neither beef, mutton, nor pork, yet are fond of these meats, when they get them amongst the English. No animal is of so general use to them as the deer, which supplies them with food and raiment; yet these following animals are also their food, buffelo's, elks, hares, squirrels, bears, panthers, wildcats, pole-cats, opossums, rakkons, bevers, aligators, terrapins and serpents, besides all sorts of fowls, not rejecting the ravenous kinds. The Nymphae of wasps they esteem a dainty. Fish of all kinds are a great

part of the food of those who inhabit near the sea.

The only grain they cultivate is Maiz, which, with various kinds of pulses they had amongst them before the arrival of the Europeans. In summer they feed much on vegetables, particularly maiz before it is ripe, and when tender, they roast it in the fire, also ^{potatoes} pomixins, gourdes, squashes, melons, cucumbers, potatoes; besides peaches, raspberries, and strawberries, which the woods abound in. Indians seldom plant corn enough to last them the year round, yet in some measure they supply that want by their autumn-collect of black walnuts, hickory nuts, chinquapins and acorns, which they lay up for winter store; from these they press wholesome oil, particularly from the acorns of the live oak. The kernels also of these nuts and acorns being beat in a mortar to a paste, serve to thicken and enrich their broths.

Besides roasting and boiling, they barbecue most of the flesh of the larger animals, such as buffalo's, bear and deer; this is performed very gradually over a slow clear fire, upon a large wooden gridiron, raised two feet above the fire. By this method of using venison it will keep good five or six weeks and by its being divested of the bones, and cut into portable pieces, adapts it to their use, for the more easy conveyance of it from their hunting quarters to their habitations. Fish is also thus preserved for the better conveyance of it from the maritime to the inland countries. The manner of their roasting is by thrusting sticks through pieces of meat, sticking them round the fire and often turning them. At their festivals they make some compound dishes which, as I have often partook of, the following may serve as a specimen of their cookery. They stew the lean of venison till little liquor remain which is supplied with marrow out of their deer's bones; to which is added the milky pulp of Maiz before it hardens. It is common with some nations

at great entertainments, to boil bear, deer, panther, or other animals, together in the same pot; they take out the bones, and serve up the meat by itself, then they stew the bones over again in the same liquor, adding thereto purslain and squashes, and thicken it with the tender grain of Maiz, this is a luscious soup. A fawn cut out of the deer's belly, and boiled in its natural bag, is a dish in great esteem with them. The pigeons, described p. 23. Vol. 1. afford them some years great plenty of oil, which they preserve for winter use; this and sometimes bears-fat in wild turkeys, which in some winters become very lean by being deprived of their food, by the numerous flights of the migratory pigeons devouring the acorns, and other mast. Oil drawn from nuts and acorns have also their peculiar uses in cookery. Indians (as has been before said) are often without corn, (and from the same negligent principle,) when they have it, they are often without bread, contenting themselves with eating the grain whole, after being softened by boiling, it with their meat. They thicken their broths with Poccabomony, which is indeed, for that purpose, much preferable to oatmeal or French barley. Peaches they dry in the sun for winter-use, and bake them in the form of loaves. Whishimons, whotts, and some other fruit and wild berries they also preserve for winter, using them in their soups and other ways. Indians also eat the earth-nuts, which they call Tuccho. Turkeys, hares, squirrels, with other smaller animals, they roast with their guts in their bellies; they use instead of salt, wood-ashes; yet I have seen amongst the Chigasaws very sharp salt in crystalline lumps, which they told me was made of a grass growing on rocks in fresh rivers. Indians eat no raw sallets, and have an aversion to pepper and mustard. Virtuals are common throughout the whole kindred, and

often to the whole town, especially when they are in hunting quarters, then they all share alike, whoever of them kills the game. They have fence to part one another lots in their corn fields, every man knows his own, and it scarce ever happens that they rob one another of so much as an ear of corn, which if any is found to do, the thief is sentenced by the elders to work or plant for him that was robbed, till he is recompensed for all the damage he has suffered in his corn-field: yet they make no scruple to rob the English, having been taught this lesson by the latter: They are very kind and charitable to one another, but more especially to those of their own nation, for if any one of them have suffered loss by fire or otherwise, they make a general collection for him, every one contributing to his loss in proportion to his abilities.

Of the Habitations of the Indians.

The Wigmams, or Cabbins of the Indians are generally either circular or oval, having but one stow, but of various dimensions, some containing a single family, others four or five families, but of the same kind. In building their fabricks they stick into the ground at about four or five feet asunder, very long plant poles, bending their tops, and tying them together with bark; then they brace them together with other poles to strengthen them, afterwards covering them all over, both roof and sides with bark, particularly that of sweet gum, cypress, and cedar, so that they are warm and tight, and will keep firm ^{p. xi.} against all weathers. In the top of the roof left a hole to let out the smok, under which, in the middle of the Cabbin their fire; in the sides is left a hole or two for light, and a door at one end. Round the cabbin are fixed to the walls broad benches of split cane, laying thereon mats or skins, on which they sleep. Their state-cabbins,

the reception of ambassadors, and other publick transactions, are built with greater magnificence, being loftier, and of far larger dimensions, the inside being hung with mats of rushes or cane, as is also the Wigwam of the King, and some others of prime note.

They have also houses for the summer, which are built more open and airy, which in sultry weather they sleep in. A town of Totero Indians, seated on the Meherrin rivet, is built with strong posts or trees drove into the ground close to one another, the interstices being stoppt up with moss, and covered with the bark of the sweet gum-tree; from two of which trees, being bereaved of their bark, I gathered more than my hat full of the fragrant resin that trickles from between the bark and the wood, and by the heat of the sun condenses to a resemblance of transparent amber.

XI. Of their Arts and Manufactures.

Arts amongst the Indians are confined to a very narrow compass, the business of their lives being war and hunting, they trouble themselves with little else, deeming it ignominious for a Coccorous, that is, a war-captain, or good hunter, to do mechanick works, except what relates to war or hunting, the rest they leave to the women and sorry hunters. Their canoes are made of pine or tulip trees, which (before they had the use of English tools, they burned hollow, scraping and chipping them with oyster-shells and stone-hatchets. Their mats are neatly made of rushes, and serve them to lie on and hang their cabbins with; they also make very pretty baskets of rushes and silk-grass, dyed of various colours and figures, which are made by the Indians of Virginia, and those inhabiting further north. But the baskets made by the more southern Indians, particularly the Choctawgho and Chigawes, are exceeding neat and strong, and is one of their master-pieces in mechanicks. These are made of cane in different forms and sizes, and beautifully
beautifully

dye'd black and red with various figures; many of them are so close wrought that they will hold water, and are frequently used by the Indians for the purposes that bowls and dishes are put to. But that which they are more especially useful for to the English inhabitants is for pott-making, which being made in that form are commodious, and will keep out wet as well as any made of leather. The principal of their cloth-manufacture is made of the inner bark of the wild mulberry, of which the women make for themselves petticoats and other habits. This cloth, as well as their baskets is likewise adorned with figures of animals represented in colours; its substance and durableness recommends it for floor and table-carpets. Of the hair of buffalo's, and sometimes that of Rakoons, they make garters and lashes, which they dye black and red; the fleshy sides of the deer-skins and other skins which they wear, are painted black, red and yellow, which in winter they wear on the out-side, the hairy side being next their skins. Those who are not good hunters dress skins, make bowls, dishes, spoons, tobacco-pipes with other domestick implements. The bowls of their tobacco-pipes are whimsically, tho' very neatly made and polished, of black, white, green, red, and gray marble, to which they fix a reed of a convenient length. These manufactures are usually transported to some remote nations, who having greater plenty of deer and other game, our neighbouring Indians barter these commodities for their raw hides with the hair on, which are brought home and dressed by the sorry hunters. The method of dressing their skins is by soaking them in deer's brains, tempered with water, scraping them with an oyster-shell till they become soft and pliable. Maiz, when young, and beat to a pulp, will effect the same as the brain then they use them with smock, which is performed by digging a hole in the earth, arching it over with hoop-sticks, over which the

skin is laid, and under that is kindled a slow fire, which is continued till it is smoak ed enough.

Before the introduction of fire-arms amongst the Americans Indians, (though hunting was their principal employment) they made no other use of the skins of deer, and other beasts, than to cloath themselves, their carcases for food, probably, then being of as much value to them as the skins. but as they now barter the skins to the Europeans for other cloathing and utensils they were before unacquainted with, so the use of guns has enabled them to slaughter far greater number of deer and other animals than they did with their primitive bows and arrows. This destruction of deer and other animals being chiefly for the sake of their skins, a small part of the venison they kill suffices them; the remainder is left to rot, or becomes a prey to the wolves, panthers, and other voracious beasts. With these skins they purchase of the English, guns, powder and shot, woollen cloth, hatchets, Kettles, porridge-pots, knives, vermilion, beads, rum. &c.

Their methods of hunting and fishing differ from ours, particularly in their manner of deceiving deer, by an artificial head of one, by which they the more easily come up with, and kill their game. This is made with the head of a buck, the horns being diminished by scraping them hollow for lightness of carriage; to the head is left the skin of the breast and neck, which is extended with hoops for the arms to enter; the hunter's coat is also a deer's skin; the eyes are well represented by the globular shining seeds of the Pavia, or scarlet flowering horse-chestnut. In these habiliments an Indian will approach as near a deer as he pleases, the exact motion or behaviour of a deer being so well counterfeited by them, that it has been frequently known for two hunters to come up with staking heads together, and unknown to each other, so that an Indian has been kill'd instead of a deer.

Their annual custom of live hunting is usually in October. At this sport associate some hundreds of Indians, who, spreading themselves in length through a great

extent of country, set the woods on fire, which with the assistance of the wind is driven to some peninsula, or neck of land, into which deer, bears, and other animals are drove by the raging fire and smok, and being hemm'd in are destroyed in great numbers by their guns.

of their sagacity. The Indians are generally allowed to have a good capacity, which seem adapted and even confined to their savage way of life. Reading and writing is the highest erudition that I have known or heard any of them attain tho' a great number of them have been, and still continue to be educated at Williamsburg-college in Virginia, by the benefaction of the great M^r. Boyle, whose pious design was, that after attaining a due qualification, they should inculcate amongst their brethren true religion and virtue, yet I have never heard of an instance conformable to that worthy intention. And so innate an affection have they to their barbarous customs, that tho' from their infancy they have been bred, and far'd well with the English, yet as they approach towards manhood, it is common for them to elope several hundred miles to their native country, and there to resume their skins, and savage way of life, making no further use of their learning so unworthily bestowed upon them.

But I shall here remark, that altho' every clan or nation hath a language peculiar to itself, there is one universal language like the lingua Franca in the sea-ports of the Mediterranean, which is understood by all their chief and great men thro' a great part of north America.

Though their disesteem for literature, or their incapacity of attaining it is such that is in some measure compensated by a sagacity or instinct that Europeans are incapable of, and which is particularly adapted to their conveniency of life. An instance or two is as follows:

When a body of Indians set out on an hunting journey of five hundred miles more or less, perhaps where none of them ever were; after the imagina-

place of rendezvous is agreed on, they then consult what direction it lies in, every one pointing his finger towards the place, though but little variation appears in their pointings, the preference of judgment is given to the eldest: thus it being concluded on, they set out all singly, and different ways, except the women, who jog on a constant pace, while the men traverse a vast tract of land in hunting on each side, and meet together in small parties at night. Thus they proceed onward their journey, and though they range some hundred miles from one another, they all meet at the place appointed. And if any obstruction happens, they leave certain marks in the way, where they that come after will understand how many have passed and which way they are gone. They are never lost, though at the greatest distance from home; and where they never were before, they will find their way back by a contrary way from that they went.

An Indian boy that was brought up very young to school at Williamsburgh, at the age of 9 or 10 years, ran from school, found means (no body knew how) to pass over James river, and then travelled through the woods to his native home, though the nearest distance was three hundred miles, carrying no provision with him, nor having any thing to subsist on in his journey but berries, acorns, and such like as the wood afforded.

They know the north point wherever they are; one guide is by a certain moss that grows most on the north side of trees.

Their sagacity in tracing the footsteps of one another is no less wonderful: on a dry surface, where none but themselves are able to discern the least impression of any thing, they often make discoveries; but on moist land that is capable of impression, they will give a near guess, not only of the number of Indians that have passed, but by the make and sticking of their Moccasins, will know of what nation they are, and consequently whether friends or enemies. This is a piece of knowledge on which great consequences depend; therefore, they who excel in it are highly esteemed, because these discoveries enable them

to ambuscade their enemies, as well as to evade surprizes from them, and also to escape from a superior number by a timely discovery of their numerous tracks. One terrible warlike nation gives them more of this speculative trouble than all others: these are the Sennegons, a numerous people seated near the lakes of Canada, who live by depredation and rapine on all other Indians, and whose whole employment is to range in troops all over the Northern continent, plundering and murdering all that will not submit: women and children they carry away captive and incorporate ^{with} themselves. By this policy they are numerous and formidable to all the nations of Indians from their Northern abodes to the gulph of Florida, except some few who pay them tribute for their safe-guard.

If a prisoner attempts to escape, they cut his toes and half his feet off, lapping the skin over the stump, and make a present cure. This commonly disables them from making their escape, they not being so good travellers as before; besides, the impression of their half feet making it easy to trace them. In their war expeditions they have certain hieroglyphicks, where by each party informs the other of the successes or losses they have met with; all this is so exactly performed by their sylvan marks and characters, that they are never at a loss to understand one another.

Their Drunkenness. The savages are much addicted to drunkenness, a vice they never were acquainted with till the Christians came amongst them. Rum is their beloved liquor, which the English carry amongst them to purchase skins and other commodities with. After taking a dram, they are insatiable till they are quite drunk, and then they quarrel, and often murder one another, though at other times they are

the freest from passion of any people in the world. They are very revengeful, and never call any man to account for what he did when he was drunk, but lay it was the drink that caused his misbehaviour, therefore he ought to be forgiven.

Their Wars. Indians ground their wars on enmity, not interest, as Europeans generally do; for the loss of the meanest person of the nation they will go to war, and lay all at stake, and prosecute their design to the utmost, till the nation they were injured by being wholly destroyed. They are very politick in carrying on their war, by advising with the ancient men of conduct and reason that have been war captains; they have likewise field counsellors, who are accustomed to ambuscades and surprizes, in which consists their greatest achievements; for they have no discipline, nor regular troops, nor did I ever hear of a field battle fought amongst them. A body of Indians will travel four or five hundred miles to surprize a town of their enemies, travelling by night only, for some days before they approach the town. Their usual time of attack is at break of day, when, if they are not discovered, they fall on with dreadful slaughter, and scalping, which is to cut off the skins of the crown from the temples, and taking the whole head of hair along with it as if it was a night cap: sometimes they take the top of the skull with it; all which they preserve, and carefully keep by them for a trophy of their conquest. Their caution and temerity is such, that at the least noise, or suspicion of being discovered, though at the point of execution, they will give over the attack, and retreat back again with precipitation.

