

2. The ELK, Hooper, or Wild Swan. *Cygnus ferus*.
3. The TAME GOOSE, *Anser*.
4. The WILD GOOSE, *Anser ferus*.
5. The SWAN-GOOSE, *Anser Guineus*: notable for her lifted neck, girdled breast, crested head, and knobbed forehead. This was brought over from abroad, but is now grown common enough with us; as the Turkey and Peacock also were, which we reckon among our Domesticks.
6. The BERNACLE, or Clakie, *Bernicla sive Bernicla*.
7. The BRENT-GOOSE, *Brenta sive Bernicla altera*.
8. The RAT-GOOSE, or Road-Goose, *Brentus, Aristotelis forte*.

2. The Duck-kind.

1. The SHELDRAKE, or Borough-Duck: *Tadorna Bellonii*. It is called *Sheldrake* from its being particoloured, *Sheld* signifying dappled or spotted with white; and *Burrow-duck* from building in *Coney-burrows*.
2. St. CUTBERTS DUCK, *Anas Farnensis*, building with us only on the Farn Islands. Itake it to be the same with the *Eider of Wormius*.
3. The SCAUP-DUCK, *Fuligula forte Gessneri*; It is called *Scaup-duck* from its feeding upon *Scaup*, i. e. broken Shellfish: varies infinitely in colour, especially in head and neck, so that among a pack of forty or fifty you shall not find two exactly alike. Mr. *Johnson*.
4. The BLACK DUCK, *Anas niger*, Aldrov. Seen with Mr. *Johnson*.
5. The SCOTER, or lesser black Diver, *Anas niger minor*.
6. The TUFTED DUCK, *Anas cirratus. Querquedula cristata sive Colymbis Bellonii*.
7. The GOLDEN-EYE, *Clangula*, Gessn. This was sent us from Cambridge by the title of *Shelden*, I suppose so denominated from its being particoloured of black and white, that is *Sheld*, so other pied birds are called *Sheld-fowl*.
8. The SHOVELER, *Anas platyrhynchos altera sive clypeata Germanica*, Aldrov.
9. The LESSER RED-HEADED DUCK, *Anas fesa fusca seu capite rufio minor*.
10. The POCHARD, or great red-headed Duck, *Penelope veterum*, Aldrov. *Anas fesa fusca*, Rothsf, Gessn.
11. The Common WILD-DUCK, and Mallard, *Bochas major*.
12. The SEA-PHEASANT, *Anas caudacuta*.
13. The Common WIGEON, or Whewer. *Penelope*, Aldrov. I am informed by Mr. *Dent* Apothecary in Cambridge, that the Males or Cocks are there called *Wigeons* and the Females *Whewers*.
14. The GADWALL, or Grey. *Anas platyrhynchos rostrum nigro & plano*, Aldrov.
15. The Common TEAL, *Querquedula*.
16. The SUMMER TEAL, *Anas Circia*, Gessn.
17. The TAME DUCK, *Anas domestica*.
18. The MUSCOVY DUCK, *Anas moschata*.
19. The HOOK-BILD DUCK, *Anas rostrum aduncum*.

Among the whole-footed Water-fowl we omitted the *Recurvirostra* or *Avocetta Italorum*, which in Winter-time often frequents our coasts, the *Shear-water* of Sir *Thomas Brown*, and the *Mergulus melanoleucus rostrum acuto brevis* of the same.

Among the cloven-footed Water-fowl the *Stork*, which is sometimes seen upon our Coasts, perhaps driven over by storm, or other Accident.

AN ADDITION To the FIRST BOOK of the ORNITHOLOGY OF FRANCIS WILLUGHBY Esq;

BEING
AN EPITOME of the ART of FOWLING,
Collected out of Markham, Olin, and others.



IN delivering the Art of Fowling, or taking of Birds, there are two methods that might be observed.

The first proceeding according to the Engines and devices that are made use of for taking them.

The second according to the several sorts of Birds to be taken.

In the first method might be first an enumeration made of the several Engines and Instruments, as Nets, Springs, and Snares, Traps and Pit-falls, Guns and Cross-bows, Bird-lime, Baits, and Animals, viz. Hawks, and Dogs. Then, going particularly over each Instrument or Engine, might be shewed, 1. The several sorts and fashions of each. 2. The various ways of using each sort. 3. What kind of birds are to be taken each way.

But I shall chuse rather to use the second method, following therein Markham in his Treatise on this Subject, intituled *Hungers prevention, or the Art of Fowling*, to whom I must profess my self beholden for the greater part of this Discourse, which I shall divide into two Sections; in the first treating concerning the taking of *Water-fowl*, in the second concerning the taking of *Land-fowl*: To which last I shall annex three Chapters: The first, concerning the making of Birdlime; The second, concerning the election and training up of a Setting-Dog; The third, containing an Abridgment of some Statutes relating to the preservation of Fowl.

SECTION I.

Of the taking of Water-Fowl.

CHAP. I.

How to take Water-Fowl with Nets.

§. I.

How to take Cloven-footed Water-Fowl with Nets.

MAke your Net of the strongest and best-twined Pack-thread, with large meshes, at least two Inches from knot to knot: For the bigger the mesh, so the birds cannot creep through, the better. The Net must not be above two fathoms deep, and six long at the most: A Net of that size being as great as a man is well

§. VIII.

* *The Braslian Curucui of Marggrave.*

It is a very elegant and beautiful bird, almost of the bigness of a *Pie*: Hath a short broadish Bill, of a brimston colour: A wide mouth, and, when open, or a triangular figure: Fair blue eyes with a golden circle [I suppose he means encompassing the Pupil] and under each Eye a spot of white skin, like a Hen: In the Eye-lids above and beneath black, stiff hairs: The Neck not long: The Legs short and feathered almost to the Feet, with black feathers. It hath a Tail five inches and an half long, of a good breadth. Under the lower Bill, in the middle, and at both sides, is as it were a beard, made up of black bristles, yet shining with a gloss of blue as in the Necks of *Mallards*. Under the Throat the feathers are only black. The whole Breast and lower Belly are of an excellent Vermilion colour: The whole Back and upper side of the Tail are of a shining green, with a gloss of blue, and golden, or igneous colour. The end of the Tail hath a black border. Underneath the Tail it hath white feathers elegantly streaked with cross black lines. The beginning of the Wings is of that shining green we mentioned: The middle part is hoary, the black feathers being powdered with very little grey specks, as *Mallards* use to be: The utmost part, that is, the longest feathers, are of a dark dusky or blackish colour. The Legs, as I said, are almost wholly clothed with black feathers: What is bare, together with the Feet, is of a dusky ash-colour. The Toes are so disposed as the *Parrots*. The feathers under the Wings are grey.

§. IX.

* *Guira acangata of the Brasilians, Marggrav.*

This Bird is about the bigness of a *Magpie*. It hath a Bill an inch long, the upper Chap whereof is a little hooked, the whole of a dark yellow: The Eyes Crystalline, with a dusky circle: The Neck two inches long, the body three. The Tail very long, viz. eight inches, consisting of eight straight feathers. The upper Legs are an inch and half long, as also the lower. The Toes in each foot four, standing as in *Parrots*, the two inward in each foot being shorter, the two outward longer. The whole Head is clothed with feathers, which in their middles longways near the shaft are dusky, in their sides yellow, as is the Crest. The Neck and Wings (on the other side) have their feathers yellow in the middle, and dusky in the sides. The ends of the Wings are almost wholly dusky. The whole Belly, Back, excepting the Wings, upper Legs, and rife or base of the Wings to three inches and an half length, are covered with feathers of a pale yellow. The end of the Tail hath white feathers, the rest of the Tail is dusky. The lower Legs and Feet are of a * Sea-water-colour. On the Head are long feathers erected like a Crest. It makes a great cry in the Woods.

* Sea-green we call it.

§. X.

* *The Braslian Aracari of Marggrav. the other Xochitenacatl of Nieremberg.*

It is of the bigness of a *Woodpecker* [I suppose he means the common green one] hath a Bill four inches long, an inch and half broad or deep, three inches and an half thick where thickest, [I suppose he means so much by measure round] a little bending downward like a *Turkish* Scymitar, and sharp-pointed like a *Parrot*; the upper Chap being a little longer than the lower: Both upper and lower are for above half way reckoning from the end, serrate or toothed. The upper part of the Bill is greater than the lower. The Bill is hollow, very light, [lighter than a Sponge:] The upper Chap white, distinguished by a black line running along the middle or ridge from head to point, the lower Chap wholly black. The whole Bill is inserted into the Head triangle-wise, and where the insertion is, compassed about with a triangular white line. It hath a Tongue four inches long, very light, and plainly resembling a feather to see to: Or else is feathered and black, (if the Tongue may be said to have a feather.) It hath a Head not very big, broad, and compressed; great Eyes, with

with a black Pupil, yellow *Irides*, and the * rest of the outsidess of the Eyes black. * *Reliquas ex-*
The Neck is not longer than a *Parrots*. The body from the rife of the Neck to the Tail is about five inches long. The Tail is broad like a *Woodpecker*, and six inches long, or somewhat more. The Legs and Feet are of a dark green or black, like to those of *Parrots*, having two fore-toes, whereof the one longer than the other, and two back-toes likewise of unequal length. The Claws crooked, and dusky or black. The length of the upper Legs is two inches, of the lower one and an half. The whole Head and Neck as far as the beginning of the Breast are covered with black feathers, which where they end are terminated in a circle. The Breast, and all the lower Belly elegantly clothed with yellow feathers mingled with pavonine. Cross the Breast from the one side to the other is a broad line drawn, of a sanguine colour. The whole Back, Wings, Tail, and upper Legs are covered with dark green feathers, [or black with a gloss of green] like the colour usual in our *Magpies*. The end of the Back above the beginning of the Tail is of a sanguine colour to more than the Circumference of a Crown piece. The Wings end at the rife of the Tail, and within side are of a dark ash-colour. The Bill is black within. This Bird doth, as it were, pronounce its own name, crying with a sharp voice, but not very shrill, *Aracari*.

This Bird is very like the *Toucan* or *Braslian Pie*. The conformation of its Feet argues it to belong to the *Woodpecker-kind*. We saw the Bill of this Bird in the *Repository of the Royal Society, London*, our selves also have one of them: It is much less than the *Toucans* Bill, not so compressed side-ways, but rounder. The upper Chap wholly white, without any line of black in the top, (wherein it differs from the *Aracari*'s Bill described by *Marggrave*) the lower black.

§. XI.

* *The yellow blue-footed Persian Woodpecker of Aldrovandus.*

This Bird communicated to me by *Tartaglinus the Venetian*, (who shewed me many exotic Animals painted) at first sight, from the constitution of the Bill and Feet I judged to be of the *Woodpecker-kind*. In bigness it differs little or nothing from the green *Woodpecker*; only it hath a thicker Head and Neck, and a longer Bill. The feathers from the middle of the Crown to the end of the Tail have something of ferrugineous: But the Bill is altogether ferrugineous. The Feet are of a pale blue. The Claws are black: The rest of the body is yellow, save that all the Wing-feathers ends or tips incline somewhat to ferrugineous; and that a spot of the same colour encompasses the Eyes. He said it was an exotic Bird, and bred in *Persia*.

§. XII.

* *The American Hang-nest, called by the Brasilians Guira tangeima. Marggr.*

It is a Bird somewhat bigger than a *Lark*, equal to the spotted *Woodpecker*. Its body is about three inches long; Its Neck an inch and half: The Head is small, the Bill straight, sharp-pointed, an inch long. Its Legs and Feet are like those of other birds, its Tail straight, four inches long. The colour of its Bill is black, except the lower part, where it is inserted, which hath something of dusky: The Head and Neck, as low as the beginning of the Breast, very black. The upper part of the Neck from the Head almost to the beginning of the Back is of a * Sky-colour. Through the beginning of the Back it hath a transverse black spot, reaching as far as the Wings: But the Wings themselves are of a deep black, only in the middle they have a white spot situate longways the feathers, of an inch and half long. The Tail also is wholly black: The rest of the body is of a Sky-colour. The Legs are bluish: The Pupil of the Eyes black, with a yellowish white *Iris*. These Birds build admirable Nests of a cylindrical figure, and hang them in great numbers on the ends of the boughs and twigs of trees. These Nests are made of the small Fibres of roots and twigs of trees and herbs, curiously platted and interwoven.

* *aracari* colour.

§. XIII.

of two. The Claws of all were very great, almost two inches long, thick, hard, and horny. The Head was small for the bigness of the bird, and almost bald or smooth, of a dark Purple colour, together with the upper part of the Neck, in which appeared thin-set, black hairs. The Eyes a little above the slit of the Bill, great, and fiery, almost like to those of Lions, compassed with black hairs, as are also those small, open Ear-holes which it had behind the Eyes. The upper Chap of the Bill was as it were arched or bent like a Bow, a little above the point perforate with two holes, serving for Nostrils; from the middle whereof, reaching to the top of the Head, arises a kind of towering Diadem or Crown, of a horny substance, near three inches high, of a dusky yellow colour; which, as I understood, falls off at moulting time, and grows up again with the new feathers. The nether Chap of the Bill from the * slit to the utmost point was five inches long. The fore-part of the Neck, almost four inches below the Bill, had as it were two membranous Wattles hanging down like a beard, two inches long, of a red Vermilion colour. The back-part of the Neck was likewise destitute of feathers, from the Head all along, being also of a red Vermilion colour: The lower part was covered with some few red feathers, wherewith black ones were intermingled.

* I suppose he means from the corners of the slit of the mouth.

This Bird, although it seem to have some marks common with the *Ostrich*, as a small Head, almost bald; and that without choice it swallows whatever you offer it; yet hath it not feet divided into two Toes like them, but into three, wanting the back-toe, after the manner of the *Bustards*: And therefore so firm and strong, that I have seen a tree of the bigness of a mans thigh wholly crushed, and its bark taken away (as its Master told me) by the Feet and Claws of this bird. For it was not wont to assault those with whom it fought, with its Bill, running forward; but turning it self obliquely or sideways, to strike backward with its Feet.

But although it devoured indifferently whatever was offered, as *Oranges* entire, and the like, yet its ordinary food was white bread, which it swallowed divided into great lumps or morsels. But I was informed, that it was especially delighted with new-laid Hens Eggs, which it swallowed whole together with the shell. But if it were not in perfect health, it avoided them again entire, and then swallowing them anew the second time, it retained and concocted them. Moreover they affirmed to me, that this bird was a Cock, and that it was sometimes seen to put forth a *penis* from behind like a *Camel*. An Egg of this bird, the greatest and fairest among many that I saw, being measured longways was fifteen inches in circuit, cross-ways but twelve, or a little more: So that for its bigness it might be employed and used for a vessel, as well as an *Ostriches*, which, (as *Pliny* testifies) the Ancients did sometimes use, and our Age also still doth for that purpose. For I remember that I have more than once seen *Ostriches* Eggs, tipped with, and set in Silver, made use of for drinking Cups. Howbeit the Shell of this Birds Egg was not very thick nor white, like the Shells of *Ostriches* Eggs, but in the outside of a greenish ash-colour, adorned with continuous, at least very thick-set small protuberances of a deep green. Of the rest which I saw one was almost of the same bigness, form, and colour with that described; but some were more round, others lesser; the colour also of some was more dilute, and less elegant. Moreover, it was told me, that this sort of Bird is not peculiar to the *Molucca* Islands, but found also in *Sumatra* or *Taprobane*, and the neighbouring Continent to those Islands. Thus far *Clusius*.