Part of an enterprize of this kind I chanced to be a witness of which was thus: some Chigassas, a nation of Indians inhabiting near the Mississippi River, being at variance with the French, seated themselves under protection

of the English near Fort Moor on Savanna River: with five of these
Indians and three white men we set out to hunt: after some days continu-
ance with good success, at our retourning back, our Indians being loaded with
skins, and barbauced buffello, we espied at a distance a strange Indians, and
at length more of them appeared following one another, in the same tra-
ce as their manner is: our five Chigasaw Indians perceiving these to be
Cherikee Indians and their enemies, being alarm'd, squatted, and hid
themselves in the bushes, while the rest of us rode up to the Cherikee
who were then increased to above twenty: after some parley, we took
our leave of each other, they marching on towards their country, and
we homeward; in a short time we overtook our Chigasaws, who had
their loads, and were painting their faces, and tripping up every little con-
fidence, and preparing themselves against an assault. Though the Cherikee
were also our friends, we were not altogether unapprehensive of danger
so we separated from our Indian companions, they shortening their
way by crossing swamps and rivers, while we with our horses were
necessitated to go further about, with much difficulty, and a long man-
for want of our Indian guides. ^{p. xiv.} We arrived at the Fort before it was
dark: about an hour after, while we were recruiting our exhausted spirits
^{pag. xiv.} we heard repeated reports of guns in the woods, not far from us, by which
we concluded that the Cherikee were come up with the Chigasaws, and
that they were firing at each other: nor were we undeceived, till the next
morning, when we were informed, that our Indians discharged their guns
for joy that they were alive, and had escaped their enemies. But had they
then known of a greater escape, they would have had more reason to
rejoice; for the next morning some men of the garrison found hid

in a close canoe saw two large canoes painted red; this discovered the bloody attempt the Cherikees had been upon when we met them, who, with sixty men in these canoes came down the river between two and three hundred miles, to east of the little town of the Chigasaws; but from some little incident being disheartened, and not daring to proceed, were returning back, by land when we met them. And so great was their dread of us, and our few Chigasaws, that, fearing we should follow them, they run precipitately home, leaving some of their guns and baggage behind them, which some time after were found and taken up by our Chigasaws, when they went for their packs they had hid. It is the custom of Indians when they go on these bloody designs, to colour the paddles of their canoes, and sometimes the canoe, red. No people can set a higher esteem on themselves, than those who pretend to excel in martial deeds, yet their principles of honour, and what they deem glorious, would in other parts of the world be esteem'd most base and dishonourable: they never face their enemies in open field (which they say is great folly in the English) but skulk from one covert to another in the most cowardly manner; yet their confidence in, and the opinion they have of the prowess of white men is such, that a party of them being led on by an European or two, have been frequently known to behave with great bravery.

Their savage nature appears in nothing more than their barbarity to their captives, whom they murder gradually with the most exquisite tortures they can invent. At these diabolical ceremonies attend often both sexes, old and young, all of them with great glee and merriment assisting to torture the unhappy wretch till his death finishes their diversion. However timorous these savages be in battle, they are quite otherwise when they know they must die, shewing then an uncommon fortitude and resolution, and in the height of their misery will sing, dance, revile, and despise their tormentors till their strength and spirits fail.

A warlike, crafty Indian, called Prim (who had been an enterprising one to the English, as well as to a nation of Indians in alliance with them) was taken prisoner, and delivered up to the English, who for reasons more polite than humane, return'd him back again to be put to death by the Indians, who took him. He was soon environ'd by a numerous circle of his tormentors preparing for him the cruellest torments. Prim, in this miserable state and of his destiny, addresses himself to the multitude, not with complaisance and humility, but with the utmost haughtiness and arrogance, reviling and despising them for their ignorance in not knowing how to torture, telling them that they would loosen him (for they could not think it possible for him unarm'd to escape from such a multitude,) he would show them in what manner he would torture them were they in his power. He then demanded the barrel of an old gun, one end of which he put into the fire; while every body was attentive to know his design, he suddenly snatches up the red hot barrel, furiously brandishing it about, breaks through the astonished multitude who surrounded him, run to the bank of the river, from which he leaps down above 100 feet, and swam over, enter'd into a thicket of canes, and made his escape. He afterwards made peace with the English, and liv'd many years after with reputation in his own country.

The Indians have healthful constitutions, and are little acquainted with those diseases which are incident to Europeans, as gout, dropsical, stone, Asthma, phthisic, calenture, paralytic, apoplexies, measles &c. although some of them arrive to a great age, yet general they are not a long liv'd people, which in some measure may be imputed to their great negligence of their health by drunkenness, heats and colds, irregular diet and lodging, and infinite other disorders and hardships (that would kill an European, which they daily use.

To this happy constitution of body is owing their little use of physic, and their superficial knowledge therein is proportionable. No malady is taken in hand without an exorcism to effect the cure: by such necromantic delusions, especially if the patient recovers, these crafty doctors or conjurers (which are both in one) raise their own credit; intimating the influence they have with the good spirit to expunge the evil one, out of the body of the patient, which was the only cause of their sickness. These are three remedies that are much used by all the Indians of the northern continent of America; these are bagnio's, or sweating houses, scarrification, and the use of Casena or Yapon. The first is used in intermitting fevers, colds, and many other disorders of the body: these bagnio's are usually placed on the banks of a river, and are of stone, and some of clay; they are in form and size of a large oven, into which they roll large stones heated very hot; the patient then creeps in, and is closely shut up; in this warm situation he makes lamentable groans, but after about an hour's confinement, out from his oven he comes, all reeking in torrents of sweat, and plunges into the river. However absurd this violent practice may seem to the learned, it may reasonably be supposed that in so long a series of years they have used this method, and still continue so to do, they find the benefit of it.

Amongst the benefits which they receive by this sweating, they say it cures fevers, dissipates pains in the limbs contracted by colds, and rheumatic disorders, creates fresh spirits and agility, enabling them the better to hunt.

When the Indians were first infected by the Europeans with the small-pox, fatal experience taught them that it was a different kind of fever from what they had been ever used to, and not to be treated by this rough method of running into the water in the extremity of the disease, which struck in and destroy'd whole towns before they could be convinced of their error. Scarrification is used in many distempers, particularly after excessive travel: they cut the calves of their

legs in many gashes, from which oftentimes is discharg'd a quantity of coagulated blood, which gives them present ease, and they say, stops and prevents approaching disorders. The instrument for this operation is one of the deadly fangs of a rattle-snake, first cleansed from its venom by boiling it in water.

As I have (vol. II. p. 57) figured and described the Casena, I shall here only observe that this medicinal shrub, so universally esteem'd by the Indians of north America is produced but in a small part of the continent, confined by northern and western limits, viz. North to lat. 57, and west to the distance of about fifty miles from the ocean: yet the Indian inhabitants of the north and west are supplied with it by the maritime Indians in exchange for other commodities. By the losses the Indians make in drinking this salubrious liquor, it seems as little agreeable to an Indian as to an European palate, and consequently that the pains and expences they are at in procuring it from remote distances, does not proceed from luxury (as tea with us from China) but from its virtue, and the benefit they receive by it.

Indians are wholly ignorant in Anatomy, and their knowledge in surgery is superficial; amputation and phlebotomy they are strangers to; yet they know many good vulnerary and other plants of virtue, which they apply with good success: the cure of ulcers and dangerous wounds is facilitated by severe abstinence which they endure with a resolution and patience peculiar to themselves. They know not the pox in north America, till it was introduced by the Europeans.

Indian Women. Indian women by their field, as well as by domestic employment, acquire a healthy constitution, which contributes no doubt to their easy travail and child-bearing, which is often alone in the woods; after two or three days have confirmed their recovery, they follow their usual affairs, as well without as within doors: the first thing they do after the birth of the child, is to dip, and rub it in the nearest spring of cold water, and then daub it all over with bear's oil: the father then prepares a singular kind of cradle, which consists of a flat board

about two foot long, and one broad, to which they brace the child close, cutting a hole against the child's breech for its excrements to pass through: a leather strap is tied from one corner of the board to the other, whereby the mother slings her child on her back, with the child's back towards hers; at other times they hang them against the walls of their houses, or to the boughs of trees; by these, and other conveniences, these portable cradles are adapted to the use of Indians; and I can't tell why they may not as well to us, if they were introduced here. They cause a singular erectness in the Indians, nor did I ever see a crooked Indian in my life.

Indians are very peaceable, they never fight with one another, except drunk. The women particularly are the patientest and most inoffensive creatures living; I never saw a scold amongst them, and to their children they are most kind and indulgent.

The Indians (as to this life) seem to be a very happy people, tho' that happiness is much eclipsed by the intestine feuds and continual wars: one nation maintains against another, which sometimes continue some ages, killing and making captive till they become so weak, that they are forced to make peace for want of recruits to supply ^{pag. XVI} their wars. This probably has occasioned the depopulated state of north ^{XVI} America at the arrival of the Europeans, who by introducing the vices and the distempers of the old world, have greatly contributed even to extinguish the race of these savages, who it is generally believed were at first four, if not six times as numerous as they now are.

I shall now conclude my account of the Indians, in which I might have been more prolix, but I chose rather to confine myself to what I learn'd by a personal knowledge of them; and as natural history is the subject of this book, I conceive it impertinent to relate tedious narratives of religious ceremonies, burials, marriages, &c. which are too often the product of invention, or credulity in the relater. Indians being so reserv'd and averse to reveal their secret Mysteries to Europeans, that the relations of the most inquisitive can be but little depended on.

Of the Agriculture of Carolina.

The lands of America from a series of years have accumulated such a coat of prolific soil that tillage is in a manner useless. So soon as the fertility of a field is exhausted by repeated crops, they take down the fence which inclosed it, and let it lie as useless; this fence is removed to another fresh piece of land, some of which yields them plentiful crops twenty years successively without respite, or any other tillage than an annual plough, to raise the earth where the grain is drop'd. At a planter entering on fresh land, he is necessitated first to clear it of a vast burden of large trees and under wood; so much of which as is moveable is piled in heaps, and burned, the trunks being left to rot, which is usually effected in six or eight years; in the mean time maiz, rice, &c. is sown between the prostrate trees.

The fields are bounded by wooden fences, which are usually made of pine split into rails of about twelve or fourteen feet long; the frequent removing of these fences to fresh land, and the necessity of speedy erecting them are partly the reasons why hedges are not hitherto made use of, besides the facility of making wooden fences in a country abounding in trees.

Frumentum Indicum. Maiz dictum.
Of the Grain, Pulse, Roots, fruit and Herbage,
with their Cultivation.

Indian Corn.

This is the native grain of America, from whence other parts of the world were at first supplied: it agrees with all climates from the equinoctial to the latitude of 45. Yet the climate which best agrees with it, and produces the finest and largest corn, is that between the degrees of 20 and 25. Of this grain there are reckoned two sorts, differing in stature, largeness of the spike and grain, and different time of ripening, besides accidental variety in the colours of the grain. The largest is cultivated in Virginia and Carolina. It is usually planted in April, and the largest ripeneth not till October, and is frequently left standing in the field till December before it is gather'd in: the smaller grain opening in half the time of the large, recommends it to the Indians, who according to their custom, do not provide corn for the whole winter; this by its quick ripening affords them early food, and is therefore by them most propagated: this kind is also cultivated in New-England, where heat is deficient for ripening the largest kind, and it is also propagated in Languedoc, and in some parts of Italy, and in kindly summers will come to maturity in England, as I myself have experienced, the large kind grows usually nine or ten feet high, and sometimes in strong land, to the height of fourteen feet. The smaller sort grows commonly five or six feet high. In planting this corn, six or eight grains are dropp'd in the circumference of about thirty inches, and covered with a hough: when it appears some inches above ground, the supernumeraries, if any, are pulled up, and three left in a triangle to grow, they are also weeded, and earth raised about them with a hough, which being repeated three or four times in the summer, raises a hill about them. After the corn is come up some small height, there are dropp'd into every hill two or three beans called *Ponavis*, which as they shoot up are supported by the stalks of the corn, and are ripe and gathered before the corn. These hills of corn

are at the distance of about four feet or under, regularly planted in lines or
pag. XVII. ^{p. XVII.}
quinax order: in June the plants are suckered, i.e. stripping of the superfluous
shoots. In August they are topped, and their blades stripped off, and tied in small
bundles for winter provender for horses and cattle. About the same time the
ears or ears of corn that grow erect naturally, are bent down to prevent wet enter-
ing the husk that covers the grain, and preserves it from rotting. In October
which is the usual harvest month, the spikes of corn with their husks are
cut off from the stalks, and housed, and in that condition is preserved till it is wanted
for use. It is then taken out of the husk, and the grain separated from the
Placenta or core. Then it is made saleable, or fit for use. This grain in Virginia
or Carolina, is of most general use, and is eat not only by the negro slaves, but by the
generality of white people. Its easy culture, great increase, and above all its strength
and nourishment, adapts it to the use of these countries as the properest food for negro
slaves, some of which, at a time when by the scarcity of this grain they were ob-
liged to eat wheat, found themselves so weak that they begged of their masters to
allow them Indian corn again, or they could not work. This was told me by the
Colonel Byrd of Virginia, whose slaves they were, adding, that he found it is inter-
to comply with their request.

It is prepared various ways, tho' but three principally; the first is baking it in little
round loaves, which is heavy, tho' very sweet and pleasant while it is new. This
is called Pone. The second is called Mush, and is made of the meal, in the manner
of a
hasty-pudding; this is eat by the negroes with lard, hogs' lard, or molasses. The
third preparation is Homony, which is the grain boiled whole, with a mixture
of Peonavis, till they are tender, which requires eight or ten hours; to this
Homony is usually added milk or butter, and is generally more in esteem than
any other preparation of this grain. The spikes of this corn before they
come hard, are the principal food of the Indians during three summer months.
They roast them in the embers, or before a fire, and eat the grains whole. The
Indians prepare this grain for their long marches by parching and beating it to powder, and
they carry in bags, and is always ready, only mixing with it a little water at the
next spring.

Oriza. Rice.

This beneficial grain was first planted in Carolina, about the year 1688, by Sir Nathaniel Johnson, then governor of that province, but it being a small unprofitable kind, little progress was made in its increase. In the year 1696, a ship touched there from Madagascar by accident, and brought from thence about half a bushel of a much fairer and larger kind, from which small stock it is increased as at present. The first kind is bearded, is a small grain, and requires to grow wholly in water. The other is larger and brighter, of a greater increase, and will grow both in wet and tolerable dry land. Besides these two kinds, there are none in Carolina materially different, except small changes occasioned by different soils, or degeneracy by successive sowing one kind in the same land, which will cause it to turn red.

In March and April it is sown in shallow trenches made by the hough, and good crops have been made without any further culture than dropping the seeds on the bare ground, and covering it with earth, or in little holes made to receive it without any further management. It agrees best with a rich and moist soil, which is usually two feet under water, at least two months in the year. It requires several weeding till it is upwards of two feet high, not only with a hough, but with the assistance of fingers. About the middle of September it is cut down and housed, or made into stacks till it is thrashed with flails, or trod out by horses or cattle; then to get off the outer coat or husk, they use a hand-mill, yet there remains an inner film which clouds the brightness of the grain, to get of which it is beat in large wooden mortars, and pestles of the same, by negro slaves, which is very laborious and tedious. But as the late governor Johnson (as the hold me) had procured from Spain a machine which facilitates the work with more expedition, the trouble and expence (it is hoped) will be much mitigated by his example.

Triticum.

Wheat.

In Virginia they raise wheat not only for their own use, but for exportation. The climate of Carolina is not so agreeable to it, so that few people there think it the advantage to sow it. The generality of the inhabitants are supplied with flour from Pensilvania and New-York.

That which is propagated in Carolina, came first from the Madera Island, not being found so agreeable to this country, it lying in a parallel latitude. The grain, a thinner coat, and yields more flower than that of England. The upper parts of the country distant from the sea is said to produce it as well as in Virginia; but there are hitherto but few people settled in those distant parts, little else has been yet planted but Indian corn and rice for exportation. Wheat is sown in March and reaped in June.

Hordeum.

Barley.

As Barbary, and the northern parts of Africa, are much adapted to the growth of barley, Carolina lying in about the same latitude, is also very productive of it, yet it is but little cultivated.

The brewing of beer has been sometimes attempted with good success, but the unsteadiness, and alternate hot and cold weather in winter is not only injurious to the making malt here, but has the like ill effects in brewing, which has induced some people to send for malt from England.

Avena.

Oats.

Oats thrive well in Carolina, tho' they are very rarely propagated, the corn supplying its use to better purpose, particularly for horses, one quart of which is found to nourish as much, and go as far as two quarts of oats.

Milium Indicum.

Bunched Guinea Corn.

But little of this grain is propagated, and that chiefly by negroes, who make bread of it, and boil it in like manner of firmety. Its chief use is for feeding fowls, for which the smallness of the grain adapts it. It was at first introduced from Africa by the negroes.

Panicum Indicum Spica longissima.

Spiked Indian Corn.

This corn has a smaller grain than the precedent, and is used at the other is, for feeding fowls: these two grains are rarely seen but in plantations of negroes, who brought it from Guinea, their native country, and are therefore fond of having it.

Phaseoli.

Kidney-Beans.

Of the kidney-bean kind there are in Carolina and Virginia, eight or ten different sorts, which are natives of America, most of which are said to have been propagated by the Indians before the arrival of the English: amongst them are several of excellent use for the table, and ^{pag. xix} are prepared various ways, as their various properties require. They are also of great use for feeding Negroes, being a strong hearty food.

English beans and peas degenerate after the first or second year's sowing, therefore an annual supply of fresh seeds from England is found necessary to have them good.

Convolvulus radice tuberosa esculenta.
The American Potato.

Potatoes are the most useful root in Virginia and Carolina, and as they are a great support to the Negroes, they are no small part of a planter's care every one planting a patch, or inclosed field, in proportion to the number of his slaves. I having been particular in the description of the different kinds of this root, refer my Reader to it. Page 60.

Yolubilis nigra, radice alba aut purpurea maxima tuberosa. Hist. Jam. Vol. 1. p. 139.

The Yam.

The culture of this useful Root seems confined within the torrid Zone, it not affecting any country, North or South, of either Tropick; Carolina is the farthest North I have known them to grow, and there more for curiosity than advantage, they increasing so little that few people think them worth propagation. Sir Hans Sloane, in his Natural History of Jamaica, has given an accurate count of this Root; so I shall only observe, that next to the Potatoe the Root is of more general use to mankind than any other in the old and new World.

Arum maximum Aegyptiacum quod vulgo Colocasia Eddoes.

This I have described and figured, Page 45.

Lilium, sive Martagon Canadense flore luteo punctato.

The Martagon, p. 56.

The Indians boil these Martagon-Roots, and esteem them dainties.

The common European Culinary Plants; viz.

Carrots, Parsneps, Turneps, Pease, Beans; Cabbage, and Colli flowers, agree well with the climate of Carolina; but after the first or second years sowing, they are apt to degenerate. Therefore an annual supply of fresh seeds from England is found necessary to have them good. Thyme, Savory, and all aromatic Herbs are more volatile here than in England. All other culinary Roots, Pulse, and herbacious Sallating, are as easily raised, and as good as in England.

In Carolina and Virginia are introduced all our English Fruit Trees, though they do not equally agree with the climates of these countries.

Malus.

The Crab and Apple-Tree. p. xix.

Crabs in Carolina are the product of the woods, and differ but little from ours, except in the fragrance of their blossoms, which in March and April perfume the air. Apples were introduced from Europe: they in Carolina are tolerably well tasted, ^{p. xx.} though they keep but a short time, and frequently rot on the trees. In Virginia they are better, and more durable, and great quantities of cyder is there made of them. Further North, the climate is still more agreeable, not only to Apples, but to Pears, Plumbs, and Cherries.

Pyrus.

The Pear-Tree.

Pears in some parts of Carolina are very good and plentiful, particularly on the banks of Santee River.

Prunus et Cerasus.

The Plum and Cherry-Tree.

Plums, and Cherries of Europe have hitherto proved but indifferent, probably may be occasioned for want of artful management. To the same cause may be imputed the imperfection of the other cultivated fruits, in management of which little else but Nature is consulted.

Persica.

The Peach-Tree.

Of Peaches there are such abundance in Carolina and Virginia, and in all the British Continent of America, that, were it not certain that they were introduced from Europe, one would be inclined to think them spontaneous, the fields being every where scattered with them, and large orchards are planted of them to feed hogs with, which when they are satiated of the fleshy part crack the shells, and eat the kernels only. There are variety of kinds, some of the fruit are exceeding good, but the little care that is taken in their culture causes a degeneracy in most. They bear from the stone in three years; and it is known them do it in two. Were they managed with the like art that they are in England, it would much improve them; but they only bury the stone in earth, leave the rest to Nature.

Nusipersica

The Nectarine-Tree.

Nectarines, though so nearly a-kin to the Peach, yet rarely prove good in Carolina and Virginia.

Malus Armeniaca.

The Apricock-Tree.

Apricocks no more than Peaches agree well with this climate; though both these Trees arrive to a large stature.

Glossularia

Glossularia et Ribes.

The Goosbery and Currant-Tree.

Goosberries and Currants will not bear fruit in Carolina and in Virginia sufficient to encourage their cultivations.

Rubus Idæus, et Fragaria.

Rasberries and Strawberries.

Rasberries are very good, and in great plenty; they were at first brought from England.

Strawberries are only of the wood kind, and grow naturally in all parts of the country, except where hogs frequent.

Rubus.

Blackberries.

There are three or four kinds of blackberries in the woods, of better flavour than those in England; particularly one kind growing near the mountains, approaching to the delicacy of a Raspberry.

Morus fructu nigro.

The English Mulberry-Tree.

The common black mulberry produce not so large fruit as they do in England.

Morus Rubra.

The Red mulberry-Tree.

This is the only native mulberry of Carolina and Virginia, the fruit is long, red, and well tasted.

Morus fructu albo.
The Silk-Worm Mulberry-Tree.

The Italian or silk-worm mulberry, with small white and some red fruit. These were introduced into Virginia by Sir William Berkeley, when he was governor of that province, for feeding silk-worms, and at long were propagated in Carolina.

Cydonia.

The Quince-Tree.

Quinces in Carolina have no more astringency than an apple, and are commonly eat raw. In north Carolina is made a kind of wine of them in much esteem.

Ficus.

The Fig-Tree.

Figs were first introduced into Carolina from Europe; they will not grow any where but near the sea, or salt-water, where they bear plentifully; but they are of a small kind, which may be attributed to their want of skillful management. An excellent liquor is made of figs, resembling Mum in appearance and taste: this is most practised in James's Isle near Charlestown.

Mali Aurantia et Limonia.

The Orange and Lemon-Tree.

Carolina being in the climate which produces the best Oranges and Lemons in the old world, they might therefore be expected to abound here: but the winters in Carolina being much more severe than in those parts of Europe in the same latitude, these trees are frequently killed to the ground by frost. Yet when they are planted near the sea, or salt-water, they are liable to be injured by frosts, and bear successive crops of good fruit.

Malus punicia.

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pag. xxii.

The Pomegranate-Tree.

Pomegranates being equally tender with oranges, require the like salt-watered situation; yet I remember to have seen them in great perfection in the gardens of the Hon. William Byrd, Esq. in the freshes of James river in Virginia.

Vitis.

The Vine.

Grapes are not only spontaneous in Carolina, but all the northern parts of America, from the latitude of 25 to 45, the woods are so abundantly replenished with them, that in some places for many miles together they cover the ground, and are an impediment to travellers, by entangling their horses feet with their trailing branches; and lofty trees are over-top'd and wholly obscured by their embraces. From which indications one would conclude, that these countries were as much adapted for the culture of the vine, as Spain or Italy, which lie in the same latitude. Yet, by the efforts that have been hitherto made in Virginia and Carolina, it is apparent, that they are not blest with that clemency of climate, or aptitude for making wine, as the parallel parts of Europe, where the seasons are more equal, and the spring not subject, as in Carolina, to the vicissitudes of weather, and alternate changes of warmth and cold, which, by turns, both checks and agitates the rising sap, by which the tender shoots are often cut off. And tho' this the ill effects they are liable to by too much wet, which frequently happening at the time of ripening, occasions the rotting and bursting of the fruit. Though the natural causes of these impediments may not presently be accounted for, yet it is to be hoped that time, and an assiduous application, will obviate these indelible obstructions of so beneficial a manufacture as the making of wine may prove.

PINUS. Of Pine-Trees.

There are in Carolina four kinds of Pine-trees, which are there distinguished by the names of

Pitch Pine,
Pitch-land Pine,
Short-leaved Pine,
Swamp Pine.

The Pitch-Pine is the largest of all the Pine trees, and mounts to a greater height than any of them; its leaves and cones are also larger and longer than those of the other kinds; the wood is yellow, the heart of it is so replete with turpentine, that its weight exceed that of lignum vitae; of this wood therefore is made pitch, tar, rosin, and turpentine. The wood in the most durable, and of more general use, than any of the other kinds of pines, particularly for staves, heading, and shingles, i.e. covering for uses: these trees grow generally on the poorest land.

The Pitch-land Pine is not so large a tree, nor are its leaves nor cones long as those of the Pitch-Pine; besides, the wood contains much less rosin, the grain is of a yellowish white colour; the wood of this tree is inferior to that of the Pitch Pine, tho' it splits well, and has its peculiar uses: these grow in better land than the Pitch-Pine.

The Short-leaved Pine is usually a small tree, with short leaves and small cones. It delights in middling land, and usually grow mixed with oaks.

The swamp Pine grows on barren wet land; they are generally tall and large: the cones are rather large. These trees afford little rosin, but are useful for masts, yards, and many other necessaries.

There is also in Carolina, a fir which is there called Spruce Pine.

The numerous species of the fir and pine which our northern colonies

abound in, have (till of late) been little known to the curious, of whom no one has contributed more than my indefatigable friend Mr. P. Collinson, who, by procuring from the different parts of America, a great variety of seeds, and specimens of various kinds, has a large fund for a complete history of this useful tree. pag. XXIII.

Besides the Trees which are figured, there are in Carolina these following:

- Pinus. The Pine-Tree } many kinds.
- Abies. The Fir-Tree. }
- Acacia. The Locust-Tree, two kinds.
- Silia. The Lime-Tree.
- Pavia. Scarlet flowering Horse Chestnut.
- Siliquastrum. The Judas-Tree.
- Fagus. The Beech-Tree.
- Ulmus. The Elm-Tree.
- Salix. The Willow-Tree.
- Sambucus. The Elder-Tree.
- Corylus. The Hazel-Tree.
- Carpinus. The Horn-beam-Tree.

The manner of making Tar and Pitch.

The Pitch-Pine is that from which Tar and Pitch is made, it yielding much more rosin than any of the other kinds; These trees grow usually by themselves with very few of any other intermixed. The dead trees are only converted to this use, of which there are infinite numbers standing and lying along, being killed by age, lightning, burning the woods, &c. The dead trunks and limbs of these trees, by virtue of the rosin they contain, remain sound many years after the sap is rotted off, and is the only part from which the Tar is drawn. Some trees are rejected for having too little heart; these are first

tried with a chop of an ax, whether it be light wood, which is the name
by which wood that is fit to make Tar of is called: this light wood is cut in
pieces about four foot long, and as big as one leg, which with the knots
and limbs, are pick'd up, and thrown in heaps: after a quantity sufficient
to make a kiln is thus gathered in heaps, they are all collected in one heap
near their centre, on a rising ground, that the water may not impede the
work. The light wood being thus brought into one heap, is split again
to smaller pieces; then the floor of the Tar-kiln is made in bigness pro-
portionable to the quantity of the wood; in this manner a circle is drawn
thirty foot diameter, more or less, the ground between it being laid de-
clining, from the edges to the centre, all round about, sixteen inches, more
or less, according to the extent of the circle. Then a trench is dug from
the centre of the circle to the edge or rim, and continued about five or
six feet beyond it, at the end of which a hole is dug to receive a bar.
In this trench a wooden pipe is let in of about three inches diameter,
one end thereof being laid so as to appear at the centre of the circle, the
other end declining about two foot, after which the earth is thrown in
and the pipe buried, and so remains till the kiln is built. Then clay
is spread all over the circle about three inches thick and the surface
made very smooth; great care is taken to leave the hole of the wooden
pipe open at the centre, that nothing may obstruct the Tar running
down from all sides into it; this done they proceed to set the kiln
follows, beginning at the centre, they pile up long pieces of light wood
as close as they can be, set end-ways round the hole of the pipe, in a
pyramidal form, six feet diameter, and eight or ten feet high; then they
lay rows of the four foot split billets from the pyramid all round to
floor to the edge, very close one by one, and the little spaces between
are filled up with the split knots before mentioned. In this manner a

The wood is laid on the floor, which bey made declining to the centre, the wood lies so also; thus they proceed, laying the wood higher and higher quite round till it is raised to thirteem or fourteen foot projecting out, so that when finished, the kiln is about four or five foot broader at the top than at the bottom, and is in form of an hay-stack before the roof is made. Then the short split limbs and knots are thrown into the middle so as to raise it there about two soot higher than the sides, then the kiln is walled round with square earthen turfs about three foot thick, the top being also covered with them and earth thrown over that. The turfs are supported without by long poles putt cross, one end binding on the other in an octangular form, from the bottom to the top, and then the kiln is fit to be set on fire to draw off the Tar, which is done in the following manner:

A hole is opened at the top, and lighted wood putt therein, which so soon as the fire is well kindled, the whole is closed up again, and other holes are made through the turfs on every side of the kiln, near the top at first, which draws the fire downward, and so by degrees those holes are closed, and more opened lower down, and the long poles taken down gradually, to get ^{the} turfs to open the holes. Great care is taken in burring, to open more holes on the side the wind blows on than on the other, in order to drive the fire down gradually on all sides: in managing this, great skill is required, as well as in not letting it burn too quick, which wastes the Tar; and if there is not air enough let in, it will blow (as they call it) and often hurts the workmen; they are likewise frequently throwing earth on the top, to prevent the fire from blowing out, which also wastes the Tar. The second day after firing, the Tar begins to run out at the pipe, where a barrel is set to receive it, and so soon as it is full, another is putt in its place, and so on till the kiln runs no more, which is usually in about four or five days; after which all the holes in the sides are stop'd up, and earth thrown on the top, which puts out the fire,

and preserves the wood from being quite consumed, and what remains is charcoal. A kiln of thirty foot diameter, if the wood proves good, and is skilfully worked off, will run about 160 or 150 barrels of Tar, each barrel containing 32 gallons. The full barrels are rolled about, every three or four days, for about twenty days, to make the water rise to the top, which being drawn off, the barrels are filled again, bunged up, and fit for use.