The Hen is much less than the Cock, of a dark Olive or dusky colour. It seems to be a miracle in nature (saith *Aldrovandus*, who borrowed his description out of the Journal of a *Holland Voyage*) that this bird wants a Tongue. Whatever it eats it swallows. This is not so very wonderful; for we know other Birds besides this which want the Tongue, as for example, The *Pelican*, &c. Whatever other Authors have concerning the *Emeu*, as far as I have read, is all transcribed out of *Clusius*: Excepting *Dr. Harvey*, who doth briefly describe this Bird from ocular inspection; adding, that it swallows even live coals: And I have observed a Cut of it in the Tables of birds set out by *Visscher*, with this Inscription, *Avi ignem devorans*; i. e. The bird that eats or devours fire.

§. IV.

§. IV.

The Dodo, called by *Clusius* *Gallus gallinaceus peregrinus*, by *Nieremberg* *Cygnus cucullatus*, by *Bontius* *Dromede*.

This Exotic Bird, found by the *Hollanders* in the Island called * *Cygnæa* or *Cerne* by the *Portugues*, *Mauritius* Island by the *Low Dutch*, of thirty miles compass, famous especially for black Ebony, did equal or exceed a *Swan* in bigness, but was of a far different shape: For its Head was great, covered as it were with a certain membrane resembling a hood: Beside, its Bill was not flat and broad, but thick and long; of a yellowish colour next the Head, the point being black: The upper Chap was hooked; in the nether had a bluish spot in the middle between the yellow and black part. They reported that it is covered with thin and short feathers, and wants Wings, instead whereof it hath only four or five long, black feathers; that the hinder part of the body is very fat and fleshy, wherein for the Tail were four or five small curled feathers, twirled up together, of an ash-colour. Its Legs are thick rather than long, whose upper part, as far as the knee, is covered with black feathers; the lower part, together with the Feet, of a yellowish colour: Its Feet divided into four toes, three (and those the longer) standing forward, the fourth and shortest backward; all furnished with black Claws. After I had composed and writ down the History of this Bird with as much diligence and faithfulness as I could, I happened to see in the house of *Peter Pawinus*, primary Professor of Physic in the University of *Leyden*, a Leg thereof cut off at the knee, lately brought over out of *Mauritius* his Island. It was not very long, from the knee to the bending of the foot being but little more than four inches; but of a great thickness, so that it was almost four inches in compass, and covered with thick-set scales, on the upper side broader, and of a yellowish colour, on the under [or backside of the Leg] lesser and dusky. The upper side of the Toes was also covered with broad scales, the under side wholly callous. The Toes were short for so thick a Leg: For the length of the greatest or middlemost Toe to the nail did not much exceed two inches, that of the other Toe next to it scarce came up to two inches: The back-toe fell something short of an inch and half: But the Claws of all were thick, hard, black, less than an inch long; but that of the back-toe longer than the rest, exceeding an inch. The Mariners in their dialect gave this bird the name of *Walghvogel*, that is, a naufcous, or yellowish bird: Partly because after long boiling its flesh became not tender, but continued hard, and of a difficult concoction; excepting the Breast and Gizzard, which they found to be of no bad relish; partly because they could easily get many *Turtle-Doves*, which were much more delicate and pleasant to the Palate. Wherefore it was no wonder that in comparison of those they despised this, and said they could well be content to be without it. Moreover they said, that they found certain stones in its Gizzard: And no wonder, for all other birds as well as these swallow stones, to assist them in grinding their meat. Thus far *Clusius*.

* *Bontius* writes, that this Bird is for bigness of mean size, between an *Ostrich* and a *Turkey*, from which it partly differs in shape, and partly agrees with them, especially with the *African Ostriches*, if you consider the Rump, quills, and feathers: So that it shews like a Pigmy among them, if you regard the shortness of its Legs. It hath a great, ill-favoured Head, covered with a kind of membrane resembling a hood: Great, black Eyes, a bending, prominent, fat Neck: An extraordinary long, strong, bluish white Bill, only the ends of each Mandible are of a different colour, that of the upper black, that of the nether yellowish, both sharp-pointed and crooked. It gapes huge wide, as being naturally very voracious. Its body is fat, round, covered with soft, grey feathers, after the manner of an *Ostrich*: In each side instead of hard Wing-feathers or quills, it is furnished with small soft-feathered Wings, of a yellowish ash-colour; and behind the Rump, instead of a Tail, is adorned with five small curled feathers of the same colour. It hath yellow Legs, thick, but very short; four Toes in each foot, solid, long, as it were scaly, armed with strong, black Claws. It is a slow-paced and stupid bird, and which easily becomes a prey to the Fowlers. The flesh, especially of the Breast, is fat, esculent, and so copious, that three or four *Dodos* will sometimes suffice to fill an hundred *Scamens* bellies. If they be old, or not well boyled, they are of difficult concoction, and are salted and stored up for provision of victual. There are found in their stomachs stones of an ash-colour of divers figures and magnitudes; yet not bred there as the common people and Seamen fancy,

X

fancy,

* That is the Swan Island.

* *Hist. Natur. & Medic. Ind. Orient. lib. 5. cap. 17.*

fancy, but swallowed by the Bird; as though by this mark also Nature would manifest, that these Fowl are of the *Ostrich* kind in that they swallow any hard things, though they do not digest them. Thus *Bontius*.

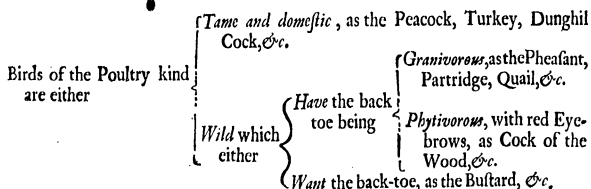
We have seen this Bird dried, or its skin stuf in *Trade's Cabinet*.

CHAP. IX.

Of the Poultry kind.

The characteristic notes of the Poultry kind are: 1. To have a short, strong, and somewhat crooked Bill, very fit to pick up grains of Corn, Pulse, and other Seeds, on which this kind chiefly feeds: 2. A thick and fleshy body: 3. Short, hollow Wings; whence this sort of birds flies not high, and makes but short flights for the most part: 4. A Stomach furnished with thick muscles, whose use is to grind the grains of Corn, and other hard meat swallowed whole, which they perform by the help of little stones which the birds now and then swallow; and so supply the defect of Teeth: 5. Very long blind guts: 6. White flesh, especially that of the muscles of the Breast, which colour after boiling discovers it self more manifestly. This note is peculiar to this kind, not agreeing to any other bird that I know. This is a sign that their flesh is of all other most wholesome, and affords best nourishments: So that it is not undeservedly had in highest esteem, and sold dearest of any other. 7. To breed many young at a time. 8. To build their Nests upon the ground; the reason whereof is because 9. The young ones newly hatched are not fed by their Dams with meat put into their mouths, but are covered with a thick Down, forsake their Nests, and running up and down follow the old ones, and feed themselves, picking up their meat with their Bills. 10. Because they are (as we said) corpulent, and cannot fly long, they seek their food walking up and down upon the earth, and for that reason have broad Toes, that they may stand firmer and surer, and are for the most part good runners. 11. The most, if not all birds of this kind, dust themselves. 12. The Poultry kind only, but not all the several Species of this kind, are armed with Spurs.

We shall distinguish the birds of this kind into tame and wild: the wild we shall subdivide into those that have the back-toe and those that want it: Those again that have the back toe, into granivorous and phytivorous, or by a more evident mark, such as have scarlet red Eye-brows.



CHAP. X.

Of tame Poultry.

§. I.

The Dunghill Cock and Hen. Gallus gallinaceus & Gallina domestica.

This Bird called by the *Grecians* 'Αλεκτρυών, and of old by a general name "Ovis, is and hath been so well known in all Ages and places, that it would be but lost labour to bestow many words on the describing of it. By its erect Tail having the component feathers so situate as to make an Angle or ridge; its fleshy, naked, serrate Comb, and Gills or Wattles hanging down under its Chin, and lastly,

lastly, by its long Spurs, it is abundantly distinguished from all other birds of its kind, and easily known at first sight. The *Dunghill Cock* alone of all diurnal Birds (excepting the *Nightingale*) sings or crows by night, viz. after Midnight two or three times at intervals before break of day. The number of quill-feathers in each Wing, computing all to the very least, is twenty seven. The Tail consists of fourteen, which, as far as I know, is peculiar to this Species: For the rest of the Poultry kind have eighteen, or at least sixteen feathers apiece in their Tails. Of these the two middlemost are in Cocks the longest, and elegantly reflected or arcuate; *Sickle feathers* the Vulgar call them.

The Cock being a most falacious bird doth suddenly grow old, and becomes less fit for generation. For his spirits being spent, and the radical moisture, as they call it, consumed, by the immoderate use of Venery, his body must necessarily wax dry, and his heat of lust be extinguished. *Aldrovandus* writes, that himself hath found by experience, that Cocks when they are above three years old do indeed impregnate Hens, but that they become more impotent and insufficient for such exercises. Hens also, sith they do for the greatest part of the year daily lay Eggs, cannot long suffice for so many births, but for the most part after three or four years become barren and effete. For when they have spent all the Seed-Eggs which from the beginning were in their bodies, they must needs cease to lay, there being no new ones generated within.

How long these Birds would live, were they let alone, I cannot certainly determine, though *Aldrov.* limits their age to ten years. For they being kept only for profit, and within a few years (as we said before) becoming unfit for generation, who is there that without all hope of gain will keep them only to make experiment how long they will live? But that they are in their kind short-lived we may rightly infer from their falaciousness and intemperate lust, which infebles the body, wastes the spirits, and halts the end.

Cocks, being very courageous and high spirited birds, that will rather die than yield, are wont by our Countrymen to be with great care and exact diet fed and trained up for the combat. For in Cities and great Towns there are frequent Cock-fightings, yet not upon set days, but appointed by the Cock-masters at their pleasure, or when they agree among themselves. Yea, in many places there are Theaters built, (Cock-pits they call them) where such shows are exhibited, to which there is commonly a great concourse of people. There are matches made, and great Wagers laid, besides bettings on either side of great sums of money, which they carry away whose Cocks get the victory. Right and well bred Cocks of the Game, will sooner die upon the spot, than yield and give over the fight, or turn tail and run away.

No better flesh in the world (in my opinion) than that of a year-old Pullet well fed, or a fat Capon; nothing inferior to, nor to say better than that of a *Pheasant* or *Partridge*. Some there are that think, and we also incline to their opinion, that the flesh of those Hens is most sweet and delicate, which are fed at the Barn-door, running about, and exercising themselves in getting their food, by scraping with their feet: And that the flesh of those is less pleasant and wholesome, that are shut up in Coops and cram'd. Some are so curious that they think those limbs most wholesome which are most exercised, and therefore in Wild-Fowl they prefer the Wings, in Tame the Legs.

A particular Anatomical description of the *Covarium*, or Egg-cluster, the womb and other parts of generation in a Hen may be seen in *Aldrovandus* his *Ornithology*, tom. 2. p. 199, &c. but a more exact in *Dr. Harvey's Exercitationes De Generatione*. Of the Coition of Cock and Hen, laying of Eggs, sitting, and hatching of Chickens the same Authors may be consulted; as also that great Anatomist and Naturalist *Marcellus Malpighius*, in his little *Traçtate de Ovo*, who of all others doth most exactly describe the process of generation, or of the formation, and growth of the Chicken in the Egg, during the whole time of incubation, and hath also illustrated his descriptions with Figures. Of the use of the flesh, Eggs, and all other parts of Pullen both in Food and Physic, *Gesner* and *Aldrovandus* have writ sufficiently; to whose works we refer those who desire to know all those particulars.

That the *Lion* is afraid of a *Cock*, cannot endure the sight of him, yea, is terrified by his very crowing, hath been delivered and received by Ancients and Moderns with unanimous consent and approbation, and divers reasons sought and assigned for this antipathy: When as the thing it self is by experience found to be false.

We have beheld more than once, not without pleasure and admiration, a *Capon* bringing up a brood of *Chickens* like a Hen, clocking of them, feeding of them, and brooding

§. III.

* The Blue-bird of *Bellonius*, *Passeri solitario* congener, † *Aldrov.*

† *Ornithol.*
1.16. c. 8.

* *Cap. de Ca-*
valles.

There is also (saith *Gesner*) another bird akin to the *Solitary Sparrow*, of the *Blackbird* kind, frequenting rocky places, whence by the *Grecians* it is called, *Petrocoptes*, [that is, the *Rock-Ouzel* or *Blackbird*] by our Country-men *Steinrotle*, esteemed in like manner for its singing. In another place he thus discourses concerning the same bird: This (viz. which * *Bellonius*, whose words he had cited, calls *Mernula torquata*, i. e. *Ring-Ouzel*) seems to be the very same with that bird of which *Raphael Scillerius* of *Augsburg* lately wrote to me in these words. The bird which from its blue colour the *Germans* call *Blauvogel* is of the bigness of a *Star*, hath his Breast, Loins, and Neck of a lovely blue, yet darker than the *Kingfisher*. The Back and Wings are somewhat black, yet shewing something of blue. The Bill is an inch and half long, under the Nostrils dusky, the upper Chap being hooked, and covering the nether, for the most part. The Feet are divided, as in other birds. It lives in the highest parts of the *Alps*, neither is it contented to abide in the tops of the Mountains, but chafes the most rocky and craggy places, and such as are covered with Snow, neither do we know certainly that it is found in any other place than the Mountains about the River *Athens*, especially near the City of *Innsbruck*. For this cause it is had in great account even by the Inhabitants themselves of those places, and is fed with such meat as men usually eat, and such as is usually given to *Blackbirds* and *Thrushes* designed for fowling. It speaks with an articulate voice very pleasant and various; and is it self so docile, and observes things so diligently, that it will express most things by some articulate sound. Being awakened at Midnight, and called upon by a by-stander, as if it were bidden, it will sing with a clear and loud note. Like other birds, it aims at mens Eyes, because seeing in them, as in a Looking-glass, its own image, it is affected with a desire of its like, and thinks to join it self in company with it. Before the Autumn, at what time other birds sit, and are busie in bringing up their Young, together with its colour it changeth also its voice. Its colour about the beginning of Winter of blue becomes black, which about the beginning of next Spring it changes again into its own natural blue. Being fully fledg'd, and once got out of the Nest, and a little accustomed to flying, it cannot any more (as all the Fowlers affirm) by any allurements or deceit be enticed and taken, so naturally crafty it is. It makes its Nest in deep holes in very high and inaccessible solitudes, having found a secure place, to which it may safely commit it self and its Young. And by its cunning doth not only remove it from the access of men by placing it on the highest ridges of the Mountains, but also hide it in deep Caverns from the *Chamois*, and other wild beasts, and there it feeds three or four Young with worms, till it brings them out of the Nest, and turns them loose to shift for themselves. Now the Fowlers having either by chance, or by lying in wait, found out the place, taking with them a long, round, smooth stilt or stake, made of a singular piece of wood, hard to be found (such as the climbers of Rocks and hunters of *Chamois* are wont to make use of to assist them in getting up the crags and cliffs of Rocks) mount up there where you would not think it possible for them to find room to set one foot. And to omit nothing, they wrap their heads with cloth, covering their faces so far that they may see side-ways, to avoid dizziness; and this they do partly to fence them against the old birds, partly, and chiefly (this being the true cause of their so doing) to hinder their prospect any ways but just forward, to see where they are to pitch their stake, or clap on their hands. So at length, not without extreme toil and danger, they arrive at the Nest, which with that long pole or stake I mentioned they draw up out of the deep hole where it was placed, and carry away with them, cherishing, and bringing the Young up at their own houses: And afterwards either sell them dear, or present them to Gentlemen and great persons of their knowledge. Thus far *Scillerius*. I suspect that this very bird, which *Gesner* calls *Blauvogel*, is the same which about *Chur* in the *Grisons* Country and elsewhere is called *Steinrotle*, or near akin to it.