In making Pitch, round holes are dug in the earth near the Tar-kiln, five or six feet over, and about three feet deep; these holes are plaistered with clay, which when dry they are filled with Tar, and set on fire, while it is burning it is kept continually stirring, when it is burnt enough (which they often try by dropping it into water) they then cover the hole, which extinguishes the fire, and before it cools it is put into barrels. It wastes in burning about a third part. So that three barrels of Tar makes about two of Pitch. No Tar is made of green Pine-trees in Carolina, as is done in Denmark and Sweden.

Of Beasts.

Besides the description of those particular beasts inhabiting the country here treated of, I shall give an account of the beasts in general of North America which are

The Panther.

Wild Cat.
 Bear.
 White Bear.
 Wolfe.
 Buffello.
 Moose Deer.
 Stag.
 Fallow Deer.
 Greenland Deer.
 Rabbit.
 Bahama Coney.

Monax.

Gray Squirrel.
 Gray Fox Squirrel.
 Black Squirrel.
 Ground Squirrel.
 Flying Squirrel.
 Gray Fox.
 Raccoon.
 Opossum.
 Polecat.
 Weasle.
 Mink.

Beaver.

Otter.
 Water-Rat.
 House-Rat.
 Musk-Rat.
 House-Mouse.
 Field-mouse.
 Moles.
 Quick-hatch.
 Porcupine.
 Seal.
 Morse.

These I shall divide into the four following classes.

Beasts of a different genus from any known
in the old world.

The Opopnum.

Raccoon.

Quick-hatch.

Beasts of the same genus, but different in species from
those of Europe, and the Old world.

The Panther.

Wild Cat.

Buffello.

Moose Deer.

Stag.

Fallow Deer.

Gray Fox.

Gray Squirrel.

Gray Fox-Squirrel.

Black Squirrel.

Ground Squirrel.

Flying Squirrel.

Potocat.

Porcupine.

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Beasts of which the same are in the Old world.

The Bear.

White Bear.

Wolf.

Weasle.

Beaver.

Otter.

Water-Rat.

The House Rat.

Musk Rat.

House-Mouse.

Field-Mouse.

Mole.

Seale.

Morse.

Beasts that were not in America, till they were
introduced there from Europe.

The Horse.

Ape.

Cow.

Sheep.

The Goat.

Hog.

Dog.

Cat.

Panthera. The Panther.

The Panther at its full growth is three feet high, of a reddish colour like that of a lion, without the spots of a leopard, or the stripes of a tyger, the tail is very long. They prey on deer, hogs, and cattle, the deer they catch by surprize, and sometimes hunt them down. They very rarely attack a man, but fly from him: tho' this fierce and formidable creature is an overmatch for the largest dog, yet the smallest cat, in comparison with is master, will make him take a tree, which they will climb to the top of with the greatest agility. The hunter takes this opportunity to shoot him, though with no small danger to himself, if not killed outright for descending furiously from the tree, he attacks the first in his way either man or dog, which seldom escape alive. Their flesh is white, when tasted, and is much esteemed by the Indians and white people.

Catus Americanus.

The Wild Cat.

This beast is about three times the size of a common cat: it is of a reddish grey colour, the tail is three inches and a half long: it much resembles a common cat, but has a fierce and more savage aspect: they climb trees and prey on all animals they are able to overcome; and tho' by their swiftness they are unable to take deer in the manner that panthers do by running them down, yet lying snug on the low limbs of trees they leap suddenly on the backs of the deer as they are feeding, fix so fast with their claws, and sucking them, that the deer by vehement running being spent, becomes a victim to the wild cat.

URSUS.

The Bear.

The Bears in North America are somewhat smaller than those of Europe, otherwise there appears no difference between them. They never attack man, except oppressed by hunger in excessive cold seasons, or wounded by him. Vegetables are their natural food, such as fruit, roots &c. on which they subsist wholly till cold deprives them of them. It is then only they are compell'd by necessity, and for want of such food, to prey on hogs and other animals. So that Bears seem with no more reason to be ranked with ravenous carnivorous beasts, than jays and magpies do among birds of prey, which in frigid seasons, being deprived of their natural vegetable food, hunger compels to feed upon and kill smaller birds. I have seen a chaffinch forced by the like necessity, to feed on putrid carrion: Bears as well as all other wild beasts, fly the company of man, their greatest enemy, and as the inhabitants advance in their settlements, Bears retreat further into the woods, yet the remoter plantations suffer not ^{p. xxxvi.} little by their depredations, they destroying ten times more than they eat of Maiz or Indian corn. They are so great lovers of potatoes, that when once discovered by them, it is with difficulty they are deterred from getting the greatest share. They have a great command of their fore paws, which by their structure seem as much adapted to the grubbing up roots as the snouts of hogs, and are much more expeditious at it. Nuts, acorns, grain, and roots are their food, several kind of berries by their long hanging are part of their Autumn and Winter subsistence, the stones and indigested parts appearing in their dung, as those of the Cornus, Smilax, Tupelo &c. the berries of the Tupelo tree are so excessive bitter, that at the season Bears feed on them, their flesh receives an ill flavour. In March when hogs run up the creeks and shallow waters to spawn, Bears feed on them, and are very expert at pulling them out of the water with their paws.

Their flesh is also very rank and unsavory, but at all other times is wholesome, well tasted, and i think excelled by none; the fat is very sweet and of the most easy digestion of any other. I have myself, and have often seen others eat much more of it, than possibly we could of any other fat without offending the stomach.

A young Bear fed with Autumn's plenty, is a most exquisite dish. It is universally granted in America, that no man, either Indian or European ever killed a Bear with young. The inhabitants of James river in Virginia in one hard Winter killed several hundred Bears, amongst which were only two females, which were not with young. This is a fact notorious known by the inhabitants of that river, from many of whom i had it tested. They are, notwithstanding their clumsy appearance, very nimble creatures, and will climb the highest trees with surprising agility, and be wounded will descend breech foremost, with great fury and resentment to attack the aggressor, who without armed assistance has a bad chance for his life.

Ursus albus Marinus.

The White Bear.

The white Bear seem to be the most Northern quadruped of any other, and is found most numerous within the Arctic circle, on the continents of Europe and America. They are never found far within land, but inhabit the shores of frozen Seas, and on Islands of ice. Their chief food is fish, particularly the carcases of dead whales cast on shore: they also devour seals, and what other animals they can come at. They are very bold and voracious, which obliges the Northern voyagers, at their whale-boats, to be very vigilant in avoiding being devoured by them. Within these few years there have been exhibited at London two of these Animals, one of which, though not above half grown, was as big as two common

Bears. By the account given of them by Northern voyagers, they are of a mighty stature at their full growth; a skin of one measured thirteen feet in length. In shape they much resemble the common Bear, yet differ from them in the following particulars, viz. Their bodies are covered with long thick woolly hair, of a white colour; their ears are very small, short, and rounding; their necks very thick, their snouts thicker, and not so sharp as in the common Bear.

LUPUS.

The Wolf.

These Wolves in America are like those of Europe in shape and colour, but are somewhat smaller; they are more timorous and not so voracious as these of Europe, a drove of them will fly from a single man: yet in very severe weather there has been some instances to the contrary. Wolves were domestic with the Indians, who had no other dogs before. Those of Europe were introduced, since which the breed of Wolves and European dogs are mixed and become prolific. It is remarkable, that the European dogs, that have no mixture of Wolfish blood, have an antipathy to those that have, and worry them whenever they meet: the Wolf breed act only defensively, and with his tail between his legs, endeavours to evade the others fury. The Wolves in Carolina are very numerous, and more destructive than any other animal. They go in droves by night, and hunt deer like hounds, with dismal yelling cries.

pag. XXVII. Bison Americanus.

The Buffalo.

These creatures, though not so tall, weigh more than our largest oxen; the skin of one is too heavy for the strongest man to lift from the ground; their limbs are short, but very large; their heads are broad, their horns are curved, big at their basis, and turn inward, on their shoulders is a large prominence or bunch, their chests are broad, their hind parts narrow,

with a tail a foot long, bare of hairs, except that at the end is a tuft of long hairs. In winter their whole body is covered with long shaggy hair, which in summer falls off, and the skin appears black, and wrinkled, except the head, which retains the hair all the year. On the forehead of a Bull the hair is a foot long, thick and frizzled, of a dusky black colour; the length of this hanging over their eyes, impedes their flight, and is frequently the cause of their destruction: but this obstruction of sight is in some measure supplied by their good noses, which is no small safeguard to them. A Bull in summer with his body bare, and his head muffled with long hair, makes a very formidable appearance. They frequent the remote parts of the country near the mountains, and are rarely seen within the settlements.

They range in droves, feeding in open Savannas morning and evening; and in the sultry time of the day they retire to shady rivulets and streams of clear water, gliding through thickets of tall canes, which though a hidden retreat, their heavy bodies causing a deep impression of their feet in moist land, are often traced, and shot by the artful Indians: when wounded they are very furious, which cautions the Indians how they attack them in open Savannas, where no trees are to screen themselves from their fury. Their horns are more than their horns are their offensive weapons, and whatever opposes them are in no small danger of being trampled into the earth. Their flesh is very good, of a high flavour, and differs from common beef, as venison, or mutton. The bunch on their backs is esteemed the most delicate part of them. They have been known to breed with tame cattle, that were become wild, and the calves being so too, were neglected; and though it is the general opinion, that if reclaiming these animals were impracticable (of which no trial has been made) to mix the breed with tame cattle, would much improve the breed, yet nobody has the curiosity, not have given themselves any trouble about it. Of the skins of the Beasts the Indians make their Winter Moccasins, i.e. shoes; but being too heavy for cloathing are not so often put to that use: they also work the long hairs in garters, aprons &c. Dying them into various colours.

Alce maxima Americana nigra.

The Moose or Elk.

This stately Animal is a native of New England, and the more Northern parts of America, and are rarely seen South of the Latitude of 40, and consequently are never seen in Carolina. I never saw any of these Animals; but finding the relations that have been given of their stupendous bulk and stature, savour so much of hyperbole, I was excited to be the more inquisitive concerning them; which in America I had frequent opportunities of both Indians and white men who had killed them: from which enquiries I could not understand that any of them ever arrive to the height of six feet, which is no more than half the height of what Mr. Corselet says they are in his account of New England: and though in a later account this lofty animal has been shortened a foot and a half, there still remains four feet and an half to reduce it to its genuine stature.

A very curious Gentleman, and native of New England, informs me, that they abound in the remotest parts of that colony, and are very rarely seen in the inhabited parts, and as rarely brought alive into the settlements: it therefore seems probable, that the aforesaid exaggerated accounts of this Animal was an imposition on the too credulous relates, who never saw any themselves. The above Gentleman further adds, that a Stag Moose is about the bigness of a middle sized ox. The Stag of this Coast hath palmated horns, not unlike those of the German Elk, but differs from them in having branched brow-antlers. See a figure of the horns, Philos. Transact. N.º 444.

pag. XXVIII. *Cervus major Americanus.*
The Stag of America.

This beast nearest resembles the European red deer, in colour, shape, and form of the horns, though it is a much larger animal, and of stronger make; their horns are not palmated, but round, a pair of which weighs upwards of thirty pounds; they usually accompany bucks, with whom they range in droves in the upper and remote parts of Carolina, where, as well as in our other colonies, they are improperly called elks. The French in America call this beast the Canada Stag. In New England it is known by the name of the grey moose, to distinguish it from the preceding beast, which they call the black moose.

Dama Americana.
The Fallow Deer.

These are the most common Deer of America; They differ from the fallow Deer in England, in the following particulars, viz. they are taller, longer legged, and not so well haunched as those of Europe; their horns are but little palmated, they stand bending forward, as the others do backward, and spread but little. Their tails are longer. In colour these Deer are little different from the European fallow Deer, except that while young their skins are spotted with white. Near the sea they are always lean, and ill tasted, and are subject to bots breeding in their heads and throats, which frequently discharge at their noses.

Caprea Greenlandica.

The Greenland Deer.

In the year 1738 and 1739. Sir Hans Sloane had brought him from Greenland a buck and a doe of this kind of Deer. The buck was about the height of a calf of a month old, and at a distance so much resembled one, that at first view it has been taken for a calf, before the horns were grown. These Deer have thicker necks, and larger limbs, than the fallow deer; the horns are much curved, and stand bending forward, the brow antlers are placed near together, and are palmated. In Winter they are warmly cloathed, with thick woolly hair, of a dusky white colour, which at the approach of Spring falls off, and is succeeded by a cooler summer covering of short smooth hair, of a brown colour. The does have also horns. The noses of these Deer are in a singular manner covered with hair. These seem to be a different species of Deer from the Reindeer of Lapland.

Cuniculus.

The Rabbit.

The Rabbit of Carolina is also common to the other Northern parts of America; they are commonly called Hares. They differ but little in appearance from our wild rabbit, being of like form and colour, at is also the colour and taste of the flesh. They do not burrow in the ground, but frequent marshes, hiding in sedgey watery thickets, and when started run for refuge into hollow trees, into which they creep as high as they can, but by kindling a fire, the smoke smothers and compels them to drop down, and so are taken. In Autumn these Rabbits are subject to large maggots, which are bred between the skin and flesh.

Marmota Americana.

The Mole.

This Animal is about the bigness of a wild rabbit; and of a brown colour. The head also resembles most that of a rabbit, except that the ears are short like those of a squirrel. The feet are like those of a rat, the tail like that of a squirrel but much less hairy. It feeds on bread, fruit, and other vegetative diet; at certain times they retire to their subterraneous lodgings, and sleep continually a month or longer together. They are Inhabitants of Maryland, Pennsylvania, &c. Their flesh is esteemed good meat.

Vulpi affinis Americana.

The Raccoon.

The Raccoon is somewhat smaller, and has shorter legs than a fox. It has the pointed ears, a sharp nose, and a brush tail, transversely marked with black and gray; the body is gray, with some black on its face and ears. It resembles a fox more than any other creature, both in shape and subtilty, but differs from him in their manner of feeding, which is like that of a squirrel, and in not burrowing in the ground. They are numerous in Virginia and Carolina, and in all the Northern parts of America, and are a great nuisance to corn fields and henroosts: their food is also berries and all other wild fruit. Near the Sea, and large rivers, oysters and crabs are what they very much subsist on; they disabie oysters when open, thrusting in one of their paws, but are often catch'd by the sudden closing of it, and held so fast (the oyster being immoveably fixed to a rock of other that when the tide comes in they are drowned. They live all the year in hollow trees, and dark shady swamps: at nights they rove about the woods for prey. Their flesh is esteemed good meat, except when they eat fish. Through their Penis runs a bone in form of an S.

Marsupiale Americanum.

The Opossum.

The Opossum is an Animal peculiar to America, particularly all the northern Continent abound with them as far North as New England; and as Merian has described them at Surinam, it is probable they inhabit as far to the South as they do to the North. This Beast being of a distinct genus, has little resemblance to any other creature. It is about the size of a large rabbit: the body is long, having short legs; the feet are formed like those of a rat, as are also its ears; the snout is long; the teeth like those of a dog. Its body is covered thinly with long bristly whitish hair; the tail is long, thaped like that of a rat, and void of hair: but what is most remarkable in this creature, and differing from others, is its false belly, which is formed by a skin or membrane (inclosing its Dugs) which it opens and closes at will. Though contrary to the laws of Nature, nothing is more believed in America, than that these Creatures, are bred at the teats of their Dams: but as it is apparent from the dissection of one of them by Dr. Tyson, that their structure is formed for generation like that of other animals, they must necessarily be bred and excluded the usual way of other quadrupeds; yet that which has given cause to the contrary opinion is very wonderful; for I have many times seen the young ones just born, fixt and hanging to the teats of their Dams when they were not bigger than mice: in this state all their members were apparent, yet no so distinct and perfectly formed, but that they looked more like a foetus than otherwise, and seem'd inseperably fix'd to the teats, from which no small force was required to pull their mouths: and then being held to the teat, would not sia to it again. By what method the dam after exclusion fixes them to her teats, is a secret yet unknown. See Philo. Transact. n^o 239. and n^o 290. In Brasil it is call'd Carrigeya.

M^r le Brun, in his Travels through Moscovy, Persia &c. to the East Indies, vol. II. pag. 247. hath given a Figure and imperfect Description of an Animal, somewhat resembling this Species of Creatures, which he saw kept tame near Batavia, in the island of Java, and was there call'd Filander.

Fiber. The Beaver.

Beavers inhabit all the Northern continent of America, from the latitude of 30. to the latitude of 60. They differ nothing in form from the European Beaver; they are the most sagacious and ^{p. xxx} provident of all other quadrupeds; ^{pag. xxx} their oeconomy and inimitable art in building their houses would, I think, be the most Skillful Architect to perform the like; in short, their performances would almost conclude them reasonable creatures. Their houses are always erect over water, which is a necessary situation, that as they being amphibious, may in the most convenient manner enjoy both elements, and in any emergency plunge into the water. These edifices are usually three stories high, one of them under water, another over that, and a third over both: the uppermost chamber serves as a retreat and a store-room in case of inundations, and though Instinct guides them to such places, which by situation are less liable to rapid streams, and that these apartments are built with a strength better able to resist torrents, than human art can perform, with the like materials; yet these artful fabricks are often swept away by impetuous currents, which necessitates them to rebuild in another place. The materials that compose these fabricks are trees, viz. the limbs of trees, cut into different dimensions fitting their purpose, beech, reeds, ledge, mud, &c. The capacity and unanimity of these creatures is nothing more remarkable; than in their cutting down trees with their teeth and carrying them considerable distances. I have measured a three thus felled by them, that was three feet in circumference, and in height proportionable, which I was assured by many was much smaller than some they cut down. Their joint concurrence and manner of carrying such vast loads is so extraordinary, that it can hardly be imagined, but that the

seeing this remarkable performance must have been attempted by one, or other, yet I never heard it confessed by any white Man that he saw it. Whether they perform this work in dark nights only, or that they are endowed with a greater sagacity than other Animals to conceal their secret ways, I know not. Some are taken by white Men, but it is the more general employment of Indians, who as they have a sharper sight, hear better, and are endued with an instinct approaching that of beasts, are so much the better enabled to circumvent the subtleties of these wary creatures. See a farther account of this Animal, and of the use of the Castoreum, in Philos. Transact. N^o 430.

Ursulo affinis Americana.

The Quickhatch.

This Animal inhabits the very Northern parts of America, and has not been observed by any Author, or known in Europe till the year 1737, one was sent to Sir Hans Sloane, from Hudson's Bay. It was about fourteen inches high, and in shape most resembled a bear particularly the head. The legs were short and thick, the feet like those of a bear, the number of toes on each foot were five, with strong claws; it had a brush tail the whole body was covered with a very thick hairy furr of a dark brown colour.

My want of an opportunity of figuring this with the monard, porcupine, and Greenland deer, is amply supplied by M^r. Edwards, of the Royal College of Physicians, who in a collection of the figures and descriptions of fifty rare Animals, has amongst them figured these with great truth and accuracy.

Histrix pilosus Americanus.

The Porcupine of North America.

This beast is about the size of a Beaver, and somewhat resembles it in the form of its body, and head, having also four teeth, placed in like manner as those of the beaver; its ears are small, round, and almost hid by the hair about them; the legs are short, the fore feet having each four toes, and the hind feet five on each foot, with very long claws; the tail is somewhat long, and with its whole body is covered with long soft fur, of a dark brown colour, among which were, thinly interspersed stiff bristly hairs, much longer than the fur: the quills, which are the characteristic of this Animal, are largest on the hind part of the back, yet are not above three inches in length, gradually shortening to the head and belly; the point of every quill is very sharp and jagged, with small prickles, not discernable but by a microscope. The nose is remarkably covered with hair. The Porcupines are natives of New England, and more Northern parts of America, and are sometimes, tho' rarely, to be seen as far South as Virginia.

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EQUUS.

The Horse.

The Horses of Carolina are of the Spanish breed, occasioned by some hundreds of them being drove as plunder from the Spanish settlements, about the year — . They are small, yet hardy and will endure long journeys, and are not subject to so many maladies as are incident to Horses in England. As stallions have been introduced from England, the breed must necessarily be improved Carolina being in a climate that breeds the finest Horses in the World.

Vacca.

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The Cow.

Cows and Oxen in Carolina are of a middling size. Cows yield about half the quantity of milk as those of England. In the upper parts of the country the milk is well tasted, but where cows feed in salt marshes the milk and butter receives an ill flavour. Cattle breed so fast, and are so numerous in Carolina, that many run wild, and without having the owner's mark, are any one's property.

Ovis.

The Sheep.

The Sheep of Carolina being of English breed, have the like appearance, and are of a middling size; their flesh is tolerably well tasted, and will probably be much better, when they are fed in the hilly parts of the country. The wool is fine, and though they are not so much clothed with it as sheep in the Northern parts, yet they have much more than those which inhabit more South. An instance of which I observed in sheep carried from Virginia to Jamaica which as they approached the South, gradually drop their fleeces, which by the time they arrived at the island, was all fallen off, and was succeeded by hair, like that of goats. This, besides infinite other instances, shews the wise designs of Providence, in bestowing on these creatures extraordinary cloathing necessary to human life in cold countries, and easing them of that load which otherwise might be insupportable to them in sultry countries, and of little use to man.

Porcus.

The Hog.

The Hogs of Carolina and Virginia are of a small breed, and a rusty reddish colour. Their being liable to the attacks of rapacious beasts, seem'd to have embolden'd, and infused into them a fierceness much more than our English

Wine; and when attacked will, with their united force, make a bold stand, and bloody resistance. The great plenty of mast, and fruit, so adapts these countries to them, that they breed innumerable, and run in many parts of the country. Their flesh excels any of the kind in Europe which peaches and other delicacies they feed on contribute to. But to such they design to make bacon of, they give Indian corn to harden the fat.

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Of Fish.

A list of the common Names of the Fish of Carolina exclusive of those before figured and described.

Sea Fish

Whale.
 Grampus.
 Shark.
 Dog-Fish.
 Porpense.
 Tresher.
 Bottle-nose.
 Sword-Fish.
 Saw-Fish.
 Devil-Fish.
 Cavally.
 Blue-Fish.
 Drum-black.
 Drum-red.
 Angel-Fish.
 Shad.

Garr-white.
 Garr-green.
 Mullet.
 Sole.
 Blaise.
 Sting-Ray.
 Thornback.
 Rounder.
 Bass.
 Sea Tench.
 Sheep-head.
 Eel.
 Eel conger.
 Eel lamprey.
 Fat-back.
 Herring.
 Taylor.
 Smelt.

Breem.
 Trout.
 Toad-Fish.
 Sun Fish.
 Black-Fish.
 Rock-Fish.
 Crabs &c.

River Fish.

Pike.
 Bearch.
 Trout.
 Roach.
 Dace.
 Carp.
 Cat-fish.

Some

Some observations concerning The Fish on the
Coast of Carolina and Virginia.

Balaena.
Whales.

Whales of different species are sometimes cast on shore, as are crampus's
in storms and hurricanes.

Diabolus marinus.

The Devil-fish.

This is a flat Fish, and somewhat resembles a Skate. On its head are two or
more horns; in each jaw is a thick flat bone, which by moving horizontally
in the manner of mill stones, grinds its food, which is shell-fish &c. A small fish
of this kind I once caught in a net, but it unluckily falling overboard, I was
deprived of an opportunity of observing it, which I much regretted, not only
for its scarcity, but the extraordinary oddness of its structure. It is a large
fish, and of great strength, as will appear by the following circumstance.
A sloop of 80 tons lying at anchor in the harbour of Charles-Town,
was on a sudden observed to move and scud away at a great rate. This
being in view of hundreds of spectators, and it being known that
no body was on board it, caused no small consternation: at length
it appeared to be one of these fish, which had entangled its horns
with the cable, and carried the sloop a course of some leagues be-
fore it could disentangle itself from it, which at length it did,
and left the sloop at anchor again, not far from the place he
moved it from.

DORCUS.
The Porpesse.

Porpesses are numerous in bays and creeks, where by their furious pursuit of other fish, they often plunge themselves so far on shore, that for want of a sufficient depth of water to retreat back, they are left on land, and become a prize to the discoverer, they yielding much oil. These fish will not be taken by a bait: they are gregarious, being rarely seen single. They are straight bodies, but by their undulating motion in swimming, and by their appearing alternately in and out of the water, they seem to be curved and resemble the shape of the dolphin, as they are figured in the sculptures of the Ancients.

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Lamia.
The Shark.

Sharks in Carolina are not so numerous, large and voracious as they are between the Tropicks; yet the coast, bays and larger rivers have plenty of them, as well as of a diminutive kind of shark called a Dog-fish, which are cat.

Coracino affines.

Black and Red Drum Fish.

These Fish are about the size of Cods, and shaped not unlike them. They are esteemed very good fish; and by their great plenty are no small benefit to the inhabitants, who in April and May resort in their canoes to the bays and large rivers, and at night, by the light of a fire in their canoes, kill great plenty of them, by striking them with harpoons, besides in the day time with hook and line. Many of them are yearly barrell'd up with salt, and sent to The West Indies.

LUPUS.
The Bass.

The Bass is a Fish of equal size, and esteemed very good; they are found both in salt, and in fresh water, in great plenty.

Malices.

Herrings.

Herrings in March leave the salt waters, and run up the rivers and shallow streams of fresh water in such prodigious shoals, that people cast them on shore with shovels. A horse passing these waters, unavoidably tramples them under his feet; their plenty is of great benefit to the inhabitants of many parts of Virginia and Carolina.

But the most extraordinary inundation of fish happens annually a little within the northern cape of Chesapeake Bay in Virginia, where these are cast on shore usually in March, such incredible numbers of fish, that the shore is covered with them a considerable depth, and three miles in length along the shore. At these times the inhabitants from far within land, come down with their carts and carry away what they want of the fish; those remaining to rot on the shore, many times more than sufficed them. From the pollution that this causes, the place has attain'd the name of Magotty Bay.

These fish are of various kinds and sizes, and are drove on shore by the pursuit of Porpoises and other voracious fish, at the general time of spawning; amongst the fish that are thus drove on shore, is a small fish called a Fat-back: it is thick and round, resembling a mullet, but smaller. It is an excellent sweet fish, and so excessive fat, that butter is never used in frying, or any other preparation of them. At certain seasons and places there are infinite numbers of these fish caught, and are much esteemed by the inhabitants for their delicacy.

All the sea and river fish that I observed in Carolina differ from those in Europe of the same kind; except spikes, eels and herrings, though possibly there may be more that escaped my knowledge.

Sturio. The Sturgeon.

At the approach of the Spring, Sturgeons leave the deep recesses of the Sea, and enter the rivers, ascending by slow degrees to the upper parts to cast their spawn. In May, June, and July, the rivers abound with them, at which time it is surprising, though very common, to see such large fish elated in the air, by their leaping some yards out of the water: they do in an erect posture, and fall on their sides, which repeated percussions are loudly heard some miles distance in still evenings: it is also by this leaping action that many of them are taken, for as some parts of the rivers afford them most food, to those places they resort in great plenty. Here the inhabitants (as the Indians taught them) place their canoes and boats, that when the Sturgeons leap, these boats and canoes may receive them at their fall. It is dangerous passing over these leaping holes, as they are called, many a canoe, and small boat having been overset by the fall of a Sturgeon into it.