* *Bellonius*, who thinks this bird to be the *Cyanus* or (as *Orza* translates it) the *Cavalcus* of *Aristotle*, writes thereof in this manner. That bird which *Aristotle* calls *Cyanus*, *Pliny*, *Ceruleus*, because it haunts among the Rocks of the high Mountains, and is like a *Blackbird*, is now by the *Grecians* commonly called *Petrocoptes*, that

that is, the *Rock-Ouzel*. It is lesser than a *Blackbird*, and blue all over, kept in Cages, and highly esteemed for its singing. Its voice is the same with the *Blackbirds*. It hath no *French* name, because it is not found in *France*, nor yet in *Italy*, unless brought thither in Cages. It is sometimes taken out of the Nest to be taught so to speak articulately. * In another place, where he also treats professedly of this bird, adding a figure of it; although (saith he) we call the bird by *Aristotle* entitled *Cyanus*, by *Gazar* rendered *Ceruleus*, in *French* *Merle bleu*, yet we do not this as if it were known to *France*; but because of the Countymen of *Epidaurus*, who use divers Idioms, some who speak *Italian* call it, * *Merlo bianco*, others who speak *Greek*, *Petrocoptes*, others who speak *Dalmatic* call it simply, *Merle*. Kept in a Cage it sings more sweetly even than a *Blackbird*. For which reason the Countymen of *Illyrium*, who live among the Rocks, take them out of the Nests, and carry them to the Cities to sell. It is not found in *France*, unless brought in from abroad. It builds in the tops of Mountains, as we observed in *Candy*, *Citharea*, *Corcyra*, *Zacynthus*, and *Bubea*, now commonly called *Negroponte*. *Aristotle* also in the fore-quoted place making mention of it, saith it was commonly seen among the Rocks in *Seyros*. *Aristotle* composing his History of Animals at *Athens*, sent abroad men through divers Countries to search out all kinds of living Creatures: In *Seyros* the Mountains are craggy, with many Rocks. But to make a brief, compendious description of this bird, we need but imagine a small *Blackbird* of a blue colour; for just such a one is this bird. It is full of tongue, and seldom descends into the plain Country. It breeds for the most part five Young, and never more. It affords as good and better nourishment than a *Blackbird*, flies swifter, and uses the same food. All this out of *Bellonius*; whom *Aldrovandus* pronounces mistaken, in that he thought this bird to be the *Cyanus* of *Aristotle*. Himself, with *Gesner*, deeming the *Cyanus* of *Aristotle* to be of the Woodpecker kind: Which how he proves see in this place.

Turner conjectures the *Ceruleus* of *Aristotle* to be that bird which is called in *English*, a *Clot-bird*, a *Smatch*, an *Arling*, a *Stonecheck*, and in *High Dutch*, *Ein Brechvogel*. This he saith in *England* breeds in *Coney-burrows*, and under stones, and appears not in Winter. The *English* names and place of building argue *Turner* to have meant the common *Oenanthe* or *White-tail*; which is a far different bird from the *Ceruleus* of *Bellonius*.

For my part, to speak freely what I think, I judge the *Blauvogel* of *Gesner* to be the very same bird with the *Solitary Sparrow*; but the *Ceruleus* of *Bellonius* to be a bird specifically different, and which I have not yet seen alive, though I have often seen its picture.

§. IV.

The Indian Mockbird, *Ceruleus Indicus*.

WE saw this Bird dried in *Tradescants* Cabinet. It is of the bigness of a common *Lark*, hath a straight sharp Bill, a long Tail: And is all over of a blue colour. Upon second thoughts, however *Tradescant* might put the Epithete of *Indian* upon this bird, I judge it to be no other than the *Ceruleus* or *Blue Ouzel* of *Bellonius*, described in the precedent Article.

§. V.

* *Aldrovandus* his *Brazilian Merula*, Book 16. Chap. 16.

Bellonius figures this bird among the *Merula*, induced only by this reason, that those who bring it out of *Brazil* into *Europe* call it, the *Brazilian Blackbird*. Wherefore seeing he speaks nothing concerning the nature of the Bird, and it is alike unknown to me, I also adjoin it to the *Merula*, although in the shortness, or rather crookedness, of its Bill it differs much from them. Those (saith *Bellonius*) who trade in Countries newly discovered, bring back thence such strange rarities as they think will sell dear with us here: But because they cannot bring the birds themselves alive in Cages, therefore they flay off the skins of such as are more beautiful than the rest, as this is, and bringing them over make a great gain of the sale of them; especially of this which they call, the *Brazilian Blackbird*; though in bigness it differs from a *Blackbird*. The colour of the whole body, except the Tail and Wings, which

Cc

are

are black; is so deep [perchance by the word *intense* he may mean bright] a red, that it exceeds all other rednesses. The Tail is long; the Feet and Legs black; The Bill short, as in a Sparrow. The feathers are red to the very bottom. That which *Aldrovandus* describes, perchance from a picture, was in some things different from *Bellonius* his bird. For, faith he, the Wings are not all over black, but all the upper feathers by the shoulders of a deep red. Next to them are some black ones, then red ones again; the subsequent, *viz.* all the great feathers, being black, as is also the Tail. The Bill also is not so short as in Sparrows, yet thick, and remarkably crooked, without of a dusky colour, within yellow, as I conjecture from the colour of the corners of the mouth [*ridula*.] Moreover, the Feet are not black, but of an ash-colour, only a little dusky, being great for the proportion of the Legs: The Claws short, but crooked, of the same colour.

We have seen in *Tradescanti* Cabinet a red *Indian* bird dried, of the bigness almost of a *Mock*, having a long Tail, which perchance is the same with the bird in this Article described.

§. VI.

* The Rose or Carnation-coloured Onzel of *Aldrov.* lib. 16. cap. 15.

THIS bird our Fowlers call, the *Sea-Starling*. It is seen sometimes in our fields, and is much among dung-heaps. To me it seems rather to be a kind of *Onzel* [*Merula*] than *Starling*. For a *Starling* is spotted, which this is not. It is somewhat less than a *Blackbird*, hath its Back, Breast, and Wings above of a Rose or Carnation colour, its Head tufted, its Wings and Tail black, the prime feathers being near a Chestnut colour: The Bill next the Head black, else of a flesh colour: The Feet of a deep yellow or Saffron-colour. The Cock in this kind is of a more lively and lovely colour. The head of the Hen is in colour like to the Cocks, but the Neck, Wings, and Tail not so black as his. They become very fat, and are accounted good meat.

We have not as yet seen this bird, neither do we remember to have elsewhere read or heard any thing of it.

§. VII.

The red-breasted Indian *Blackbird*, perchance the *Jacapu* of *Marggrave*.

WE saw the Cafe of this bird in *Tradescanti* Cabinet. It was of the bigness and shape of a *Blackbird*, as far as I could judge by the dried skin. The colour of the whole upper side was black; only the edges of the feathers about the Rump were ash-coloured. The Breast was of a scarlet colour: The Bill like a *Blackbird*: The Tail also long, and like a *Blackbird*.

I take this to be the same bird, which *Marggrave* describes under the title of *Jacapu* of the *Brazilians*, though he attribute to it only the bigness of a *Lark*. It hath (faith he) a long Tail, shorter Wings, short and black Legs, with sharp Claws on the four toes: A Bill a little crooked and black, half an inch long. The whole body is covered with shining black feathers; yet under the Throat spots of a Vermilion colour are mingled with the black. This bird differs from ours in its smallness, and the shortness of its Bill.

§. VIII.

The Ring-Onzel, *Merula torquata*.

IT is like, and equal to, or somewhat bigger than the common *Blackbird*: From Bill to Tail eleven inches long, to the end of the Feet ten and a quarter; the Wings extended were by measure seventeen inches. The Bill more than an inch long, of a dark dusky or blackish colour. The mouth yellow within: The Tongue rough. The *Irides* of the Eyes are of a dark hazel colour: The Legs and Feet dusky. The outer *Tocis* is joined to the middle as far as to the first joint. The colour of the upper side of the body is a dark brown, or ruflet, inclining to black. The feathers covering the Breast and Belly are marked with a long whitish spot down the shaft, having

having also white edges. The Ring or Collar is below the Throat, just above the Breast, of a white colour, an inch broad, of the form of a Crescent, the horns ending at the sides of the Neck.

It hath eighteen quill-feathers in each Wing; twelve in the Tail, the outmost being a little shorter than the rest; four inches long. The exterior feathers of the Tail are blacker than the middlemost. The small feathers under the Wings whitish.

[In a bird that I described at *Rome* the edges of the prime feathers of the Wings, as also of the covert-feathers of the Head and Wings were cinereous. The ring also was not white, but ash-coloured. I suppose this was either a young bird, or a Hen.]

It hath a large Gall, and a round Spleen: In the Stomach we found Insects, and Berries like to Currans. These Birds are common in the Alps in *Rhetia* and *Switzerland*: They are also found in the mountainous parts of *Derbyshire*, *Yorkshire*, and elsewhere in the North of *England*.

They say that the Female of this kind hath no ring: Whence I persuaded myself that the bird which I sometimes described for the *Merula Saxatilis* or *Montana*, that is, the *Rock-Onzel* of *Gesner*, p. 584. was no other than a *Hen Ring-Onzel*.

It nearly resembles the common *Blackbird* in bigness, figure, and colour; yet in some things manifestly different; *viz.* it is a thought bigger, hath a longer body, and not so dark a colour. Its length from the tip of the Bill to the end of the Tail was ten inches and an half, to the end of the Claws nine and an half: Its breadth one foot and five inches: Its weight three ounces and two drachms. The top of the Head, the Shoulders, Back, Wings, and Tail, in a word, the whole upper side was of a dark brown or dusky colour. The number of quill-feathers in each Wing eighteen. The Tail was four inches and an half long, not forked, black, made up of twelve feathers. The under side, *viz.* the Breast, Belly, Sides, Thighs, and under-coverts of the Wings, particoloured of brown and white, or rather cinereous; the middle part of each feather being brown, and the borders round about cinereous.

Its Bill is every way like the common *Blackbirds*, excepting the colour which in this is of a dark brown, or blackish. The inside of the mouth, as in that, yellow. The Legs are of a moderate length, and dusky colour, as also the Feet and Claws.

The Guts indifferently large, but not very long, and consequently not having many revolutions: The blind Guts small, white, and very short, as in the rest of this kind. The Stomach or Gizzard was of a moderate bigness, filled partly with Insects, partly with the purple juice of Bill-berries, which had also tinged all the excrements of the Guts.

It is usually conversant about the Rocks and steep Cliffs of high mountains. This we described was shot by *Fr. Jessop* Esq; on a Cliff or Scar, called *Rive-edge*, where they dig Mill-stones, not far from a Village called *Hathers-edge* in the Mountains of the Peak of *Derbyshire*, where the Inhabitants call it *Rock-Onzel*.

§. IX.

* The *Rock Onzel*, or *Mountain Onzel* of *Gesner*, called in *High Dutch*, *Berg-Amzel*, *Merula Saxatilis* seu *Montana*.

IT differs from the *Ring-Onzel*, 1. In that it wants a Ring. 2. In that the Throat is * red, with black spots, the Belly is cinereous, with black spots. 3. That the extreme edges of the great Wing-feathers are whitish, and the lesser rows have sometimes white spots in their middle about their shafts. But these differences are not to me so considerable, as to induce me to believe that this bird is a *Species* different from the *Ring-Onzel*; at least if it be true, that the Hen in that kind wants a ring, and differs other ways in colour from the Cock, as we have been informed. Yet will we not be very confident or positive, but refer it to further inquiry and observation.

To these may be added *Aldrovandus* his 1. * *MERULA BICOLOR*, described lib. 16. cap. 12. varied with two colours especially, *viz.* dusky or blackish, and reddish yellow. 2. † *MERULA CONGENER*, *Aldrov.* lib. 16. cap. 13. having a red line near the Bill. 3. * *MERULA CONGENER ALIA*, in *Chip. 14.* of the same Book, like to the ash-coloured *Butcher-bird*. Which, because we have not seen, nor read of elsewhere, we omit: Whosoever pleases may look out their figures and descriptions in the places cited. The second of these *Aldrovandus* saw only painted, neither did he see the first alive.

CHAP. II.

Of the Stork. De Ciconia.

§. I.

The common or white Stork: Ciconia alba.

IT is bigger than the common *Heron*: Its Neck thicker and shorter than the *Heron*: Its Head, Neck, and fore-part white: The Rump and outside of the Wings black: The Belly white. The quill-feathers of the Wings black: The Tail white: The Bill long, red, like a *Heron*'s Bill. The Legs long, red, bare almost to the Knees or second joint from the Foot. The Toes from the divarication to the first joint connected by an intervening membrane. The Vertebrae of the Neck are fourteen in number. Its Claws are broad, like the nails of a man; so that *πλευρώνος* will not be sufficient to difference a man from a Stork with its feathers plucked off. N. B. *Herodotus* attributes such like Claws to the white *Egyptian Ibis*. The Claw of the middle Toe is not ferrate. It is seldom seen in *England*, and not unless driven over by a storm of wind, or some other accident. My honoured Friend Sir *Thomas Brown* of *Norwich*, a person deservedly famous, for his skill in all parts of learning, but especially in natural History, sent me a Picture of one of these birds taken on the Coast of *Norfolk*, drawn by the life, with a short description of it, as follows. It was about a yard high: It had * red Bill and Legs; the Claws of the Feet like humane Nails. The lower parts of both Wings were black, so that when the Wings were closed or gathered up, the lower part of the Back appeared black. Yet the Tail, which was wholly covered and hid by the Wings (as being scarce an inch long) was white, as was also the upper part of the Body. The quills were equal in bigness to *Swans* quills. It made a snapping or clattering noise with its Bill, by the quick and frequent striking one Chap against the other. It readily eat Frogs and Land-snails which we offered it; but refused Toads. It is but rarely seen on our Coasts. So far Sir *Thomas Brown*: Whose description agrees exactly with ours in all points.

The white Stork, faith * *Joannes Faber*, is very rare in *Italy*: All these twenty eight years that I have spent at *Rome*, I never but once saw a white Stork, and then but one, on the top of the Tower, called *Torre de Conti*, I know not by what wind driven thither. *Aldrovandus* also himself an *Italian* born, and then a very old man, confessed that he had never seen a white Stork, for that the Territory of *Bologna* did neither breed nor feed them. But still it is most certain, that Storks before the approach of Winter fly out of *Germany* into more temperate and hot Countries, very strange it is, *Italy* being contiguous to *Germany*, and hotter than it, that they should not fly thither, at least pass over it in their flight Southward.

I know them (faith the same *Faber*) who have learned by ocular inspection, that Storks and Peacocks, when such Serpents as they swallow passed alive through their bodies, (as they will do several times, creeping out at their Fundaments) use to set up their Rumps, and clap their Tails against a wall so long, till they feel the Serpents dead within them.

§. II.

The black Stork. Ciconia nigra.

IT is equal to the white Stork, or but little less than it. Its Head, Neck, Back, and Wings are black, with a certain gloss or mixture of green, not unlike the colour of a *Cormorant*: Its Breast, Belly, and sides are white. The Bill green: The Legs all green, and bare of feathers up to the Knees or second joint from the Foot. The membrane connecting the Toes reaches on the outside as far as the first joint of the middle Toe, not on the inside. The young ones when they want meat make a noise not unlike to *Heron*'s. We saw this Bird first near *Frankfurt* on the *Main*, after at *Strasbourg*: We suppose those we saw were young ones, for that their Bills and Legs were green, whereas in that which *Faber* described they were red.

Jo. Faber

*Jo. Faber** describes this Bird very diligently and exactly thus: Its length from the point of the Bill to the Feet was six spans and an half: The measure was the fame of the Wings extended. The Bill alone (wherein was seen a short reddish Tongue) was a *Roman* foot long: The Legs two spans. The Gullet was of that capacity or wideness, that the Bird being hanged up by the Feet, a great Frog dropt out of the mouth of its own accord, without any force, and four more were found entire in its stomach. In which stomach, made of hard flesh, were many Frogs bones, and a certain dry lump not unlike dung. The Neck was a span and half long: The Legs and Feet meager. The colour of the Wings and all the Back blackish, as far as the lower Belly. This black is mixt with a dark bluish and purple, the dusky colour being predominant, especially in the greater feathers of the Wings. The Neck recedes further from the colour of the Back, and doth wonderfully delight the Eyes with a most grateful mixture of blue, purple, and green; such as is observed in the necks of *Pigeons* and *Mallards*. And because only the lower region of the Belly, beginning far below the Breast, hath white and soft feathers; the whole Bird is rather to be denominated black than white. The orbits of the Eyes, the whole Bill, Legs, and Feet are of a most pleasant scarlet red, or * vermillion colour. All which things put together, viz. the stately structure of the whole body, and that symmetry of various and pleasant colours, render this Bird very elegant and beautiful to behold. It is not altogether whole-footed like a *Duck*, yet the three fore-toes are joined together half-way by a tough membrane; the back-toe or keel being pretty long, and armed with a strong Talon. These birds frequent Fens, Lakes, and Sea-shores; into these waters they run, intent upon their prey, sometimes also diving under water, maintain themselves by fishing, as I am assured by our Fowlers upon their credit. This Bird is not very frequent at *Rome*, yet is it sometimes exposed to sale among other Sea-fowl. Its flesh hath such a fishy taste and stench, that being thrown to our Cat, she refused it, and would not touch it. He endeavours to prove this Bird to be the *Mergus* of *Ovid*. See the Author.

All Storks make a clattering or snapping noise with their Bills, by clapping one Mandible nimbly against the other. They are said to live only in Republics and free States; but this we found by experience to be false, observing them in the Territories of some Princes in *Germany*. There is a tradition also that they feed and nourish their Parents in their old age, when they are unable to seek their own food: Whence the word *ἀλεπαρίζω*, signifying the duty of Children in requiting and maintaining their aged Parents.

§. III.

* The American Stork, called by the *Brasilians* Maguari of *Marggrave*.

IT is a Bird like to the Stork in figure, and bigness, and partly also in colour. It hath a Neck a foot long: A straight, sharp Bill, of nine inches length; long naked Legs, like the Stork; a short Tail reaching no further than the Wings. Its Bill at bottom half way up is of a yellowish green: The other half being of a bluish ash-colour. It hath small, silver-coloured Eyes with a black Pupil, and about them a Vermilion-coloured skin, and the like also below, near the rise of the Bill, or between the Bill and the Throat, which when she is angry she lets hang down under the Throat after the manner of the *Senembi*. The whole Head, Neck, and all the body is covered with pure white feathers; and on the lower part of the Neck those white feathers are of a good length. The Tail also is white, but above covered with certain black feathers. The Wings at setting on are covered with white feathers, but near the Back with black; which black hath a gloss of green. Its Legs and Feet are red and like a Stork. It snaps also with its Bill like our Country Stork. Its flesh is elegant.

§. II.

* The third Cinclus of * Aldrovand.

* Lib. 20,
cap. 56.

IT is of the same colours with the precedent, save that it hath a white Tail, adorned with transverse black lines: It hath also the same shape and make of body. It differs in the Bill; for that hath it of almost an even bigness, this thicker where it is joyned to the Head, and by degrees slenderer to the tip. It seems also to differ in the Legs, they being somewhat longer and thicker. In bigness it agrees, and hath also a common name with it, being called by our [the Bolognese] Fowlers, *Giaruncello*.

CHAP. XIV.

The Stone-Curlew: The Oedicnemus of Bellonius: Charadrius of Gesner,
* Aldrov. called at Rome, Curliotte.

* Lib. 13, cap. 15.

ITS weight is eighteen ounces: Its length from Bill to Tail eighteen inches, to the points of the Claws twenty: Its breadth from tip to tip of the Wings extended thirty six inches. The length of the Bill, measuring from the tip to the angles of the mouth, two inches. The Bill is not much unlike a Gull's, but straight, sharp-pointed, black as far as the Nostrils, then yellow. The Irides of the Eyes and edges of the Eye-lids are yellow. Under the Eyes is a bare space of a yellowish green colour. The Legs are long and yellow. The Claws small and black. It hath only three fore-toes, wanting the back-toe. The outmost Toe a little longer than the middlemost; All joyned together by a certain membrane, which on the inside the middle toe begins at the second joint, on the outside at the first, and reaches almost to the Claws of the outer Toes. The Legs (as Bellonius observes) are very thick below the Knees, as if they were swollen, by reason of the bones, which are there great; wherefore that he might render the Bird more easie to be known, he named it, *Oedicnemus*. The upper Legs are above half way bare of feathers; which note alone, were there no other, argues this Bird to be a Water-fowl. The Chin, Breast, and Thighs are white: The Throat, Neck, Back, and Head covered with feathers, having their middle parts black, their lateral or borders of a reddish ash-colour, like that of a Curlew: Whence they of Norfolk call it, The Stone-Curlew.

In each Wing are about twenty nine quill-feathers; the first and second of which have a transverse white spot, else their exterior surface black: The four next to these black: The three following have their bottoms and tips white: Then succeed thirteen black ones; the last or next to the body are of the same colour with it. The first feathers of the second row are black: The rest have white tips, and under the tips a cross line or border of black. In the lesser rows of Wing-feathers is a transverse bed or bar of white. The coverts of the under-side of the Wings, especially those springing from the shoulders, are purely white. The outmost feathers of the Tail for the space of an inch are black, then white: The next to these, one on each side, are variegated, with one or two brown bars crossing the white part: The rest, the white by degrees fading and disappearing, become of the same colour with the body. The tips of the middlemost are a little black. The Tail is five inches long, consisting of twelve feathers. The guts great: The blind guts three inches long: The single umbilical blind gut half an inch. We bought this bird in the Market at Rome, and there described it.

It breeds very late in the year (saith Bellonius) for we found of the Young about the end of October, which could not yet fly. Bellonius when he travelled first in England, observed this Bird here; for the feathers and the Feet very like to a *Bustard*.

The learned and famous Sir Thomas Brown Knight, Physician in Norwich, informed us, that it is found about *Thetford* in Norfolk, where they call it the Stone-Curlew, and that its cry is something like that of a green Plover.

Another bird congenerous to this, wanting also the back-toe, (which Aldrovandus described from the intuition of a bare Picture) but different in that its Thighs are feathered, and its Toes without any intermediate membrane, see in his *Ornithology*, Book 13.

Book 13. Chap. 15. I suspect it to be the same with the *Oedicnemus*, and those different notes to be but mistakes of the Painter.

The *Charadrius* of Gesner, which Aldrovand judges to be the same with our *Oedicnemus*, is a foolish and stupid bird. Being shut up in any room, it walks up and down, sometimes in a round about a Pillar or any other thing for a long time, and if any block or impediment be in its way it will rather leap over it, than decline from the right way. * It shuts not its Eyes though you put your finger to them. It is easily made tame, for when it is at liberty in the fields it is not much afraid of a man. * It winks. It is a Water-fowl, and lives in fenny Meadows, or about Marshes. In houses also it catches Mice in the night time. I hear that it abounds in the Low Countries, that it wanders up and down in the night, and makes a noise like a Whistle, or Pipe.

SECTION VI.

Cloven-footed Water-fowl with short Bills, that feed upon Insects.

CHAP. I.

X The Lapwing or Bastard Plover: Capella five Vannellus.

THIS Bird is in all Countries very well known; and every where to be met with. In the North of England they call it the *Twit*, from its cry. It is of the bigness of a common Pigeon, of eight ounces weight; thirteen inches and an half length, measuring from Bill to Claws, and not much less from Bill to Tail: Its breadth, taken between the tips of the Wings spread out, is twenty one inches.

The top of the Head above the Crest is of a shining black. The Crest springs from the hind part of the Head, and consists of about twenty feathers, of which the three or four foremost are longer than the rest, in some birds of near four inches length. The Checks are white; only a black line drawn under the Eyes through the Ears. The whole Throat or under side of the Neck, from the Bill to the Breast is black, which black part somewhat resembles a Crescent, ending in horns on each side the Neck. The Breast and Belly are white: As are also the covert feathers of the under side of the Wings. The feathers under the Tail are of a lovely * bright bay: * I have seen. Those above the Tail are of a deeper bay: The feathers next them are dusky, with a certain splendour. The middle of the Back and the scapular feathers are of a delicate shining green, adorned with a purple spot on each side next the Wings. The utmost edges of the tips of the middlemost of the long scapular feathers are whitish. The Neck also is of an ash-colour, with a mixture of red and some black lines near the Crest.

Of the master-feathers of the Wing the three or four outmost are black, with white tips: The following to the eleventh are black. From the eleventh they are white at bottom, the hindmost more and more in order than the foremost. Yet this white doth not appear in the upper side of the Wing, but is hid by the covert-feathers. Those next the body from the twenty first are green. The lesser covert-feathers are beautified with purple, blue, and green colours, variously commixed. The outmost feather of the Tail on each side is white, having a black spot in the exterior Web. The tips of all the rest are white, and beneath the tips the upper half black, and the lower white. The Bill is black, hard, roundish, of an inch length. The upper Mandible a little more produced: The Tongue not cloven; but its sides reflected upwards make a channel in the middle. The Nostrils oblong, and furnished with a flexible bone. The Ears seem to be situate lower in this than other Birds: The Eyes are hazel-coloured.

The Feet are long, reddish [in some Birds brown.] The back-toe small. The outmost of the fore-toes joyned to the middle one at the bottom.

The liver is large, divided into two Lobes, with a Gall annexed. The Gizzard not so thick and fleshy as in granivorous birds, therein we found Beetles like to Meal-worms. It is infested with Lice like the *Tetrao*.

R r 2

The

Candle, by imitating the gestures of the Fowler: For if he stretches out an Arm, that also stretches out a Wing; if he a Foot, that likewise a Foot: In brief, whatever the Fowler doth, the same doth the Bird; and so being intent upon mens gestures it is deceived, and covered with the Net spread for it. I call it *Morinellus* for two reasons, first, because it is frequent among the * *Morini*: And next, because it is a foolish bird, even to a Proverb, we calling a foolish dull person a *Dotterel*.

* *Flemmings*.

Of the catching of *Dotterels*, my very good Friend Mr. *Peter Dent*, an Apothecary in *Cambridge*, a Person well skill'd in the History of Plants and Animals, whom I consulted concerning it, wrote thus to me. A Gentleman of *Norfolk*, where this kind of sport is very common, told me, that to catch *Dotterels* six or seven persons usually go in company. When they have found the Birds, they set their Net in an advantageous place; and each of them holding a stone in either hand get behind the Birds, and striking their stones often one against another rouse them, which are naturally very sluggish; and so by degrees coup them, and drive them into the Net. The Birds being awaked do often stretch themselves, putting out a Wing or a Leg, and in imitation of them the men that drive them thrust out an Arm or a Leg for fashion sake, to comply with an old custom. But he thought that this imitation did not conduce to the taking of them, for that they seemed not to mind or regard it.

CHAP. IV.

The Sea-Lark: *Charadrius five Hiaticula*.

IN bigness it somewhat exceeds the common *Lark*: From the point of the Bill to the end of the Tail or Legs (for they are equally extended) being eight inches and an half long, a line of black compasses the base of the upper Bill. This black line from the corners of the mouth is produced through the Eyes as far as the Ears, and then turns up and passes cross the middle of the Head, encompassing a broad band or fillet of white drawn from the inner corner of one Eye to the inner corner of the other. The hinder part of the Head is ash-coloured: The Chin white. The Neck encompassed by a double ring or collar, the upper white, which underneath reaches as far as the Bill, and under the Chin is dilated almost to the Eyes; the lower black, which is broader in the middle, and takes up part of the Breast, before also runs out toward the Bill. The Back and lesser covert feathers of the Wings are * ash-coloured. The Breast and Belly white.

* Or grey.