At the latter end of August great numbers of these Sturgeons approach to cataracts, and rocky places of the river, where the English and Indians go to strike them, which they do with a cane 14. feet in length, and pointed at the smaller end: with this the striker stands at the head of the canoe, another steering it. The striker when he discovers one lying at the bottom, which they generally do in six or eight feet depth) gently moves the pointed end of the cane to the fish, giving it a sudden thrust between the bony scales into its body, at which the fish scuds away with great swiftness, drawing the cane after it, the great end of which appearing on the surface of the water, directs it

strikes which way to pursue his chase. The fish being tired, slackens its
pace, which gives the strikers an opportunity of thrusting another cane in-
to it, then it shudders away as before, but at length by loss of blood faints, and turn-
ing its belly upwards, submits to be taken into the canoe.

A the Sturgeon contains about a bushel of spawn, and weighs usually three
hundred, and some three hundred and fifty pounds, and are about nine feet long:
the males are less.

Twenty miles above Savanna fort, on the Savanna river, where the cataraacts
begin, three of us in two days killed sixteen, which to my regret were left rotting
on the shore, except what we regaled our selves with at the place, and two we
brought to the garrison. Such is the great plenty and little esteem of so excellent
fish, which by proper management might turn to a good account, by pickling
and sending them to the Sugar Islands.

Speculative Knowledge in things meerly curious, may be kept secret without
much loss to mankind. But the concealing things of real use is derogating
from the purposes we were created for, by depriving the Publick of a benefit
designed them by the donor of all things. It is on this motive, I here insert a re-
ceipt for pickling Sturgeon and Caviar, which though not a Notum, it not known
to many, especially in America, where it can be of most use.

These receipts I was favoured with by his Excellency Mr. Johnson, late
Governor of South Carolina, which he told me he got translated from
the original in High Dutch, which was wrote in gold letters and fixed
in the Town Hall at Hambourgh. At the same time and place he
procured nets for catching them, with a design of manufacturing
this useful fish in his government. But perplexities ensuing not long
after, obstructed his design, which otherwise would probably have given a
good example to so laudable an undertaking.

To pickle Sturgeon.

Let the Fish when taken, cool on the ground, 24, 36, or 48 hours, as the weather requires; then cut it in pieces, and throw it into clean water, stirring the water several times; whilst it is soaking, wash and brush it with hard brushes, till it is very clean, which it will be in two or three hours, and then you may tie it up with baps, and boil it: put the fish in the Kettle when the water is cold, and in the boiling, the fat must be taken off very well: put in somewhat more salt than in boiling other fish, and turn it well, and boil it very softly till it be tender, an hour or an hour and half, or two hours, according to the age of the fish, and then let it cool very well, and put it into pickle: the pickle must be made of five eighths of bees vinegar, and three eighths of the broth it was boild in mix'd together, and salt the pickle very well with unbeat salt, somewhat more than will make a freewill egg swim, and that will cure it.

To make Caviar.

As soon as the Sturgeon is caught, rip up the belly, and take out the roe, and cut it as near as you can, flake by flake aunder, and season it with good Spanish salt, extraordinary sharp, putting it into a barrel, and there let it lie, at least six weeks, and then take it out, and wash off the salt very well; then lay it on boards in the sun, so thin a slice that it may soon dry on both sides. It must be turned, but care must be taken that it be not too hard dried, but that you may pack it close, and as you pack it, take out all the thick skins, in which you must be very nice; and when it is packed very close, you must then take some heavy weights and lay upon it, that it may be pressed very hard; the it will be as close as a cheese to keep for use.

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These rocky-parts of the Rivers abound also with many excellent kind of fish particularly perch of a very large size, and delicate taste, which in August and September become so fat by feeding on grapes, which drop from vines hanging over the rivers, that their abdomens are lined with flakes of fat, as thick as ones fingers. There are besides peculiar to these upper parts of the Savanna River a singular species of river turtle, which by boiling with the shell on, the whole becomes tender and eatable, which shell before it is boiled, seem as hard as those of the other kinds.

Some Remarks on American Birds.

The Birds of America generally excel those of Europe in the beauty of their plumage, but are much inferior to them in melodious notes; for except the Mockbird, I know of none that merits the name of a song bird, unless the red bird known in England by the name of the Virginian nightingale may be allowed it: this deficiency I have observed to be still greater in birds, of the torrid parts of the World, whose chattering odd cries are little entertaining: this is evidenced in a small tract, printed in the year 1667, giving an account of Surinam, then possessed by the English, which says that the birds there, for beauty, claim a priority to most in the World, but making no other harmony than in horror, one howling, another skreaking, a third as it were groaning and lamenting, all agreeing in their ill concerted voices.

In America are very few European land birds, but of the water kinds there are many, if not most of those found in Europe, besides the great variety of species peculiar to those parts of the World.

Admitting the World to have been universally replenished with all animals from Noah's ark after the general deluge, and that those European Birds which are in America found their way thither at first from the old World, the cause of disparity in number of the Land, and water Kinds, will evidently appear by considering their different Structure, and manner of feeding, which enables the water fowl to perform a long voyage with more facility than those of the land. The European water fowl (though they travel Southward in Winter for food) are most of them Natives of very Northern parts of the World, where they return to make their principal abode; this their situation probably may have facilitated their passage by the nearness of the two continents to each other at these places of their abode.

In the Island of Bermudas it frequently happens that great flights of water fowl are blown from the continent of America by strong North West winds on that island, the distance of which from that part of the continent where such a wind must have drove them is little less than a thousand miles: as there has not been observed any land birds, forced in this manner on that island, it seems evident that they are unable to hold out so long a flight, and consequently those few European Land birds that are in America, passed over a narrower Strait of Sea from the old to the new World, than that from the Continent to Bermudas.

Though the nearness or joining of the two Continents be not known we may reasonably conclude it to be within or very near the arctic circle, the coasts of the rest of the Earth being well known; so that those few European Land Birds that are in America must have passed thither from a very frigid part of the old World, and though these Birds inhabit the more temperate parts of Europe, they may also

inhabit the very Northern parts, and by a firmer texture of body may be by Nature better enabled to endure extreme cold than Sparrows, Finches, and other English Birds, which are with us fifty to one more numerous, but are not found in America,

Though these reasons occur to me, I am not fully satisfied, nor do I conclude that by this method they passed from one Continent to the other, the climate, and their inability of performing a long flight, may reasonably be objected.

To account therefore for this extraordinary circumstance, there seems to remain but one more reason for their being found on both Continents, which is the nearness of the two parts of the Earth to each other heretofore where now flows the vast Atlantick Ocean.

It is remarkable, that these European Land Birds that are found in America are of the small kinds, particularly the *Regulus cristatus* is one, and is the very smallest of the European Birds.

There are in America, as well as in Europe, many Birds of passage; those which abide in Carolina the Winter, necessity drives from the frigid parts of the North, in search of food with which the more southern Countries abound: but where Summer Birds of passage go at the approach of Winter, is as little known as to where those of Europe go.

The general and most natural conjecture is, that they retreat to distant countries, but as no ocular testimonies have been produced, some Naturalists may have concluded, that for want of such information, these birds absent themselves in a different manner. If the immensity of the Globe be considered, and the vast tracts of land remaining unknown but to its barbarous natives, 'tis no wonder we are yet unacquainted with the retreat of these itinerant birds.

The reports of their lying torpid in caverns and hollow trees, and of their resting in the same state at the bottom of deep waters, are notions so ill-considered, and absurd, in themselves, that they deserve no farther notice.

If with submission I may offer my own sentiments, I must join in the general opinion, with this additional conjecture, viz. that the place to which they retire is probably in the same latitude of the Southern hemisphere or where they may enjoy the like temperature of air, as in the country from whence they came: by this change they live in perpetual Summer which seems absolutely necessary for their preservation, because all Summer Birds of passage subsist on Insects only, and have tender bills adapted to it, and consequently are unable to subsist in a cold country, particularly Swallows, Martins, and a few others that feed only on the wing.

Though the warm parts of the World abound most with animals in general, water fowl may be excepted, there being of them a greater number and variety of species in the Northern parts of the World, than between the Tropicks: yet rigid Winters compel them to leave their native country, and retire Southward for food; and though they sometimes approach within a few degrees of the Northern Tropick, very few are ever seen within it, and at the return of the Spring, they go back again to the North, and there breed: why water fowl particularly should abound most in cold climates, I can no otherwise attempt to account for, than that as Nature has endowed all creatures with a sagacity for their preservation, so these birds to avoid the danger of voracious animals (to which they are more exposed than land birds) chuse to inhabit where they least abound; all rivers and watery places in the Southern latitudes abound so with ravenous fish, Turtles, Alligators, Serpents,

and other destructive creatures, that the extinction of water fowl would probably be in danger, were they wholly confined to these latitudes: yet there are some species of the Duck kind, peculiar to these torrid parts of the world, which perch and roost upon trees for their greater security, of these are the Whistling-Duck. Hist. Nam. p. 524. The Slashera Duck, vol. 1. p. 93 of this work. The Summer Duck, vol. 1. p. 97. besides some others observed by Margrave and Hernandez.

Land-Birds which breed and abide in Carolina in the Summer, and retire in Winter.

The Cuckoo of Carolina.

The Goat Sucker.

The Summer red Bird.

The Tyrant.

The red-headed Woodpecker.

The blue Grosbeak.

The blue Linnet.

The painted Finch.

The yellow Titmouse.

The purple Martin.

The humming Bird.

The crested Flycatcher.

Land Birds which come from the North, and abide in Virginia and Carolina the Winter, and retire again to the North at the approach of Spring.

The Pigeon of Passage.

The Fieldfare of Carolina.

The Chatterer of Carolina.

The Lark.

The Snow Bird.

The purple Finch.

European Land-Birds inhabiting America.

The greater Nuthatch Bird.

The Sand Martin.

The Cross-bill.

The Cole-Titmouse.

The Creeper.

The golden Crown-Wren.

European Water-Fowls, which I have observed to be also Inhabitants of America, which tho' they abide the Winter in Carolina, most of them retire North in the Spring to breed.

The common Wild Duck.

The Teal.

The Lochan.

The Shoveler.

The Shag.

Penguin.

Alka Hoieri.

Razor-bill.

The Woodcock

Stripes, both Kinds.

Sea-pye.

The grey Heron.

The Turn-stone.

The green Plover.

The grey Plover.

Elk or Wild Swan.

Divers.

Sea Gulls.

Godwit.

Red Shank.

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The following American Sea-Fowl also frequent the Coast of Virginia and Carolina in Winter: and are called.

Black Duck.

Black Plover.

Whistlers.

Bullneck.

Water Witch.

The Black Duck is considerably bigger than the common wild Duck, and is esteemed preferable to it for the goodness of its flesh, which never tastes fishy.

There remains to be observed that in the Winter Season there are great variety of different Species of sea-fowl in numerous flocks feeding promiscuously in open bays and sounds, which being at a great distance from land, is their security, and is the cause that they are seldom shot, and consequently little known; yet have they their enemies in the deep; for voracious fish devouring and maiming them, they are frequently cast disabled on shore, which has given me an opportunity of observing, that most of these fowl are such whose plumage consist most of down, as Loons, Douckers, &c. Nature having provided them with suitable cloathing for such bleak exposures.

Of Insects.

From the influence of the Sun's continual heat between the Tropicks, the numerous Species of insects abound more within those limits, than in Countries that lie North or South of them; particularly many Species that are adapted by Nature to live only in those hot climates, not enduring the cold of Northern climates: besides the perpetual Summer in those hot Countries enables them to procreate the year round, which Winter Countries will not admit of. Notwithstanding these advantages may conduce to supply the torrid Zone with the greatest number of insects, yet Carolina and the more Northern Countries are replenished with innumerable Species, which though they lie all the Winter in a state of inaction, are in their different changes protected from the cold by such various and wonderful methods, that nothing excites

more admiration of the wisdom of our great Creator. This is
a sufficient motive to have attempted some progress in describing
them; but considering now imperfect bare descriptions would be
without figures, which would have been impracticable for me to
execute, without omitting subjects I thought of more consequence
I concluded to take notice only of particular genus's I observed in
Carolina, besides those which are figured, and interspersed in this work.

The Earth-worm.

The leg^d worm, or Guinea-worm.

The Naked Snail.

Chinche, Wallhouse, or Bugs.

Fleas.

Chego.

The Louse.

The Wood-worm.

The Forty-legs, or Centipedes.

The Wood-louse.

The Adder-bolt.

The Cicada, or Locust.

The Grasshopper.

The Man Eyes.

The Cock-rocker.

The Cricket.

The Beetle.

The Fire-fly.

The Butterfly.

The Moth.

The Ant.

The Bee.

The Humble-bee.

The Wasp.

The Fly.

The Musquito.

The Sand-fly.

The Spider.



p. xxxviii. *Of the Bahama Islands.*

The Bahama Islands (called at their first discovery Lucaines or the Lucian Islands) are a tract of small Islands extending from the gulph of Florida in a South East direction almost the whole length of Cuba. The most Northern of these Islands is Grand Bahama, which lies in the 27th degree of North latitude, Crooked island being the Southernmost, is in the latitude of 22. North. These Islands according to the Map, consist of some hundreds, most of them very small; about half a score of the largest are, from 20 to 50 leagues in compass. These are Grand Bahama, Andros, Abaco, Eleutheria or Nalthera, Providence, Crooked Island, and Cat Island.

The Island of Providence, lies in the latitude of 25. North, it is eighteen miles long, and about ten broad: on the North side of it stands Nassau, the principal town of these Islands, and seat of Government: opposite to the town lies Hog Island, which is a narrow slip of land, covered with Palmeto and other trees, and is about four miles long, which stretching parallel with the coast of Providence, makes a harbour before the town capable of admitting ships of about four hundred tons. The town has about houses, most of them built with Palmeto leaves, a few being of stone: a quarter of a mile from the town stands the Governor's house, on the top of a steep hill, which on the North side, overlooks the town, and commands a prospect of the harbour, and sea, sprinkled with innumerable rocks and little Islands: on the South side of the house, also is seen a glimmering light of the sea, cross the Island South: at the West end of the town stands a fort.

Grand Bahama is the largest of the Bahama Islands; it is low, wet, and full of bogs: The Islands of Andros, and that of Abaco, being very little better, yet they are all of use, and much frequented for hunting fishing, and the plenty of excellent timber, and other useful woods they abound in: The Islands of Exuma, and Crooked Island have many salt ponds for which they are much frequented: these Islands, with Cat Island, are said to abound with the most good soil of any of the other, particularly Cat Island, which was formerly called St. Salvador, or Guanahani and is yet more remarkable for being the first land discovered in America by Christ. Columbus: between Grand Bahama Island, and the Island of Cuba on the gulph of Florida, lies a knot of small Islands called the Bermudes, abounding in seals: hither the Bahamians resort to kill them, carrying proper utensils and vessels for boiling and barrelling up the oil drawn from these animals. The Islands before mentioned are the principal for extent, and goodness of soil: the rest are generally small, and very rocky, and contain so small a quantity of soil, that they are not worth settling: according to the opinion of the most knowing and intelligent inhabitants, Crooked Island and Cat Island (which are esteemed the two best) contain not above a tenth or an eighth part at most of the land that is plantable, and the greater part of that indifferent: the number of inhabitants on the Island of Providence are computed to be somewhat less than three hundred; three hundred more are said to inhabit Nathera, and three hundred more on Harbour Island, which is a small Island near Nathera. These were the number of inhabitants which in the year 1725, was computed to be on

the Bahama Islands, besides about Negro Slaves.