The outmost of the quill-feathers of the Wings is black, on the middle of the shaft only spotted with white, which colour spreads it self gradually and continually more and more in the following feathers, insomuch that the twentieth and twenty first are wholly white. Those next the body are of the same colour with the Back. The feathers of the second row have white tips, excepting the foremost or outmost. Hence, and from the white of the first row arises a long transverse white line in the Wings. The outmost feather of the Tail on each side is white, as also the tip and exterior half of the next; of the three following only the tips: The two middlemost are of the same colour with the Back, or a little darker. The Tail is two inches and an half long, made up of twelve feathers, of which the outmost are the longest, and the rest the interior are a little shorter in order than the exterior. [The Tail-feathers in divers birds vary in colour, for in some the two outmost feathers are wholly white, and the tips also of the middlemost.]

The Bill is short, scarce an inch in length, of two colours: For beneath toward the Head it is of a deep yellow or gold-colour more than half way, toward the point black. The upper Mandible a little longer, and somewhat crooked. [In others (perhaps they were young ones) we observed the whole Bill to be black.] The Tongue is not divided: The Eyes are hazel-coloured: The Legs and Feet of a pale yellow: The Claws black. It wants the back-toe. The outmost of the fore-toes is joyned to the middlemost by a membrane reaching to the first joyn. The Stomach hath not very thick muscles, in it dissected we found *Beetles*. The Gall-bladder is large.

It builds on the Sea-rocks, making its Nest of grafs, straws, and stalks of Plants: Its Eggs are of a greenish colour, spotted with brown, all the blunt end being dusky. It runs very swiftly on the shores, and makes short flights, singing or crying continually

continually as it flies. It is with us in *England* every where very common upon the Sea-coasts. We saw it also about the Lake of *Geneva*, and it hath been brought to us killed upon the banks of the River *Trent*, not far from *Nottingham*.

This Bird is the very same which *Marggravius* describes, *Book 5. Chap. 5.* by the name of *Mutitui*, as he saith the *Brasilians* call it, as will clearly appear to him that shall but compare them together. So that it seems there are some Birds common to *Europe*, and even the Southern part of *America*. *Leonard Balthar* describes and pictures two sorts of this bird. Perchance his lesser kind is that which the *Welsh* call *Geligod*, and say is like a *Sea-Lark*, but less.

CHAP. V.

The Turn-stone, or Sea-Dottrel: *Morinellus marinus* of Sir Thomas Brown.
An *Cinclus Turneri*?

IT is lesser than a *Plover*, and something bigger than a *Blackbird*: in length from the tip of the Bill to the points of the Claws ten inches: In breadth between the extremities of the Wings extended twenty. It is long-bodied, and hath but an indifferent Head. The Cocks and Hens differ not in colours. Its Bill is straight, black, an inch long from a thick base lessening by degrees into a sharp point, something flat, stronger and stiffer than in the *Woodcock* kind.

The colour of the Plumage in the Head, Neck, Shoulders, Wings, and upper part of the Breast is brown. [Mr. *Willughby* makes the feathers covering these parts to be black, or purplish black in the middle, cinereous, or of a white russet about the edges.] All the under-side, but the Breast, is as white as snow. The Plumage on the middle of the Back is white; but on the very Rump is a great, transverse, black spot. The long scapular feathers are brown, with edges of an ash-colour, or dirty white. The quill-feathers of the Wings are about twenty six, of a brown or dusky colour: But from the outmost three or four their bottoms are white, continually more and more, till in the nineteenth and twentieth the white spreads almost over the whole feather. In the second row the foremost feathers are wholly black: The tips of the following being white, together make a broad line of white cross the Wing. The edges of the lesser rows are red. Near the second joyn of the Wing is a white spot. The Tail is two inches and an half long, consisting of twelve feathers, of which the lower half is white, the upper black, yet the very tips white.

The Legs are short, of a Saffron or Orange colour. The Claws black: The Toes divided almost to the bottom, but the outmost and middle toe coupled by a membrane as far as the first joyn. It hath the back-toe.

The Liver is divided into two Lobes, of which the * *dexter* is much the bigger. I * That on the right side.
found no Gall, yet dare not say that it wants one. Upon the Western shores of *England*, about *Pensans* in *Cornwall*, and *Aberdare* in *Merioneth-shire* in *Wales*, we observed many of them, where they fly three or four in company: Nor are they less frequent on the Sea-coasts of *Norfolk*.

Our honoured Friend Sir Thomas Brown of *Norwich* sent us the Picture of this bird by the title of the *Sea-Dottrel*.

CHAP. VI.

* The first Junco of * *Aldrovand*.

* Book 13.
Chap. 55.

IT is of the bigness of a *Sparrow*, hath a black, channelled Bill, sufficiently hard, and crooked at the end; the Tongue also channelled, and at the tip hard, and cloven. The upper part of the Head, Neck, and the Belly are of a chestnut-colour. All the under-side of the Neck and Breast white. All the other parts of the body from * dusky incline to black. The Tail is three inches long, consisting of ten feathers: The Legs and Feet dusky. The Cock differs from the Hen only in this, that in her the colours are more dull, in him more lively.

* Arc of a dark brown.

To

We saw many of these birds both at *Rome* and *Venice*: They do also frequent our Eastern Coasts in *Suffolk* and *Norfolk* in Winter time. But there needs no great pains betaken or time spent in exactly describing this bird: For the singular figure of its Bill reflected upwards is sufficient alone to characterise and distinguish it from all other birds we have hitherto seen or heard of.

BOOK III. PART III.

Of WHOLE-FOOTED BIRDS with shorter Legs.

* Or such as have but three toes, and such as have four.

Whole-footed birds with shorter Legs we distinguish into * such as want the back-toe, and such as have it: These latter into such as have all four toes web'd together, and such as have the back-toe loose or separate from the rest: These latter again we subdivide into narrow-bill'd and broad-bill'd: The narrow-bill'd have their Bills either hooked at the end, or straighter and sharp-pointed. The hook-bill'd have their Bills either even, or toothed on the sides. Those that have straighter and sharp-pointed Bills are either short-winged and divers, called *Duckers* and *Loons*; or long-winged, and much upon the Wing, called *Gulls*. The broad-bill'd are divided into the *Goose*-kind, and the *Duck*-kind. The *Duck*-kind are either *Sea-ducks*, or *Pond-ducks*.

The general marks of whole-footed birds are, 1. Short Legs; Here we must except the *Phanicoptes*, *Corriva*, and *Avocetta*: 2. Legs feathered down to the Knees: 3. Short hind-toes: 4. The outmost fore-toe shorter than the inmost: 5. Their Rumps less erect, than other birds: 6. Molt of the broad-bill'd kind have a kind of hooked narrow plate at the end of the upper Chap of their Bills; their bodies flat or depressed.

N. B. Under the name of *whole* or *web-footed* we comprise some birds, which have indeed their Toes divided, but membranes appendant on each side, such as some of the *Divers* or *Loons*. These might more properly be denominated *fin-toed* or *fin-footed* than *whole-footed*.

SECTION I.

Whole-footed Birds that want the Back-toe.

CHAP. I.

The Bird called Penguin by our Seamen, which seems to be *Hoiers* *Goifugel*.

IN bigness it comes near to a tame *Goose*. The colour of the upper side is black, of the under white. Its Wings are very small, and seem to be altogether unfit for flight. Its Bill is like the *Auk*, but longer and broader, compressed sideways, graven in with seven or eight furrows in the upper mandible, with ten in the lower. The lower Mandible also bunches out into an angle downward, like a *Gull's* Bill. It differs from the *Auk's* Bill in that it hath no white lines. From the Bill to the Eyes on each side is extended a line or spot of white. It wants the back-toe, and hath a very short tail.

I saw and described it dried in the Repository of the *Royal Society*. I saw it also in *Tradescant's* Cabinet at *Lambeth* near *London*.

The Penguin of the *Hollanders*, or *Magellanic* *Goose* of *Clusius*.

The Birds of this kind, found in the Islands of the Strait of *Magellane*, the *Hollanders* from their fatness called *Penguins*. [I find in Mr. *Terrier's* Voyage to the *East Indies* mention made of this Bird. He describes it to be a great lazy bird, with a white

white Head, and coal-black body. Now seeing *Penguin* in the *Welsh* Tongue signifies a *white head*, I rather think the Bird was so called from its white head; though I confess that our *Penguin* hath not a white Head, but only some white about the Eyes.] This (saith *Clusius*) is a Sea-fowl of the *Goose*-kind, though unlike in its Bill. It lives in the Sea; is very fat, and of the bigness of a large *Goose*, for the old ones in this kind are found to weigh thirteen, fourteen, yea, sometimes sixteen pounds; the younger eight, ten, and twelve. The upper side of the body is covered with black feathers, the under side with white. The Neck (which in some is short and thick) hath as it were a ring or collar of white feathers. Their skin is thick like a *Swine's*. They want Wings, but instead thereof they have two small skinny fins, hanging down by their sides like two little arms, covered on the upper side with short, narrow, stiff feathers, thick-set; on the under side with lesser and thinner, and those white, wherewith in some places there are black ones intermixt; altogether unfit for flight, but such as by their help the birds swim swiftly. I understood that they abide for the most part in the water, and go to land only in breeding time, and for the most part lie three or four in one hole. They have a Bill bigger than a *Raven's*, but not so high; and a very short Tail; black, flat Feet, of the form of *Geese's* * Elated. They walk erect, with their heads on high, their fin-like Wings hanging down by their sides like arms, so that to them who see them afar off they appear like so many diminutive men or *Pigmies*. I find in the Diaries [or Journals of that Voyage] that they feed only upon fish, yet is not their flesh of any ungrateful relish, nor doth it taste of fish. They dig deep holes in the shore like *Cony-burroughs*, making all the ground sometimes so hollow, that the Seamen walking over it would often sink up to the knees in those vaults. These perchance are those *Geese*, which *Gomora* saith are without feathers, never come out of the Sea, and instead of feathers are covered with long hair. Thus far *Clusius*, whose description agrees well enough to our *Penguin*; but his figure is false in that it is drawn with four toes in each foot.

Olaus Wormius * treating of this bird, to *Clusius* his description adds of his own observation as followeth. This Bird was brought me from the *Ferroyer* Islands; I kept it alive for some months at my house. It was a young one, for it had not arrived to that bigness as to exceed a common *Goose*. It would swallow an entire *Herring* at once, and sometimes three successively before it was satisfied. The feathers on its back were so soft and even that they resembled black Velvet. Its Belly was of a pure white. Above the Eyes it had a round white spot, of the bigness of a Dollar, that you would have sworn it were a pair of Spectacles, (which *Clusius* observed not) neither were its Wings of that figure he expresses; but a little broader, with a border of white.

Whether it hath or wants the back-toe neither *Clusius* nor *Wormius* in their descriptions make any mention. In *Wormius* his figure there are no back-toes drawn.

This Bird exceeding the rest of this kind in bigness justly challenges the first place among them.

CHAP. II.

The Bird called the Razor-bill in the West of England, the Auk in the North, the Murre in Cornwall: *Alka Hoiari* in *Epist. ad Clusium*. *Worm. mus.*

THIS is less by half than the *Penguin*, being not so big as a tame *Duck*: Between the tips of the Wings spread it was twenty seven inches broad. Its Head, Neck, Back, and Tail, in general its whole upper side is black. Its Belly and Breast as far as the middle of the Throat white. The upper part of the Throat under the Chin hath something of a dusky or purplish black. Each Wing hath twenty eight quill-feathers; the tips of all * to the eleventh are white. The Tail is * But the eleven outmost. three inches long, consisting of twelve feathers, the exterior shorter by degrees than the interior: The excess of the two middlemost above the next them is greater than that of the rest.

The Bill from the tip to the angles of the mouth is two inches long, of a deep black, narrow or compressed sideways. A little beyond the Nostrils in the upper Mandible there is engraven a furrow or incision deeper than that in the *Coulter-neck*. As far as this

after another vomit up all their fish a little bruised with the nip they gave them with their Bills. When they have done fishing, setting the Birds on some high place they loose the string from their Necks, leaving the passage to the stomach free and open, and for their reward they throw them part of their prey they have caught, to each perchance one or two fishes, which they by the way as they are falling in the air will catch most dextrously in their mouths. This kind of fishing with *Cormorants* is it seems also used in the Kingdom of China, as * *Nierenbergius* out of *Mendoza* relates.

This Bird builds not only on the Sea-Rocks, but also upon trees. For (saith a certain *Englishman* mentioned by *Aldrovand*) I have seen their Nests on the Rocks near the mouth of the River *Tine*, and in *Norfolk* upon high trees together with the *Herons*. Which something we also have observed. For on the Rocks of *Preßholm* Island near *Beaumaris* we saw a *Cormorant* Nest, and on the high trees near *Seventhury* in *Holland* abundance. Which thing is worthy the notice-taking; For besides this and the following, we have not known or heard of any whole-footed bird that is wont to sit upon trees, much less build its Nest upon them.

CHAP. IV.

The *Shag*, called in the North of England, the *Crane*: *Corvus aquaticus minor* five *Graculus palmipes*.

IT is bigger than a tame *Duck*, weighing almost four pounds. Its length from Bill-point to Tail end was two foot and an half. Its breadth the Wings being spread forty four inches. Its Bill straight, slender, neither flat, nor compressed sideways, but rather round, from the tip to the angles of the mouth four inches long; the upper Mandible black, hooked at the end, the lower from green of a pale yellow. It hath a wide gape. The Tongue is small, and almost none. The Nostrils were not conspicuous, at least I could not discover any that it had. The Eyes small, situate lower and forward than is usual in other birds. Its body is small, flat and depressed like the *dun Divers*: The upper side of a black purplish colour, or black, with a dark tincture of green, shining like silk. The under-side is dusky, but in the middle of the Belly inclining to ash-colour. Under the Chin it is white, behind the Vent blacker than the rest of the Belly. The Tail is an hand-breadth and an half long, composed of twelve feathers, hard and stiff, the middlemost being the longest, and the outmost the shortest, so that being spread it seems to resemble an hyperbolical circumference. Each Wing hath thirty feathers in the first row. * The Wings when closed reach no further than the base or beginning of the Tail. The Legs are short, broad, compressed, feathered down to the Knees. The skin of the Legs is cancellated, not scaly. It hath four Toes, all connected by intervening membranes, armed with black Claws; the outmost Toe the longest, the rest in order shorter. The soles of the Feet and back-sides of the Legs are black: The membranes connecting the Toes dusky. The Claw of the middle toe is ferrate on the inside. It hath a huge, long, membranous stomach, which in the birds we dissected was full of small fishes. It swims in the Sea with its Head erect, its body almost immersed in the water. When a Gun is discharged at it, as soon as it sees the fire flash, immediately it pops under water like a *Dunker*, so that it is a very hard thing to shoot it.

It differs from the precedent, 1. In bigness, being much less: 2. In the colour of the Belly, which in this is blackish, in that white: 3. In the number of the feathers of the Tail, which in this are but twelve, whereas in that they are fourteen: 4. In that the claw of the middle toe in this is ferrate, as in *Herons*, in that only sharp-edged. [Mr. *Johnson* gives the *Cormorant* a ferrate Claw, and denies it to this. Perchance herein there may be variety, Nature (as they term it) sporting it self, and not observing constantly the same rule:] 5. That in this there is not so much bare skin at the base of the Bill as in that, nor of the same yellow colour: 6. Lastly, in the slenderness and length of the Bill.

This Bird also builds on trees: Its Eggs are long and white.

CHAP.

CHAP. V.

* The *Sula* of *Hoier* * *Cluf*, near of kin to, if not the same with the *Soland-goose*. * *Austar.* ad lib. 5, cap. 6. exotic.

FROM the bottom of the Neck to the Rump, measuring along the Back, it was a *Roman* foot long. From the top of the Head to the Back were eleven inches.

The Neck was as much about. The length of the Bill (which was very sharp-pointed and strong) was five inches and an half. The thicker part of the Bill, and that about the Eyes was black. The compass of the body was full twenty four inches, that is, two *Roman* feet. The Wings were more than a foot long; but the longer feathers of the Tail did not exceed the length of seven inches. It had but slender and infirm Legs, and those not more than two inches long, and wholly of a black colour, as were also the Feet, which were very broad, consisting of four Toes, of which the outermost, and that next it (which were the longest) consisted of three articulations, the third of two, the least of one, each armed with a small claw, except the second, the Nail whereof is a little broader than the rest, and ferrate on one side; but they are all joyned together by a black membrane. The longer prime feathers of the Wings are all black, as are also those three, which are longest, and lie uppermost, and take up the middle part of the Tail. The rest of the body was covered with white feathers, which yet in the Back were something yellowish, as if they were strowed with clay or dust.

This Bird in many things agrees with the *Soland-goose*, yet in some it differs, viz. the sharpness of the Bill, the black colour about the Eyes, the smallness of the Legs, and the black colour of the middle feathers of the Tail. But I suppose *Clufius* was mistaken in the number of the joints of the outer Toe, for the outer and middle Toe in no bird that I have yet hapned to see, except only the *Swift*, do agree in the number of joints: Nor doth the outer Toe consist of three articulations, but four, the middle of three, the inner of two, and the least or back-toe of one.

Clufius took this description from a dried bird, sent by Dr. *Henry Hoier*, Physician in *Bergen* in *Norway*, to Dr. *Peter Panm*, first Professor of Physick in *Leyden*. It is (he saith) called *Sula* by the Inhabitants of the Islands *Ferryer*, where it is taken. Those Islands, *Hoier* writes in his Epistle to *Clufius*, are said to be so called from the abundance of feathers there.

CHAP. VI.

The *Tropic Bird*.

IT is of the bigness of a *Duck*, hath a red Bill, about two inches long, somewhat bending downward, and sharp-pointed. A line of black is drawn on each side from the corner of the mouth to the back of the Head. The Belly is white: The Back also is white, but variegated with transverse lines of black thick set, which make it very beautiful to behold. The Wings are very long, yet each single feather short, as in the *Soland-goose*. In the outmost quill-feathers the one Web, i. e. that on the outside the shaft is black, the other or inner Web white; in the next to these the middle part of the feather along the shaft is black, the edges on both sides white; the next to these are all white; those next of all to the body black, and longer than the rest. The Feet are black, the Legs white: All the four Toes web'd together. In the Tail (if one may rely upon the stuff skin, or credit the relation of those those that sent it) are only two very long feathers, of about eighteen inches, narrow, and ending in sharp points. This description I took from the case of the bird conserved in the Repository of the *Royal Society*.

It is called the *Tropic-bird* because it is found about the Latitude of the Tropic circles, and no where else, so far as hath been by our English Travellers hitherto observed.

My honoured and ingenious friend, Mr. *Martin Lister* of *Tork*, takes this to be the bird described in the History of the *Caribbee* Islands in these words: There are seen near these Islands, and sometimes at a great distance from them in the Sea, certain birds

U u s perfoli

* Lib. 10. chap. 54.

* This mark agrees also to the *Cormorant*.

perfectly white, whose Beaks and Feet are as red as Coral. They are somewhat bigger than Crows: They are conceived to be a kind of Herons, because their Tails consist of two long and precious feathers, by which they are distinguished from all other birds frequenting the Sea. This, saith Mr. Lister, can be meant of no other than the Tropic-bird: But then it is wrong described, with red legs, and a perfectly white body.

CHAP. VII.

* The Anhinga of the Tupinambá a people of Brasil. Marggrav.

* *Mergi aquatica.*

* The word is *Itamali*, signifying little hooks.

* In Germany the women wear great round fur-caps as big and round almost as Turbans.
* Or their beginning perchance he may mean near the ridge.

It is an elegant sort of * *Diver*. Its body (excepting the Neck) is of the bigness of a common tame Duck: Its Bill straight, not thick, very sharp, three inches long, the foremost half both above and below having a double row of very sharp * teeth inclining backwards. Its Head is small, oblong, resembling a Serpents, a little more than an inch and half long: Its Eyes black, with a golden circle: Its Neck slender, round, a foot long: Its body but only seven inches. Its Legs are short: The upper two inches long, and feathered; the lower scarce an inch and half. It hath four Toes, three turned forwards, joyned together by membranes, after the manner of Ducks or Cormorants, the fourth shorter, extended sideways below, joyned to the rest by a membrane; very sharp, crooked Claws: A broad Tail, ten inches long, consisting of twelve feathers. The Wings end about the middle of the Tail. The Bill is grey, and after its rife a little yellowish. All the Head and Neck are covered with very fine feathers, to the touch as soft and sleek as Velvet, on the upper side of the Head and Neck of a colour from grey inclining to yellow: Under the Throat and beneath the Neck of a grey colour, like the fur of those skins called *Verhselle*, of which womens * Caps are made, which fur they resemble both to the touch and sight. The whole breast, lower Belly, and upper Legs are covered with soft feathers of a silver colour: The beginning of the Back with brown ones, each whereof hath in its middle an oblong spot of a whitish yellow colour, so that it appears speckled: The rest of the Back hath a black Plumage. It hath long Wings, at the * setting on covered with the like short feathers as the beginning of the Back. Then follows a row of half grey, half black ones, that is, on one side the shaft gray, on the other black: But the prime feathers are black. The Tail consists of black and shining feathers, whose ends are grey. The Legs and Feet are of a colour from a dark yellow inclining to grey. It is very cunning in catching of fish. For after the manner of Serpents, first drawing up its neck, it darts forth its Bill upon the fishes, and catches them with its Claws. I have eaten of its flesh, but it is not much better than the flesh of a Gull.

SECTION III.

Whole-footed Birds, having the back-toe loose, with a narrow Bill, hooked at the end, and not toothed.

CHAP. I.

* Of the Antenna of the Tremiti Islands: De Ave Diomedea.

His Bird *Aldrovandus* sets forth for the *Diomedea avis*, induced thereto by this argument chiefly, because the present Inhabitants of the *Diomedean* Islands, called now *Tremiti*, do affirm thereof what *Pliny* of old concerning the *Diomedean Birds*, viz. that they are found in no other place but in those Islands. His description he partly borrows of *Gesner*, partly takes from a Picture of the Bird.

They

They are (saith he) of the bigness of a good corpulent hen, but have pretty long Necks and Legs. Their colour is dusky, or a dark ash, and (if I be not mistaken) they have some white under their Bellies, as wild Pigeons sometimes have. [My Bird on the under-side was almost wholly white.] Its Bill is very hard, and hooked at the end like an *Eagle*, but not so much, of a bright red, if I well remember. [I believe he did not well remember this, for the Bill in my Bird was of a pale yellow, all but the hook, which was black.] Its Eyes fair, of a fire-colour, not very great. For I did once see one, which being smitten with a rod on the Head opened its Eyes and cried out, but shut them presently again, not being able to bear the light of the Sun. And again: Their colour is not simply white (as *Pliny* writes) but inclining to cinereous, as in *Fulica* (he means a Bird of the Gull-kind) to which also he compares them. Whether they have toothed Bills or not, I did not observe, but they have them strong and pretty long. Thus far *Gesner*. Which notes (saith *Aldrovandus*) do for the most part agree exactly to my Bird, which had it not a hooked Bill, one might not unfitly judge to be of the great Gull-kind: It doth so resemble them in the whole body, but especially in the Wings. The Feet are of the same colour with the Bill, as are the Legs also.

But this description is not much to be confided in, being partly borrowed of *Gesner*, (who had it from the relation of a certain friend, who described it by memory) partly took from a Picture, or a dried case of the Bird sent him out of the Island. Those who happen to travel to the Islands called *Tremiti*, would do well to enquire diligently concerning these Birds, or rather themselves procure and exactly describe them, that so we may not be any longer without a true and perfect history of them.

CHAP. II.

The Puffin of the Isle of Man, which I take to be the Puffinus Anglorum.

MR. Willughby saw and described only a young one taken out of the Nest, who makes it equal in bigness to a tame Pigeon. Those which I saw dried in the Repository of the *Royal Society*, and in *Tradesants* Cabinet, seemed to me somewhat bigger. Its colour on the Head, Neck, Back, and whole upper side is dusky or black, on the Breast and Belly white. The Bill is an inch and half, or it may be two inches long, narrow, black, and for its figure something like to a *Lapwing's* Bill, the upper Chap being hooked at the end, like a *Cormorant's*. Its base is covered with a naked skin, in which are the Nostrils on each side a furrow or groove is produced almost to the hook. The Head is blacker than the rest of the Back: The Wings long: The Tail an hand-breadth long, and black. The Feet underneath black; above, the outer half of each foot is black, the inner of a pale or whitish flesh-colour, so that the middle toe is partly white, partly black. It hath a small back-toe, and black Claws.

For its extraordinary fatness its flesh is esteemed unwholesome meat, unless it be well seasoned with salt.

At the South end of the Isle of Man lies a little Islet, divided from *Man* by a narrow channel, called the *Calf of Man*, on which are no habitations, but only a Cottage or two lately built. This Islet is full of Conies, which the Puffins coming yearly dislodge, and build in their Burroughs. They lay each but one Egg before they sit, like the *Razor-bill* and *Guillem*; although it be the common persuasion that they lay two at a time, of which the one is always addle. They feed their young ones wondrous fat. The old ones early in the morning, at break of day, leave their Nests and Young, and the Island it self, and spend the whole day in fishing in the Sea, never returning or once setting foot on the Island before Evening twilight: So that all day the Island is so quiet and still from all noise as if there were not a bird about it. Whatever fish or other food they have gotten and swallowed in the day-time, by the innate heat or proper ferment of the stomach is (as they say) changed into a certain oily substance [or rather chyle] a good part whereof in the night-time they vomit up into the mouths of their Young, which being therewith nourished grow extraordinarily fat. When they are come to their full growth, they who are intrusted by the * Lord of the Island draw them out of the Cony-holes, and that they may the more readily know and keep account of the number they take, they cut off one foot and of *Doubt*, receive

* The same is reported of the French *Marquis*, per chance the same bird with the *Puffin*.

reserve it; which gave occasion to that Fable, that the Puffins are single-footed. They usually sell them for about nine pence the dozen, a very cheap rate. * They say their flesh is permitted by the *Romish* Church to be eaten in *Lent*, being for the taste so like to fish.

Gefner, and *Aldrovand* following him, from the relation of a certain *English* man, write, that they want hard feathers, being covered only with soft feathers, or a kind of down: Which is altogether false, they being furnished with sufficiently long Wings and Tail, and flying very swiftly. They say it is a foolish bird, and easily taken. We are told that they breed not only on the *Calf of Man*, but also on the *Silly Islands*. Notwithstanding they are sold so cheap, yet some years there is thirty pounds made of the young Puffins taken in the *Calf of Man*: Whence may be gathered what number of birds breed there.

CHAP. III.

* The *Brafilian* *Maiaguè* of *Piso*.

* The *Cor-morant*.

Maiaguè, also received into the number of whole-footed, edible, but Sea wild-fowl, is of the bigness and shape of a *Goose*; not unlike to those great black diving birds of our Country, having in like manner the end of their Bills hooked and fitted for ravin: So that it seems to resemble *Gefner's* * *Corvus aquaticus*. It hath a thick, round Head; shining Eyes; a long Neck, decently bowed like a *Swan*. The whole Bird is of a dusky and blackish colour, only the forepart of the Neck adorned with yellow feathers. It lives in the Sea about the mouths of Rivers: But builds its Nest and lays its Eggs on the shore. It is a swift bird, swims and dives well, and cunning in avoiding and escaping the snares of the Fowlers.

Its flesh is eculent, and good meat, especially if it be young, but because it feeds always upon fish it is disapproved and rejected by some.

Whether this Bird hath all its four toes web'd together or not *Piso* doth not tell us, therefore we have subjoyned it to those which have the back-toe loose, although we suspect that it doth rather belong to the former genus.

CHAP. IV.

The *Shear-water*.

Our learned and worthy friend *Sir Thomas Brown* of *Norwich* among the designs and Pictures of many other birds, sent us also that of this, with a short history of it as followeth. The *Shear-water* is a Sea-fowl, which fishermen observe to resort to their Vessels in some numbers, swimming swiftly to and fro, backward, forward, and about them, and doth as it were, *radere aquam*, shear the water, from whence perhaps it had its name. It is a fierce and snapping fowl, and very untractable. I kept two of them five or six weeks in my house, and they refusing to feed, I caused them to be crammed with fish, till my Servant grew weary, and gave them over: And they lived fifteen days without any food. So far *Sir Thomas*. This Bird, according to the Picture of it, hath a great head like a *Gull*: Its upper part [Head and Back] were of a dark brown or blackish: Its Chin, Throat, and Breast white: Its Feet of a flesh-colour: Its Bill long, round, hooked at the end like a *Cormorant*, and blackish: Its Wings long, when gathered up reaching to the end of the Tail.

SECTION IV.

SECTION IV.

Of whole-footed Birds with the back-toe loose, having a narrow Bill, hooked at the end, and toothed, called *DIVERS*, in *Latine*, *MERGI*.

CHAP. I.

The *Goosander*. *Merganser*, * *Aldrov.* *Harle*, *Bellonii*.

* *Orni. 131.*
book. 16.
chap. 62.

Its weight was almost four pounds: Its length from the tip of the Bill to the end of the Tail or Claws (for they were equally extended) twenty eight inches: Its breadth, the Wings being spread, forty. It is long-bodied: Its Back broad and flat. The Head and upper part of the Neck is of a very deep shining green, almost black: The lower half of the Neck is of a glossy white. Yet the upper side of the bottom of the Neck, the middle of the Back, and the interior scapular feathers are black [the exterior are white.] The lower part of the Back is of a pale ash-colour. On both sides near the Rump, and on the very Rump and Thighs the feathers are variegated with transverse * dusky lines. The Tail is made up of eighteen feathers, wholly cinereous. Each Wing hath about twenty six prime feathers, the ten outmost black; the four next also black, but tipped with white: The five succeeding white, with their bottoms black: The remaining six or seven next the body white, with their exterior edges black. In the second row of the Wing those incumbent on the white quill-feathers are white from their tips to the middle, beneath black. Thence as far as the bastard Wing all are white: But between those white ones and the long scapular feathers some black ones intervene. Whence if you take the long scapular feathers, which cover the Back, for part of the Wing, the Wings will be (as *Aldrovandus* describes them) black toward the back, next white, with a certain paleness; then black again, but more remotely; after that again white, the extreme feathers at last being black. The whole under-side of the body (excepting the Wings, which are white underneath) of a faint yellow or *Isabella* colour. The exterior feathers of the Thighs are elegantly varied with transverse waved lines of a whitish and blackish colour, alternately placed.