Though the crown of England claims all the Bahama Islands, yet there are no residential inhabitants, except on the three before mentioned. The barrenness of these rocky Islands, and the little soil they contain employs not many hands in its culture: therefore the greater part of the inhabitants get their living other ways, viz. the more enterprising in building ships, which they load with salt at Exuma and Crooked Island, and carry it to Jamaica, and to the French at Hispaniola. They also supply Carolina with salt, turtle, oranges, lemons &c. but the greatest number of the Bahamians content themselves with fishing, striking of turtle, hunting Guanias, cutting Brasiletto wood, Sathera bark, and that of wild cinnamon or Winter's bark, for these purposes they are continually roving from one Island to another, on which shores they are frequently enriched with lumps of ambergris, which was formerly found more plentiful on the shores of these Islands. The principal food on which the Bahamians subsist, is fish, turtle, and guanias; there are a few cattle, and sheep, but they increase not so much here as in more Northern countries, especially sheep: goats agree better with this climate. Their bread is made of mair, or Indian corn, and also of wheat; the first they cultivate, but not sufficient for their consumption. Wheat is imported to them in flour from the Northern colonies. There are produced likewise plenty of potatoes and yams, which supply the want of bread, and are so much the better adapted to these rocks, as agreeing well with a barren soil. Besides water, the most general and useful of all liquors, their drink is Madera wine, rum punch, and other liquors, imported to them.

p. xxxix. *Of the Air of the Bahama Islands.*

The Bahama Islands are blessed with a most serene air, and are more healthy than most other countries in the same latitude, they being small, having a dry rocky soil, and pretty high land, are void of noxious exhalations, that lower and more luxuriant soils are liable to. This healthiness of the air induces many of the sickly inhabitants of Carolina to retire to them for the recovery of their health; the Northernmost of these Islands lie as much without the Northern Tropics, as the Southernmost do within it, their extent of latitude being about five degrees; yet that distance, so near the Tropic, causes little difference in their temperature; but those Islands that lie West, and nearest the coast of Florida, are affected with cold winds, blowing from the North-West on a vast tract of continent, to those which lye East, the winds have a long tract of Sea to pass, which brands the frigid particles, and allay the sharpness of them. At the Island of Providence, in December 1725, it was two days so cold, that we were necessitated to make a fire in the Governor's Kitchen to warm us, yet no frost nor snow ever appears there, nor even on Grand Bahama, which lies not twenty leagues from the coast of Florida, yet there the winters are attended with frost and snow.

The North side of Cuba also enjoys the benefit of these refreshing winds, particularly that part of the Island on which the Havanna stands; this, no doubt, is owing to the healthiness of the air and good character of that proud Emporium; the conquest of which, by British arms, would put us in possession of a country much more agreeable to British

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constitutions, than any of the Islands between the Tropicks, and under God enable them to multiply, and stand their ground, without the necessity of such numerous recruits from their mother country, as has been always found necessary to prevent a total extinction, of the inhabitants of our unhealthy Sugar Islands.

I never heard that any of the Bahama Islands are subject to earthquakes, and though Thunder and lighthening is as frequent in these Islands, as in most parts of the World in these latitudes, yet it is less violent than on the continent, where the air is more stagnated. The winds blow three quarters of the year East, and between the South and the East; in Winter the winds are most at North and North-West. August and September are blowing months, and are attended with hurricanes; at which time the winds are very changeable, shifting suddenly to all points of the compass. Tho' the trees and plants are never deprived of their leaves by long droughts, as at Jamaica, and other of the Sugar Islands, they frequently are; yet is rains not often, but so violently, that it supplies the deficiency of more frequent refreshments.

Of the Soyl.

The Bahama Islands may not only be said to be rocky, but are in reality entire rocks, having their surface in some places thinly covered with a light mould, which in a series of time has been reduced to that consistence from rotten trees and other vegetables.

Thus much of the character of these Islands being considered, one would expect that they afforded the disagreeable prospect of bare rocks; but

on the contrary, they are always covered with a perpetual verdure, and the trees and Shrubs grow as close and are as thick clothed with leaves, as in the most luxuriant soil.

Though the productive soil on these rocky Islands is small, the plant-land, as it is here called, consists of three kinds, distinguished by their different colours, as the black, the red, and the white.

The black land is at the declivity of narrow valleys and low places, into which it is washed from the ascents above them; the corruption of vegetable matter, which lie in some places several inches deep, of a dark colour, light, and fine grained. This soil is very productive the first two or three years. In these little valleys, or gullies, have formerly been planted sugar-canes, of which were made rum and malasse. But as the fertility of this land was soon exhausted, obliged the proprietors to desist from cultivating it.

The next land in goodness is the red land, which is more of a natural soil than the black; it has no good aspect, yet is more durable than black, and is tolerably productive.

The white ground is found best for Indian corn, it is a light-coloured land; and though it appears little better than that on the sea-side to which it usually joins, yet it produces a small kind of maize, with good increase. In many places, where the rocks are loose, they are broke into portable pieces, and piled in heaps, between which planted yams, cassada, potatoes, mellons &c. which fructify beyond imagination. Cotton grows on these Islands without cultivation, in the most barren places; it is here perennial, and is said to produce cotton inferior to none in the World.

There are no plains or considerable hills in Providence, or any of the other Islands I was on, but the superficies is every where covered with rocks of unequal sizes, amongst which the trees and shrubs grow so thick and intricately, that it is very difficult, and in some places wholly impracticable, to pass through these rocky thickets, without cutting a path. Many of the Islands, particularly Providence, abound with deep caverns, containing salt water at their bottoms; these pits being perpendicular from the surface. their mouths are frequently choked up, and obscured by the fall of trees and rubbish, that great caution is required to avoid falling into these unfathomable pits (as the inhabitants call them), and it is thought, that many men, which never returned from hunting, have perished in them. In Providence, and some other Islands, are extensive tracts of low level land, or rather spongy rock, through which, at the coming in of the tide, water oozes, by subterraneous passages from the sea, covering it some feet deep with salt water, which, at the return of the tide sinks in, and is no more seen, till the return of the tide again, so that there is an alternate appearance of a lake and a meadow at every twelve hours: one of these lakes being visible at the distance of about four miles from the Governor's house, surprized me at its appearing and disappearing several days successively, till I was truly informed of the cause. The caverns before mentioned, I make no doubt, are supplied with salt water from the sea, in like manner with these lakes but because of their depth and darkness, the rising and falling of the water may not have been observed. The coasts of Providence, and most of the Bahama Islands are environed with rocks in various manners; in some places they seem to be tumbled in heaps confusedly, many of them are forty or fifty feet high, and steep

towards the sea: others are scattered promiscuously along the shore, and some way in the sea: some other parts of the shores are covered with sand, whose banks rise gradually fifty or sixty yards above low water mark, beneath which, in shallow waters, innumerable rocks appear in different shapes, some singly, others in level beds, &c. in short, the submarine parts environing the Islands, as well as the Islands themselves, are entirely rock. These rocks are of a light gray colour, and chalking consistence, not difficult to break with a hammer, except those on the sea shore, which by being exposed to the sea air, are hardened, more compact and heavy: the shores and shallows of the sea in other parts are covered with beds of honeycomb rock, which by the continual agitation of the sea, are perforated and hollowed in a very extraordinary manner.

About a league from the shores of many of the Bahama Islands are reefs or shelves of this kind of rock, running parallel with the land several leagues together, which being covered at high water, are very dangerous, and have frequently proved fatal to the distress of mariners.

These rocky shores must necessarily be a great impediment to the navigation of the Islands; but as the inhabitants are well acquainted with the coasts, and expert in building sloops and boats adapted to the danger, they do not suffer so much, as the terrible appearance of the rocks seem to threaten.

Though the trees on these rocky islands grow generally not so large as in Virginia and Carolina, where the soil is deep, yet it is amazing to see trees of a very large size grow out of rocks, where no soil is visible, and to

rock solid and compact, before the roots found way to separate them, particularly mahogany trees, which are usually the largest trees these Islands afford, and are commonly three, and many of them four foot through. All the nourishment that the trees receive, can be only from the rotten wood, leaves and other vegetables digested into mould, and received into the hollows and chinks of the rocks, where the fibres of the trees insinuate, and as they swell and grow bigger, widen the crevices, which, with the assistance of wind and rain, admits of small but repeated supplies of flesh nourishment, where the rocks are so stubborn, as not to admit of the roots penetration, they keep along the surface, till they find a chink or a crevice to creep into; and it is frequent to see more roots of a tree lie out of the ground, than the whole body, limbs and all, contain.

Though the figures of the most remarkable trees, shrubs, &c. of the Bahama Islands are here exhibited, many things remain undescribed for want of a longer continuance there; particularly four kind of palms, which, as it is a tribe of trees inferior to none, both as to their usefulness and majestic appearance, I regret my not being able to give their figures, or at least a more accurate description of them, especially of the silver-leaf and hog-palms, of which, I think, no notice has been taken.

XLI. *Palma non Spinosa Foliis minoribus.*

Ray. Hist. vol. I. II.

The Plat Palmeto.

This Palm grows not only between the Tropicks, but is found further North than any other. In Bermudas its leaves were formerly manufactured, and made into hats, bonnets &c. and of the berries were made

buttons. This is the slowest grower of all other trees, if credit may be given to the generality of the inhabitants of Bermudas, many of the principal of whom affirm'd to me, that with their nicest observations they could not perceive them to grow an inch in height, nor even to make the least progress in fifty years; yet in the year 1714, I observed all these Islands abounding with infinite numbers of them of all sizes. This kind of Palm grows also on all the maritime parts of Florida and South Carolina, whose Northern limits being in the latitude of 34. North, is also the farthest North that these Palms grow to their usual stature, which is about 40 feet high, yet they continue to grow in an humble manner as far North as New England, gradually diminishing in size, as they approach the North, being in Virginia not above four feet high, with their leaves only growing from the earth without a trunk, yet producing branches of berries, like those of the trees. In new England they grow much lower, their leaves spreading on the ground. This remarkable difference in the same plant, has been the cause of their being thought different species, though I think they are both the same, and that the smallness of the Northern ones, is occasioned by their growing out of their proper climate, which is here into a much cooler one, where the heat of the sun is insufficient to raise them to trees.

Most plants as well as animals, North of the tropick, grow in different climates, particularly adapted to every species; and there are some instances of other plants besides these Palms, whose limits are less confined, and which

grow

grow in a greater extent of latitude, from South to North, and the nearer they approach the North, so much less they are in stature.

In South Carolina grows a kind of Opuntia, which are frequently three or four feet high, from which I have often picked cochineal in small quantities; both plants and insects were much smaller than those of Mexico; but the latter, in colour and appearance, the same. In North Carolina the same species of Opuntia rises about two feet high; and in Virginia, and further North, their leaves grow but little above the ground, lying flat on it. Alligators, as I have before observed, are much less at their Northern abodes, than they are in the more Southern regions: many other instances may be produced of vegetables, and animals of the same species abiding in different climates, that are diminutive in their Northern situation.

Palma Brasiliensis. Ray Hist: The Thatch Palmeto.

This Tree seldom ascends above twelve or fourteen feet. The leaves grow low, and spreading; and are particularly made use of for building houses, they serving both for walls and covering.

The Silver Leaf Palmeto.

The usual height of these Trees is about sixteen feet. The leaves somewhat less than the preceding, but thicker set, and of a shining silver colour. Of the leaves of these trees are made ropes baskets &c. The berries are large and sweet, and yield a good spirit.

The Hog Palmetto.

These Trees grow to the height of ten or twelve feet, the verge of the leaves are divided by deep sections, resembling the leaves of the Palma altissima. The singularity of this Tree is remarkable, as the eatable parts of all plants is in their fruit, roots, or leaves, the trunks alone of these trees is an excellent food for hogs, and many little desert Islands, that abound with them, are of great use to the Natives for the support of their swine. The exterior bark of the trunk of these Trees is somewhat hard, and in appearance like those of the other Palmetoes; within which is contained that soft and pithy substance of a delicious sweet taste, which the hogs are delighted with.

Of the Sea encompassing the Bahama Islands, with its Productions.

The Sea round these Islands is generally very shallow, but deepens gradually from the land, to the unfathomable abyss of the Ocean. The water is so exceeding clear, that at ^{p. XLII.} the depth of twenty fathom, the ^{pag. XLII.} rocky bottom is plainly seen, and in calm weather I have distinctly and with much pleasure beheld variety of fish sporting amidst groves of Corallines and numerous other sub-marine shrubs, growing from the rocky bottom, amongst infinite variety of beautiful shells, fungus, actinoides, &c. Amongst these submarine productions there were, at certain places, great plenty of the lenticula marina, growing to the rocks; this plant is remarkable for the great quantities of it, with which the Atlantic Sea is in many places covered.

As usually the clearest waters afford the wholesomest and best fish, consequently it might be expected that at the Bahamas, where the water is so remarkably transparent, the fish there might be at least as wholesome as those on the coasts of Florida, where the water is not so limpid, but many of the Bahamians have clearly experienced the contrary, several kinds of their fish being so poisonous, that they have direful effects on those who eat them. In some particular places they are poison, yet in other places not a mile distant, they are eat with impunity; but experience has taught them to distinguish the places that afford good and bad. From what cause the poison in these fish is, I never could hear accounted for, or so much as conjectured: possibly the following observation may give some light to the enquiry. In procuring from the bottom of the sea six or eight fathom deep, some corallines and other sea productions for their extraordinary oddness and beauty; the man that dived for them happen'd to rub his belly with his hands, that had gathered slime from the corals he brought up; he immediately felt such uneasiness, that casting himself on the land, he wallowed in distracted postures, crying out with the excessive tortures it put him to, though the sharpness of the pain lasted not longer than a quarter of an hour. This coral grows on the rocky bottom of the sea, some leagues from land, as well as near the shore. While young they are soft and pliant, but harden to the consistence of stone; some of them grow above six feet high, and branch into various forms: some resembling the palmed horns of Deet; others round horns; with various other odd forms, one plant producing not more than one of these resemblances, every kind sporting after the manner peculiar to it. All these different formed corals are of like consistence, and are covered alike with the same muilage, or acrimonious slime,

which with much handling and daubing one's fingers with, it causes to be
with such prickling smart, that it is very painful. In places noted for
being poisonous, these plants most abound: from the guts of the Sea-
corn, or Trumpet fish, and some others that are not esteemed good, I ha-
taken much of this coral in small pieces, some being almost digested. it has
sulphureous and very noxious smell, which it retains after the slime is dried
and lain in the sun and air several months. At first it is yellow; but being
some time exposed to the air, turns white.