The Bill measured from the tip to the corners of the mouth exceeds the length of a mans middle finger: The lower Mandible black; the upper along its middle or upper part black, on the sides red; the tip being black and hooked, both upper and lower toothed on both sides like a Saw, the teeth inclining inward. The Tongue and Palate are yellow.

It hath not a Crest properly so called on the Head, but the feathers are more loose, and stand more staring upwards than ordinary, whence also the Head seems to be bigger than indeed it is. The Ears are round; the Nostrils large, the *Bridles* of the Eyes of a sanguine colour. The Legs and Feet are of an elegant red-lead colour. The back-toe broad, with an appendant membrane. It hath a huge bony labyrinth on the wind-pipe just above the divarications and besides, the wind-pipe hath two swellings out one above another, each resembling a powder-puff.

The Stomach is scarce muscular; out of it dissected we took a *Roeb* and an *Es*, whence it is manifest, that the bird feeds upon fishes. It hath a gall-bladder. The blind guts were two or three inches long, and full of Excrements.

The *Dun-Diver* or *Sparlin-fowl*: *Merganser* *femina*. *Mergus cistratus* longiroster, *Gefn.* & *Aldrov.*

The Sexes in this kind of bird differ extremely from one another in colour, so that both *Gefner* and *Aldrovand* do set them forth for different species, calling the Female, *Mergus cistratus longiroster major*.

The Head of this (which we take to be the Female of the precedent) is of a reddish red. The feathers on the Crown of the Head stand out somewhat, and seem to bend backward in form of a crest or toppin. The Chin is white: The whole Back of

catch him, which blowing trouble the waters so that their Canoes are overturned and the men drown, if they do not happen to kill him in the shooting of five arrows out of a bow. They fancy that in his heart disected is or may be found a Jewel, useful for many things, and highly prized, not to be consecrated to any but God. But these are idle stories and lies, proceeding from the credulity of these people. Its flesh is not pleasant, nor very wholesome, like that of other fenny birds, and therefore not to be used for food by any one of a critical palate.

Between this and the precedent *Doucker* there is so little difference, that I scarce doubt but they are the same.

ϕ. IV.

The grey or ash-coloured Loon of Dr. Brown.

THis Bird differs from the common *Doucker*, as well crested as not crested, in the grey colour of its body, being much rarer with us. The Picture represents the feathers on the crown of the Head standing up in form of a crest or toppin.

ϕ. V.

The greater crested and horned Doucker.

IT is something less than that described in the first place, but hath a thicker and longer Bill, approaching to a ferrugineous colour. It is both crested and horned, having long feathers standing out about the crown of the Head and upper part of the Neck, black above, and red on the sides. The Chin and space about the Eyes is white, bounded with red. The Neck is not so long as in the first kind. The upper or back-side of the Neck is partly blackish, and partly shews something of red. The Breast and Belly are almost of the same colour with the spot we mentioned encompassing the Eyes, viz. white with a mixture of red. On the Back some long downy feathers of a cinereous and a reddish colour are mingled with the black ones. The Wings are longer in proportion than in the first, their ridges and almost all their quill-feathers being whitish, else of a sooty colour. [In the Bird we saw the Wings were of a dusky or brown colour, but the lesser quill-feathers were white, as also those small feathers on the base or ridge of the Wing.] The Legs are not situate so backward as in the first.

ϕ. VI.

The Didapper, or Dipper, or Dobchick, or small Doucker, Loon, or Arisfoot : Colymbus five Podicipes minor.

FOR the shape of its body it is like to a *Teal*, but lesser by almost a third part : Of the weight of six ounces : From the tip of the Bill to the end of the Claws ten inches and an half long : between the tips of the Wings distended sixteen broad. Its Bill from the point to the angles of the mouth is one inch, straight, sharp, almost like a *Thrus* Bill, thicker at the Head, and lessening by degrees to the point : The upper Chap black, excepting only its very tip and sides, which are of a white or pale yellow, as is also the whole lower Mandible. The Tongue is long, sharp like the Bill, and cloven. The Nostrils are a little remote from the feathers ; The Eyes great, with hazel-coloured *Irides*. The whole body is invested with a thick and soft Plumage or down, especially on the under-side. Its colour on the Back is a dusky or dark brown, on the Belly a white, or rather silver-colour. The Chin white : The Head and Neck darker than the Belly, lighter-coloured than the Back. The Throat and sides of the Neck are a little red : The lower Belly of a fordid dusky colour. The Thighs have a little mixture of red. The Neck is slender, scarce an hand-breadth long. Its Wings are small and concave : Each having about twenty six quill-feathers : The twelve outmost are of a Mouse-dun, or black brown, the interior to the twenty third particoloured, the outer Webs being dusky, the inner partly white, the white part being in the nearer to the body broader, in the more remote feathers narrower. As for the lesser rows of Wing-feathers, those above are black, those beneath white. It hath no Tail at all, but yet hath the rump-glandules, though lesser than ordinary, out of which also springs a brush or tuft of feathers, as

in

in other Birds. The Legs are situate very backwards at the end of the body, made rather for swimming than walking, (so that it cannot walk, but with the body erect almost perpendicularly) compressed or flat, of a fordid green colour, serrate behind with a double row of asperities. The soles of the feet are black. The Feet are divided into three broad Toes, finned on each side with lateral membranes, having thin, broad, blunt Claws like humane nails. Yet are the Toes joyned together by intervening membranes from the divarication to the first joyn. It hath also a small back-toe finned in like manner on each side : Two blind guts of a moderate length : No Labyrinth on the Wind-pipe : A membranaceous stomach : Strong musculous Thighs, by the help whereof it swims very swiftly, diving down to the bottom, and rising again at pleasure. From the make and conformation of its parts it moves with more ease and expedition under water, than either upon the surface of the water, or upon the Land. So soon as it is risen above water it holds up its Head, looks about it, and with wonderful celerity plunges it self under water again. It can hardly raile it self up out of the water, but when it is once gotten upon the Wing it can hold out flying a long time. The stomach of that we disected was full of grais and weeds. *Bellonius* saith, that it feeds most willingly upon fishes. Being roasted it smells very strong.

Both *Gesner* and *Aldrovand* describe two kinds of small *Douckers*, but they differ so little one from the other that I suppose the diversity is rather in Age or Sex than in Species.

CHAP. III.

Whole-footed Douckers with Tails.

ϕ. I.

The greatest speckled Diver or Loon : Colymbus maximus caudatus ; Mergus max. Farrensis five Arcticus, Cluf.

THis is a singular kind of Bird, and as it were of a middle nature between whole-footed birds with four fore-toes and with three. In bigness it exceeds a tame Duck, coming near to a Goose. It is long-bodied, hath a round Tail, and a small Head. The upper part of the Neck next to the Head is covered with feathers so thick set, that it seems to be bigger than the very Head it self.

The colour of the upper part, viz. the Neck, Shoulders, covert-feathers of the Wings, and whole Back, is a dark grey or dusky, pointed or speckled with white spots, thinner set on the Neck, and thicker on the Back. These white spots are bigger upon the long scapular feathers and coverts of the Wings, and smaller in the middle of the Back. The lower part of the Neck, the Breast and Belly are white. In a bird I saw that was killed in the Isle of *Jarvis* the Head was black and also the Neck, which had a white (or rather grey) ring, about the middle of an inch or inch and half broad, consisting of abundance of small white specks. We counted in the two outmost * joyns of each Wing thirty quill-feathers, but they are short, all black, or of a dark brown. It hath a very short Tail, of the figure of a Duck, made up of at least twenty feathers. Its Bill is straight, sharp, like that of the *Guillem*, almost three inches long ; the upper Mandible black or livid, covered with feathers to the very Nostrils, reflected a little upwards ; the nether is white. The Nostrils are divided in the middle by a skin hanging down from above. It is whole-footed, and hath very long fore-toes, especially the outmost. The back-toe is very short and little. Its Legs are of a mean length, but flat and broad like the ends of Oars, the exterior surface being brown or black : The interior livid or pale-blue. The Claws broad like the nails of a man. The Legs in this bird are situate almost in the same plain with the Back ; so that it seems not to be able to walk unless erected perpendicularly upon the Tail. It hath no Labyrinth upon the Wind-pipe. The Liver is divided into two Lobes, and hath a bladder to contain Gall : Above the stomach the Gullet is dilated into a kind of Craw, the interior surface whereof is granulated with certain papillary glandules. The Throat is vast, loose, and dilatible. The guts large, especially towards the stomach : The stomach less fleshy and musculous than in granivorous birds.

The

The Bird described was shot on the River Tame in Warwickshire. I have seen four of them, 1. One at Venice in Italy: 2. One in Yorkshire at Dr. Hewleys, shot near Camwood: 3. A third in the Repository of the Royal Society: 4. A fourth in the house of my honoured friend Mr. Richard Darley in London, taken in the Ile of Jersey. They differ something one from another in colours. For some of them have a ring about their necks, their Back, Neck and Head blacker, and painted with little whitelines: Others want the ring, and have the upper side of their bodies more ash-coloured or grey, varied with white specks, and not lines. Perchance these are the Hens; those the Cocks.

That which *Chlusius* described was bigger than a tame Goose, or at least equal to it. For from the Neck, where it joyns to the Breast, to the Rump it was two foot long. The compass of the body round was more than two foot. The Wings were fourteen inches long: The Tail scarce three: The Tongue almost three: The Bill more than four: The Neck near eight, and somewhat more in compass: The Head short, three inches broad: The Legs somewhat longer than three inches: The Feet four inches wide. So far *Chlusius*. Of that which Mr. Willughby described at Venice the measures were as followeth: The weight thirty six ounces: The length from Bill to Claws thirty one inches; from Bill to Tail twenty eight. The Bill from the tip to the angles of the mouth was almost three inches long: The Tail two: The second bone of the Leg four and a quarter; the third two and an half; the outmost fore-toe three inches and an half. The Tongue long, sharp, having a transverse bed of asperities not far from the bottom, beneath which it is toothed on each side, as this figure represents. In the Palate, on each side the fissure, are five rows of prickles or asperities. The blind guts were three inches and an half long. Hence it manifestly appears, that the bird described by *Chlusius* was bigger than ours. But perchance *Chlusius* his was a Cock, ours a Hen. For those I saw at Dr. Hewleys and Mr. Darleys were nothing at all less than that of *Chlusius*, sent him by *Hoierus*. But what *Hoier* writes of them, that they cannot fly at all, is a mistake; for though they never breed in England, yet in hard Winters they come over hither. I scarce believe they swim so far. Whence it is manifest, that they not only fly, but make great flights.

§. II.

* *Gefners* greatest Doucker: *Colymbus maximus Gefneri*.

IN the Lake of Constance I hear there is taken, though but seldom, a certain bird congenerous to the aforesaid, but bigger than a Goose, called *Flieder*, from its uncouth fluttering motion on the surface of the water, for that it can neither fly well, nor walk conveniently, unless it leans both upon Feet and Wings, as do also the other Douckers, by reason of the position of the Legs so turned backwards: That it hath a long, sharp Bill: A loud, shrill cry, of a singular kind: That it dives exceeding deep, so that it is sometimes taken twenty yards deep under water, viz. with a Net, or an Iron-hook baited with a fish: that they are commonly sold for two drachms and an half of silver a piece.

Leonard Baltner, a Fisherman of *Strasburgh*, describes this bird thus. In bigness it equals a Goose: Its length from the point of the Bill to the end of the Toes is one *Strasburgh* yard and an half. Its Bill from the point to the Eyes is five inches long: The Legs from the Claws to the feathers (that is the bare part) ten inches: The space of the Wings extended two yards and a quarter. The Stomach small: It feeds upon fish: The Bill sharp: The Feet broad, the toes web'd together. The upper side of the body is cinereous and black, the under-side white. The Tail three inches long. It dives very far, a Pistol-shot before it rises again. Its flesh is commended for good meat, and is of no unpleasant taste.

This Bird if it be different from the above described, is I confess hitherto to me unknown. Mr. *Johnson*, in his Papers sent us, writes, that he hath seen a bird of this kind without any spots in its Back or Wings, but yet thinks it not to differ specifically, but accidentally.

§. III.

§. III.

* *Wormius* his Northern Doucker, called, Lumme.

IT is common among the *Norwegians* and *Islanders*, who in their own Country Language call it * *Lumme*. *Carolus Clusius* mentions it in his *Audarium*, pag. 367. It is an elegant bird, of the bigness of a Duck, with a black, sharp Bill, two inches long. Its Head and Neck are covered with grey [cinereous] feathers, ending in a sharp point, as if it had a Monks hood on its Back. Its Back and Wings are black, sprinkled over with square spots of white, which yet are bigger on the Back than the Wings. Under the Neck is a square oblong black spot like to a shield, five inches long, and two broad, compassed on all sides with feathers variegated of black and white as with a * Girdle. The whole Belly and lower parts of the Wings are white. The Legs are stretcht forth beside the Tail [as if they grew out of the Vent] fitted not so much for walking as for swimming, not slender, but flat and broad. Each foot hath three Toes, that are black, and joyned together with black membranes, armed with sharp and crooked Claws. The Thighs are also hid in the Belly. It is of the *Mergi* [Diver] or rather *Colymbi* [Doucker] kind. In diving it can hold its breath a long time, and no bird can plunge under water more nimbly and speedily than it, as they experience who shoot them. For so soon as the powder flashes, it presently ducks under water, before the bullet can come at it. It builds its Nest so near the water, that it can, if need be, speedily cast it self into it: But when it betakes it self again to its Nest, fastning its Bill into the earth, it hangs its whole weight upon it, till it raises up its body, and so by degrees reaches its Nest. It perceives before by a peculiar natural instinct when there are about to fall great showers and shots of rain, and fearing lest the floods should destroy its Nest and Young, it makes a querulous noise and cry: On the contrary, when it prelates fair weather, it expresses its joy by cheerful acclamations, and another more pleasant note. It lays yearly three or four Eggs as big as Goose Eggs, of a * green colour, and spotted. They say, that at set times of the year they depart into hotter Regions, and return not until the Spring be well come on. Whence they think it ominous for any one to hear the cry of this bird first fastning. The *Norwegians* think it * a sin to kill or disturb this Bird, which they account * *Nesai* holy. They sometimes catch it in their Nests against their wills, and sometimes shoot it with Guns. The *Islanders* because they eat it, take it either with a snare, or with an angle-line. They fasten two stakes at the entrance of the Nest, upon which they hang, and so accommodate the Snare, that the Bird going to her Nest may thrust her head into it. Or they cross the Pool where she frequents at its narrowest part with a fishing line, so that one on each side holds it, raking therewith the surface of the water, till the bird fearing some danger towards dives down to the bottom; then observing the place where she is rising up again by the circles there made in the water, thither they direct and there hold a snare fastned to the line, that coming up out of the water, she may put her head into it, and so be caught by the Neck.