Neither Providence, nor any of the Bahama Islands, have either rivers
springs; the deficiency of which is supplied with rain water, contained in
reservoirs of rock, placed by Nature on all or most of the Islands. This water
so shaded with trees, and shrubs, that it is clear, cool and esteemed wholesome.
It is no wonder that such inhospitable, rocky Islands should be deficient of
numbers and variety of animals that the Continent abounds with; for ex-
cept a few beasts of use that have been introduced there, (such as Horses, Cows, Swine,
Goats, Hogs and Dogs) all that are Aborigines are Guana's, Lizards, Land
Crabs, Conies and Rats, which last probably were brought by ships. Of land
birds, I did not observe above nine or ten sorts, except migratory sea-birds
which also frequent other coasts.

The shallow seas encompassing these Islands, on the contrary, are as remark-
able for their abundance and variety of its watery inhabitants, exceeding
in number of species, and excelling in the elegance of their colours and marks,
but inferior in wholesomeness and goodness of taste to the fish in more Nor-
thern latitudes. Adequate to this, frequent opportunities has confirmed to
me, that as the productions of Nature in general are very scanty near
the Arctic Circle, there is a gradation of increase at every degree of

latitude approaching the Tropick; and though the distance of one degree may not be sufficient to perceive it, yet four or five degrees makes it evidently appear, not only by the greater number of species of terrestrial animals, but of fish and vegetables, which by how much nearer the torrid zone, so much the more numerous they are. And I think it is not improbable, that the numerous species of creatures that inhabit between the Tropicks, far exceed in number all the rest of the terrestrial world.

XLIII List of the common Names of the Fish frequenting the Bahama Seas, exclusive of those already figured and described in this Work.

The Sperma Ceti whale.

- Grampus.
- Shark.
- Barrauda.
- Sea-fish.
- Spanish Mackerel.
- Cavally.
- Sting-ray.
- Whip-ray
- Plaice.
- Nuss.
- Chub.
- Gray Snapper.
- Mutton Snapper.

The Dolphin.

- Bonetto.
- Albiore.
- Sword-fish.
- Saw-fish.
- Groupet.
- Porpus.
- Black Rock-fish.
- Gray fin Rock-fish.
- Yellow Rock-fish.
- Bone-fish.
- Whiting.

The sea Bream.

- Pilot-fish.
- Hound-fish.
- Gat-fish.
- Amber-fish.
- King-fish.
- Turbut.
- Black-fish.
- Hedghog.
- Yellow-fish.
- Coney-fish.
- Cow-fish.
- Lobsters.
- Crabs.

Though many of the Fish in this list, besides those whose figures are exhibited from some resemblance they bear to those in Europe, have attained the same names, yet I never observed in these Seas, nor any where

between the Tropicks, the same Kinds of Fish, but were all of different Species from any in Europe, a few excepted, which are Dolphins, Bonnets, Albicores, Sharks, Flying-fish, Rudder-fish, and Remoras, which, contrary to all other fish, frequent the most distant part of the Ocean from land and are also found on the coasts of the old World, as well as in America. The universality and numerous shoals of these migratory fish, particularly the three first, are a benefit to mariners in long voyages, affording them comfortable changes of fresh diet, after long fasting on salt meats.

of Shells.

Shells, as well as other productions of Nature, abound more in number of Species, and are more beautiful between the Tropicks than in the other parts of the World. At the Bahama Islands are produced most of the Kinds of American Sea Shells, Trutices, Marini, &c. that are found between the Northern Tropicks and the Line. The shallow Seas of these rocky Islands seem more adapted to their propagation, than most other places in those latitudes. The vast profusion that are here found with the more frequent opportunities of collecting them, has caused the cabinets of the curious in England to be more furnished with them from thence, than from any other parts of the World; therefore as few new Species can be added to those figured by Dr. Lister, Bonana, and others, I shall only add some observations on Shells which I made at the place of their production. Every Species of Shell-fish inhabit particular parts of the Sea agreeable to their natures: this seems to have some analogy to plants,

whose different kinds affect a different soil and aspect. The various positions of the rocks, and banks on which shells lie, besides other natural causes, may conduce to their abiding more in one place than in another; therefore these Islands do not afford shells alike plentiful. Those which lie West and nearest the Gulph of Florida, particularly Providence, Abaco, Andros, and Grand Bahama, have fewer than the Windward, or Easter most Islands, particularly those called the French Keys, Turks Islands, Exuma and Long Island. Some shells which are plentiful on the South shore of an Island, are rarely seen on the North side; and other kinds that the North sides abound in, are not on the South. Some shells are very scarce, and are found only at a few particular Islands, and parts of those Islands bearing the same aspect, and are rarely found promiscuously scattered with other shells. Most, or all the different kind of shell-fish, abide in a certain depth of water. Some so deep, and far out at sea, that they are seldom seen alive; but at the death of the fish, the shell is cast on shore. Others lying flat on the rocks or sand. Some sticking flat to the sides of rocks. Others sticking to the sides of rocks horizontally. Some confined in the hollows and cavities of rocks. Some buried deep in sand, others in mud. Some lying always half out of the sand. Some kinds of shell fish, which cleave to the sides of rocks, abide on the North sides, exposed to the violent rage of the sea. Other kinds, not enduring such violence of the waves, shelter themselves in the hollows of rocks, and mostly on the South sides of Islands, where they are less exposed. Others are yet less exposed, abiding in deep cisterns of rock within land, supplied with sea water by subterraneous passages, where the water is always calm.

Amongst other shells sticking to the rocks, environing these siles
waters, were oysters, which stuck horizontally to the sides of the rock,
that edge next the hinge of the oyster being the part fixed to the rock.
page XLIV. These following kind of small shells sticking to rocks, are never found
deep water, but abide where they are covered, and uncovered at every
flux and reflux of the tide.

*Buccinum brevi-rostrum, muricatum,
ore ex purpuro nigricante dentato.*

These shells stick to rocks a little above low water, and are con-
sequently a short time uncovered by the sea. They yield ex-
purple liquor, like that of the Murex, which will not wash out
of linnen stained with it.

*Nerita maximus, variegatus, striatus, ad
Columellam ex croceo rufescens.*

These shells lye uncovered three or four hours, from the time
the tides leaving them, till its return.

Cochlea rufescens, Striis exasperata.

These shells lying a little below high water mark, are only washed
every tide by the sea.

*Cochlea alba ventricosa bidens Striis
eminentibus exasperata. Lister 47.*

These shells lye above the flowing of the Tides: they stick to shrubs and sedge, and are moisten'd only by the splashing and spray of the Sea.

*Buccinum sublividum, Striis nodosis et interdum
muricatis exasperatum. Lister 28.*

This kind i observed sticking only to the branches of mangrove trees, which always grow in salt water.

From these few instances it is reasonable to conclude, that all other shell fish that lye in deeper waters, abide in a depth adapted to every species. This i observ'd in many kinds; but for want of opportunity, and the difficulty of submarine searches, obstructed a perfect discovery of this part of their history. yet as it is not impracticable, it is to be hoped that at some time or other an opportunity may favour the curious, in enquiring into the knowledge of this beautiful part of the Creation, which hitherto extends little further than the shell or covering of the Animal.

Addenda.

Perdix Sylvestris Virginian.

The American Partridge.

This Partridge is little more than half the size of the *Perdix Cinerea*, or common Partridge, which it somewhat resembles in colour, though differently marked, particularly the head has three black lists, one above and two below the eye, with two intermediate white lines. They covie and roosts on the branches of trees. Their flesh is remarkably white, and of a different taste from our common Partridge.

Gallo-Pavo Sylvestris.

The wild Turkeys of America much excel the European tame breed, in stature, shape, and beauty of their plumage, which is in all the same, without those variegations that we see in all domestic birds. It is commonly reported, that these Turkeys weigh sixty pounds a-piece; but of many hundred that I handled, I observed very few to exceed the weight of thirty pounds.

There are in the upper parts of Virginia what are called Pheasants, which I never saw; but by the account I have had of them, they seem to be the *Urogallus minor*, or a kind of *Lagopus*.

There is also in Virginia and Carolina another Bird, which I have not had the sight of. It is called Whippet-will, and sometimes Whippet-will's Widow, from their imaginary uttering those words. It is a nocturnal bird, being seldom heard, and never seen in the day time, but at night it is heard with a loud shrill voice, incessantly repeating three, and some of them four notes as above.

They lie close all day in shady thickets and low bushes, and are seen only (and that very rarely) at the dusk of the evening. I once shot one of them, but could not find it in the dark.

All the domestic or tame fowl, breed as well, and are as good as they are in England: such as Cocks and Hens, Pea-Fowls, Turkeys, Geese and Ducks.

Finis.

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N. B. The Numbers in Roman letters refer to the Pages in The Account of Carolina and the Bahama Islands.

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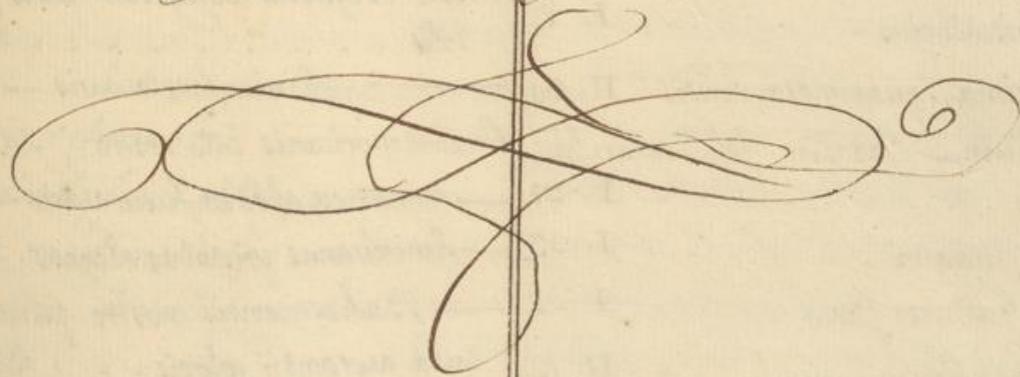
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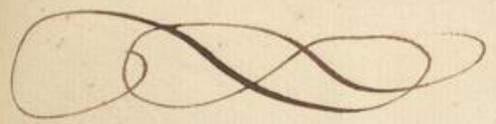
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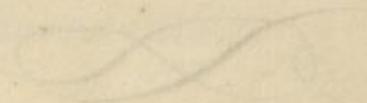
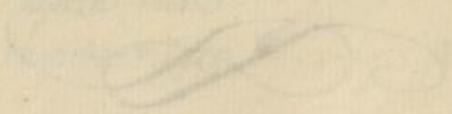
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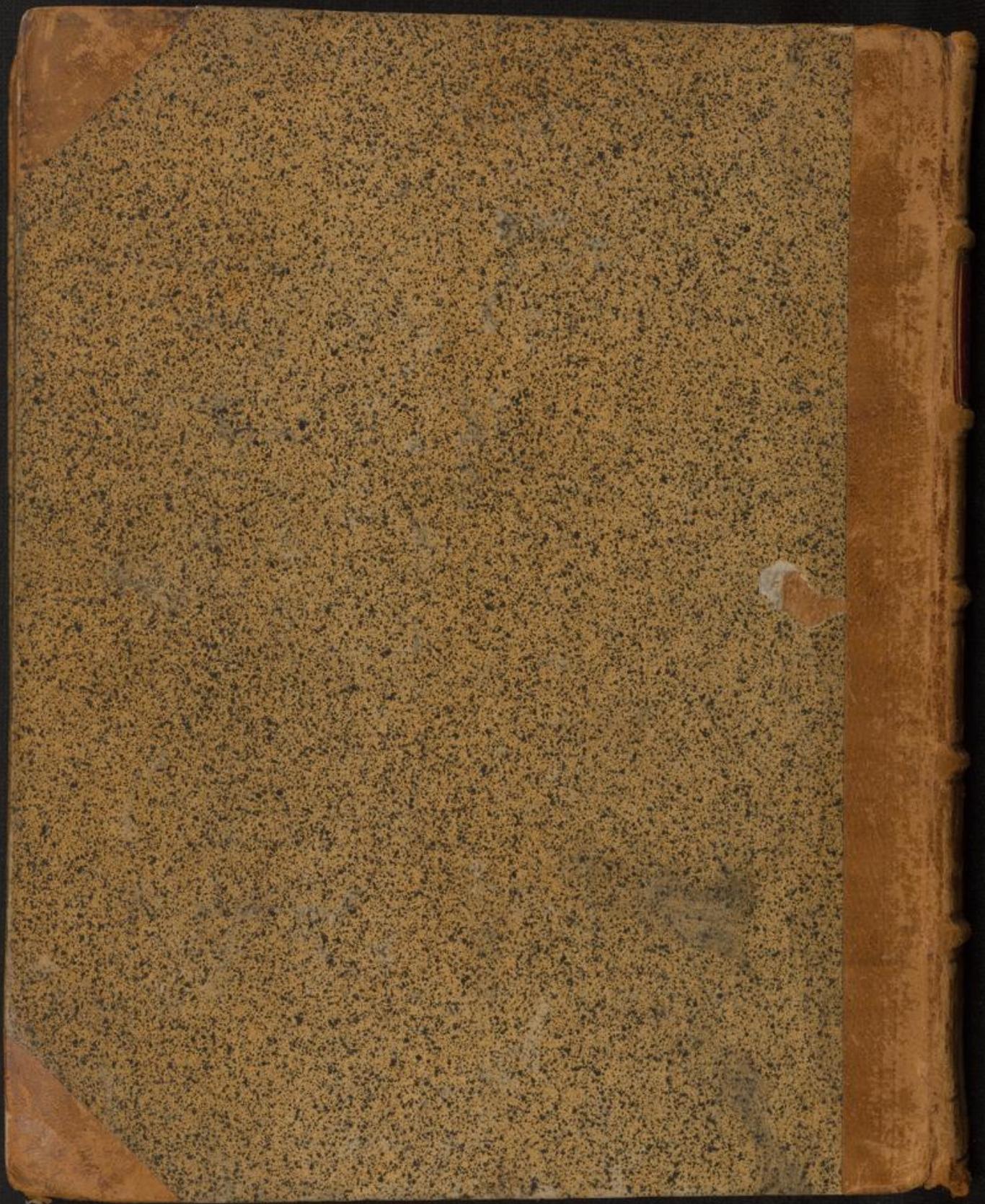
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F XX. 6.









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