Its skin is used to defend the Head and Breast from the injury of cold, and preferred before a Swans. This Bird *Besler* hath figured in his *Gazophylacium* by this title. A singular kind of exotic *Water-Swallow*. But it hath nothing almost common with a *Swallow*.

§. IV.

* The small black and white Diver with a short, sharp-pointed Bill.

THE Picture of this Bird was communicated by that worthy person Sir *Thomas Brown*. It hath a short Bill, a little bending at the end, [both Mandibles.] The top of the Head, the Back, Wings, and in general the whole upper part is black, excepting a transverse line of white in the Wings. The Chin, Throat, Breast, as far as the middle of the Belly, and sides of the Tail white: The Tail short: The Legs of a fordid green. The Toes web'd together. The Picture doth not shew any hind-toe. This Bird (saith Sir *Thomas*) is not usual with us; I have met with but two of them, brought me by a coaster, who could give it no name.

SECTION

SECTION VI.

Of SEA-GULLS, called in Latine, LARI.

CHAP. I.

Of Gulls in general.

* This is true especially of the greater Gulls.

* Feeding upon fish.

* Or but a very small one.

GULLS are a whole-footed fowl, with an indifferent long, narrow, sharp-pointed Bill, * a little crooked at the end; oblong Nostrils; long and strong Wings: short Legs, small Feet (for they do not swim much) a light body, but invested with many and thick-set feathers, a carrion carcase, the fat that is sticking to the skin, [as in other birds;] much upon the Wing, very clamorous, hungry, and * piscivorous.

These we divide into two kinds. First, *The greater*, which have Tails composed of feathers of equal length, and an angular prominence or knob on the lower Chap of the Bill underneath, to strengthen it, that they may more strongly hold fishes. 2. *The lesser*, which have a forked Tail, and no * knob on the Bill. Both kinds may be divided into *pied* or *particoloured*, and *grey*, or *brown*.

CHAP. II.

The greater Gulls with Tails of equal feathers.

And first such as are pied or particoloured of white and cinereous or black;

§. I.

The great black and white Gull: Larus ingens marinus Clusii.

THIS Bird, the biggest by much of all the *Gulls* we have hitherto seen, weighed four pounds and twelve ounces. Its length from the tip of the Bill to the end of the Tail was twenty six inches: Its breadth from tip to tip of the Wings distended sixty seven. Its Bill was yellow, compressed sideways, more than three inches long, something hooked at the end, and like in figure to those of the rest of this kind. The lower Mandible underneath bunched out into a knob, marked on each side with a double spot, the lower red, the upper black. The edges of the Eye-lids round about were of a Saffron colour. The Head great, flat-crowned. Both Head, Neck, Breast, Belly, and Tail white. The middle of the Back and the Wings, excepting the tips of the quill-feathers, were black. Each Wing had about thirty four feathers in the first row, all black, with white tips. Its Tail was six inches long, made up of twelve snow-white feathers: Its Legs and Feet white: Its Claws black. It had a small back-toe; a wide Mouth, a long Tongue, a large Gullet. It preys upon fishes: For out of its stomach dissected we took a *Plaice* entire. It had a great Liver divided into two Lobes, with a Gall adhering: Short and small blind guts: A muscular Stomach, and an oblong Spleen.

In another bird of this kind, (which was I suppose a young one) both the top of the Head and the Neck were particoloured of black and white: The Back and Wings paler than in that described. I suppose that this is the very same bird which *Clusius* describes in the fifth Book of his *Exoticæ*, Chap. 9. under the title of a * *large Sea-gull*, though his description be not so full and exact, as being taken only from a Picture.

This Bird we saw and described at *Chester*, being not rarely found on the Sea-coasts near that City. In the *Ferree Islands* it is called, *The Swarth-back*.

§. II.

The Herring-Gull. Larus cinereus maximus.

IT is well nigh as big as a tame *Duck*: From tip of Bill to the end of the Toes twenty four or twenty five inches long, to the end of the Tail twenty two or twenty three: Between the terms of the Wings stretched out fifty, and in some fifty five inches broad. The weight was different in several birds, one weighing only twenty six ounces, another thirty, another thirty four. The Bill was yellow, two inches long, narrow, as in the rest of this kind, but pretty deep: The lower Mandible not straight, as in other birds, but the upper edges convex or arcuate; underneath it bunches out into an angle or knob, on the sides of which is a large spot of red. The *Irides* of the Eyes were of a lovely yellow. The edges of the Eye-lids in some yellow, in some, (perchance these were *Cocks*) of a red-lead colour. The Legs in some yellow, bare of feathers for some space above the knees, in others white, or of a pale flesh-colour: The hind-toe small: The Claws black: The inner edge of the middle Claw sharp. Its Head, Neck, Rump, Tail, and whole under-side white: Its Back, the covert-feathers of its Wings, and the quill-feathers also, except the outmost five, of a dark ash-colour. The two outmost quills were marked with a white spot near the tip, the outmost with a greater, the inner with a lesser, but the very tips of both were black. The tips of the fifth and sixth were dusky. All the rest had white tips. [These colours in several Birds vary something: Yet in general the quill-feathers in all Birds of this sort are particoloured of white, black and cinereous.] The Tail was about five inches long, not forked, made up of twelve feathers of equal length. The Wings when gathered up reached beyond the end of the Tail, and crossed one another. It had a large Craw, a muscular Stomach, in which were fish-bones. They say that it preys upon *Herrings*, whence it took the name *Herring-gull*. It lays Eggs as big as Hens Eggs, sharp at one end, whitish, but spotted with a few black spots.

In the young ones the Back and Head are ash-coloured, with black spots, the Bill black, but white at the tip.

This sort, though it be very common with us, yet hath it not hitherto, that I know of, been described.

§. III.

The common Sea-Mall: Larus cinereus minor.

THAT which I described was a Hen-bird. It weighed a full pound of sixteen ounces: It was from the beginning of the Bill to the end of the Toes fifteen inches and an half long, to the end of the Tail sixteen and an half. The tips of the Wings extended were forty one inches distant from each other. It is something less than the greater *Gull* described by *Aldrovand*; like to the *Herring-Gull*, but much less. Its Bill was like to those of the rest of this kind, narrow, but deep, sharp-pointed, of a whitish colour, but yellow toward the tip. The knob under the lower Chap small, and scarce conspicuous, the upper Chap something hooked or bending at the point. The Tongue cloven: The Nostrils oblong. The Eyes were great, and furnished with membranes for nictation; the *Irides* of a pale hazel-colour: The Ears of a mean size: The Feet of a pale green: The Claws black; that of the middle Toe sharp on the inner side: The back-toe very small, yet armed with a Claw. The membranes connecting the Toes reached as far as the Claws. The Head and upper part of the Neck were clouded with brown spots, the nether part white: The Back ash-coloured, but the feathers covering the Tail white. The Throat and whole under-side of the body was as white as snow: The Tail also purely white. The Shoulders and upper covert-feathers of the Wings ash-coloured, the coverts of the under-side white.

In each Wing were about thirty quill-feathers; the first of which at the tip in the inner Web had a black spot, and on the outer edge a black line, scarce appearing, then followed a white bar about two inches broad, the rest of the feathers to the bottom being black. The tip of the second was white: Under the white a cross bar of black, half an inch broad, beneath that a white bar of an inch breadth, the rest of the

Y y feather

The nether side of the Neck and forepart of the Breast are black, the rest of the Breast and Belly, as far as the Vent, of a white or silver-colour, the lower the darker. Behind the Vent it is black. The lateral feathers covered by the Wings when closed, those on the Thighs, and the under-coverts of the Wings are white. The interiour bastard-wing consists of six white feathers.

The Legs are short and situate backwards: The Feet of a livid or dark blue colour, the Web black: The Toes long.

The body is short, thick, broad, and something compressed or flat, weighing about two pounds.

In the angle of the lower Mandible some have a white spot, which in others is wanting.

The Wind-pipe hath its labyrinth. The Liver is divided into two Lobes, having a Gall annexed. The Gizzard is composed of thick muscles: Therein we found nothing but small stones and Sea-wrack.

We saw a Bird very like this, perchance the same, in his Majesties Pools in S. James's Park.

Its Bill and Legs were of a lead-colour: Its Head black. Its Wings little, but above the Wings the sides white. A long crest hangs down backward from behind the Head. [To me, beholding the Bird at a distance, the whole Wings seemed white, but perchance that colour was proper to the covert-feathers, not common to the quills.]

§. X.

The black Diver or Scoter: Anas niger minor.

It is almost as big as the common Duck, but rounder-bodied. The whole body all over is of a black or fable colour. From the Shoulders in some birds spring blacker feathers. In the Chin and middle of the Breast some ash-coloured or whitish feathers are mingled with the black. The Wings are of the same colour with the body, without any diversity of colours at all. The Bill such as in the Duck-kind, yellow about the Nostrils, else black; pectinated about the sides, yellow within, without any bunch in the upper Mandible. Its Feet are black. This description is of a Hen.

In the year 1671, I found the Male of this kind at Chester, killed on the Sea-coasts thereabouts, and bought in the Market by my Lord Bishop Wilkins his Steward, and described it in these words.

It is something less than a tame Duck, short-bodied for its bigness, and broad; all over black both upper and under-side: Only the Head had a dark tincture of purple, and the under-side of the first, second, and third rows of Wing-feathers inclined to cinereous. The wings were short; the quills in each twenty five. The Tail more than an hand-breadth long, consisting of sixteen feathers, the outmost of which were the shortest, the rest in order longer to the middlemost, which were the longest, so that the Tail runs out into an acute angle, more acute than I remember to have observed in other Sea-ducks; and each single feather is very sharp-pointed.

The Bill in this Bird is especially remarkable, being broad, blunt, as in the rest of this kind, of about two inches length, having no Appendix or nail at the tip, contrary to the manner of other Ducks. The upper Mandible above the Nostrils, next the forehead, bunches out into a notable protuberance, being so divided in the middle as to resemble Buttocks, distinguished by a yellow intercurrent line. Now the colour of this upper Mandible is black about the sides, yellow in the middle, the yellow part being so broad as to contain the Nostrils, and about an inch long. The Tongue is very great. The Eye-lids yellow. The Irides of the Eyes dark. The Legs and Feet dusky: The Toes very long, and web'd together, so that its oars are broad and large. The shorter Toe hath a membranous border extant along its outside. This had no labyrinth on its Wind-pipe. The blind-guts for a bird of this kind were very short: The Gall great. It weighed two pounds and nine ounces: Its length from Bill to Tail was twenty two inches: Its breadth from Wings end to Wings end thirty four and an half.

This Bird hath not as yet been described by any Author extant in Print that we know of. It abides constantly at Sea, gets its living by diving, and is taken in Nets placed under water. In the wash in *Lincolnsshire* it is found plentifully. Its Cafe

stuffed

stuffed was sent us first by Mr. Fr. Jeffop out of *Yorkshire*: Next we got it at *Chester*, as we have laid: Then Sir Thomas Brown sent us a Picture of it from *Norwich*; and lastly, Mr. Jobson sent a description of it in his method of Birds, in which description are some particulars not observed by us, viz. that the Male hath on the upper side some tincture of shining green, and that in the Hen the Neck and Head on both sides, as far as the Eyes, is white.

§. XI.

The Poker, or Pochard, or great read-headed Wigeon: Anas fera fusca of Gesner, Aldrov. t. 3. p. 221. Penelopis veterum & Rothals of Gesner, Aldrov. p. 218.

Ganea la teste rouge of Bellonius.

That we described weighed thirty two ounces: From tip of Bill to end of Tail was nineteen inches long, to the Claws points twenty one. It is bigger than the common Wigeon, and for its bigness shorter and thicker. The lesser covert-feathers of the Wings, and those on the middle of the back are most elegantly variegated with dark brown and cinereous waved lines [or ash-coloured, with very narrow, waved, cross, dusky lines.] The Rump and feathers under the Tail are black, so that the Tail is compassed with a ring of black. The lower part of the Neck is likewise black, so that the forepart of the body seems all to be encircled with a ring or swathe of black. The Head and almost the whole Neck are of a deep fulvous or red colour: the middle part of the Breast white, the sides and lower part, and Belly all of the same colour with the Back, and varied with the like transverse undulated lines, but both colours paler: Toward the Vent it is by degrees darker coloured. The Tail is very short, not exceeding two inches, made up of twelve feathers, of a dark grey, the outmost the shortest, the rest gradually longer to the middlemost; yet the excess is not considerable, so that notwithstanding it is not to be reckoned among those that have sharp Tails. The quills of the Wings are about twenty five, all of one colour, viz. a dark cinereous, though if they be carefully heeded, there will appear some diversity, for the tips of the exterior and greater feathers are marked with black, of the middle ones with white. The interiour bastard-wing and lesser covert-feathers of the under side of the Wings are white.

The Bill is bigger and broader than in the Wigeon. The feathers divide the middle of the upper Mandible coming down from the forehead in form of a peak or acute angle. The upper Mandible is of a lead-colour, but its tip black: The nether is wholly black. The Irides of the Eyes are of a very beautiful colour, from yellow inclining to a sparkling red: The Feet lead-coloured: The membranes connecting the Toes black: The innmost toe the least, having a membranous border annexed to its outside. The back toe hath likewise an appendant membrane or fin.

The characteristic note of this Bird, is one uniform colour of its Wings, without any feathers of different colour in the middle of the Wing, as is usual in most Birds of this kind.

In another Bird of this kind, (which we take to be the Female of this) the Bill was black with an ash-coloured spot of the form of a crescent a little above the tip. The back feathers and coverts of the Wings had no such transverse waved lines as those of the Male. In other points it agreed somewhat with the Male.

§. XII.

The lesser red-headed Duck: Perchance the Anas Filigula altera of Gesner, Aldrov. p. 227. The Glaucium or Morillon of Bellonius: Capo rosso at Venice.

It is bigger than a Teal, and something less than a Wigeon. Its Bill two inches and an half long, of a moderate breadth, of a dark blue colour, paler about the edges, and toward the tip. The very tip or nail is round and black. The Nostrils small, long, situate almost in the middle of the Bill. The Irides of the Eyes of a cream or Ivory colour. The Head is pretty great, all over red: But in the very angle of the lower Mandible is a small white spot. The Neck, as in others of this kind, is short, encompassed in the middle with a ring of brown. The whole Back and covert-feathers of the Wings are of a dark brown or dusky colour. All the quills of the Wings (which are in each about twenty six) except the three or four outmost, and the three or four

innmost