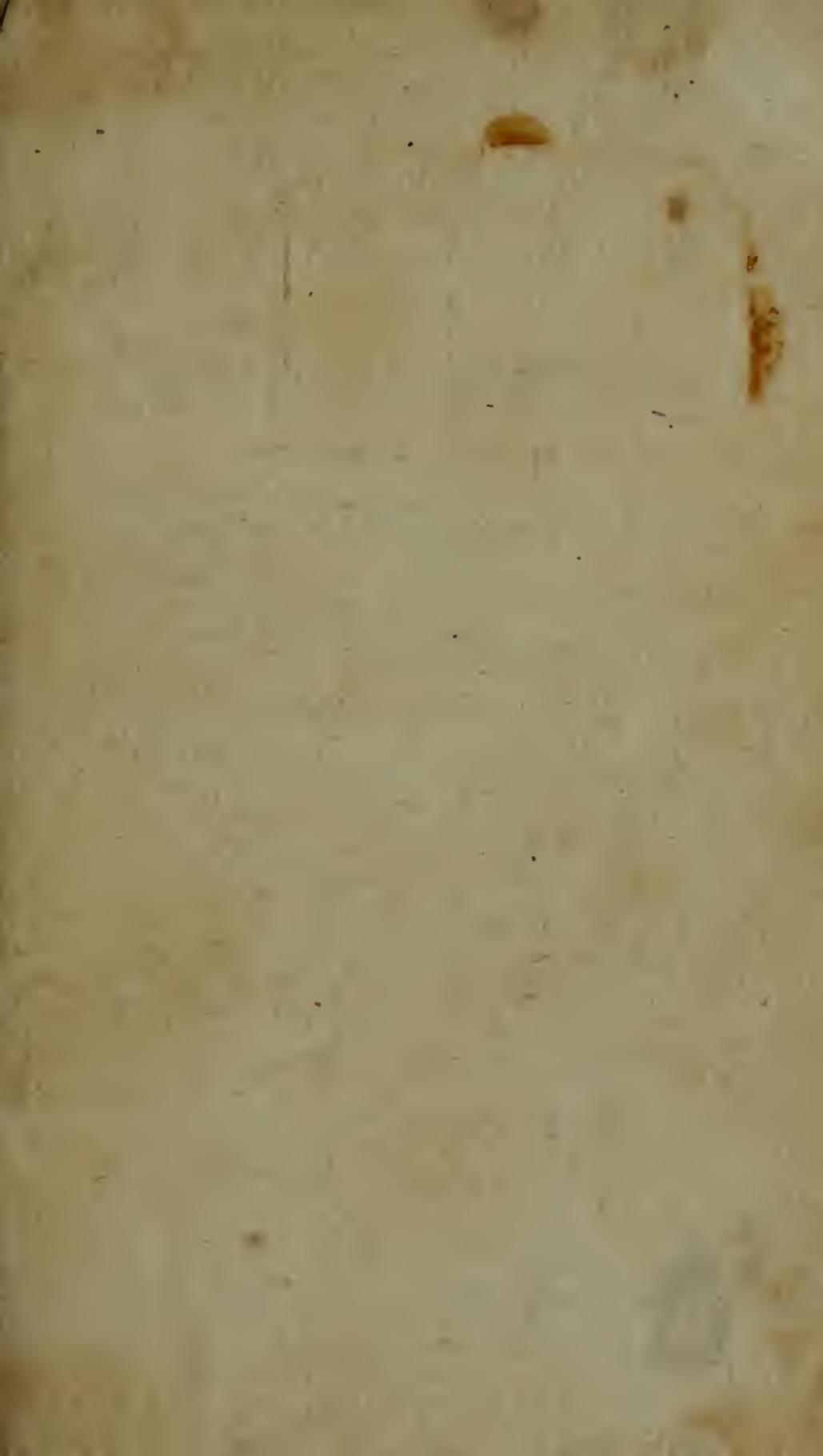


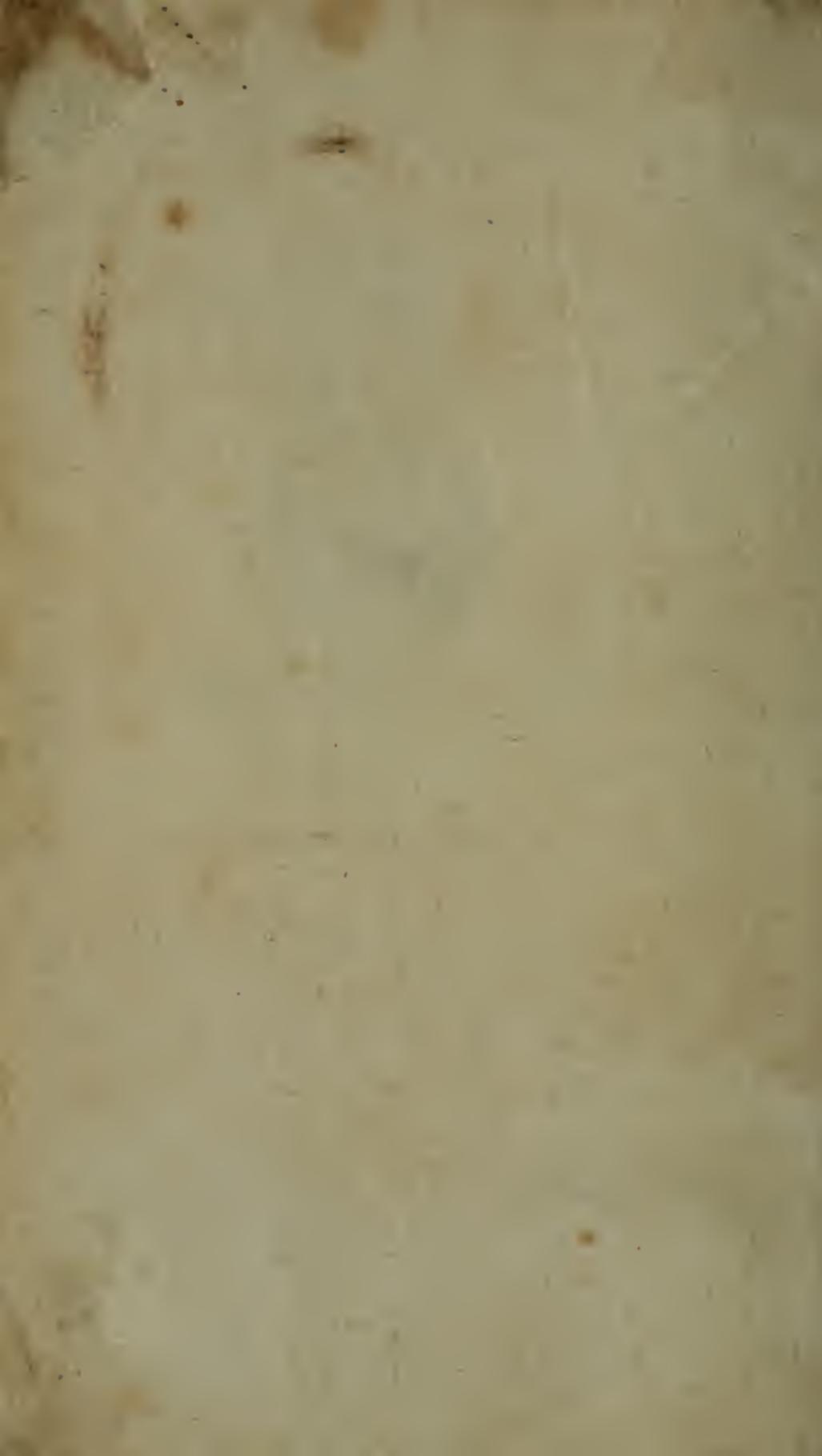


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A
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- I. The History of QUADRUPEDS, including Amphibious Animals, Frogs, and Lizards, with their Properties and Uses in Medicine.
- II. The History of BIRDS, with the Method of bringing up those of the singing Kind.
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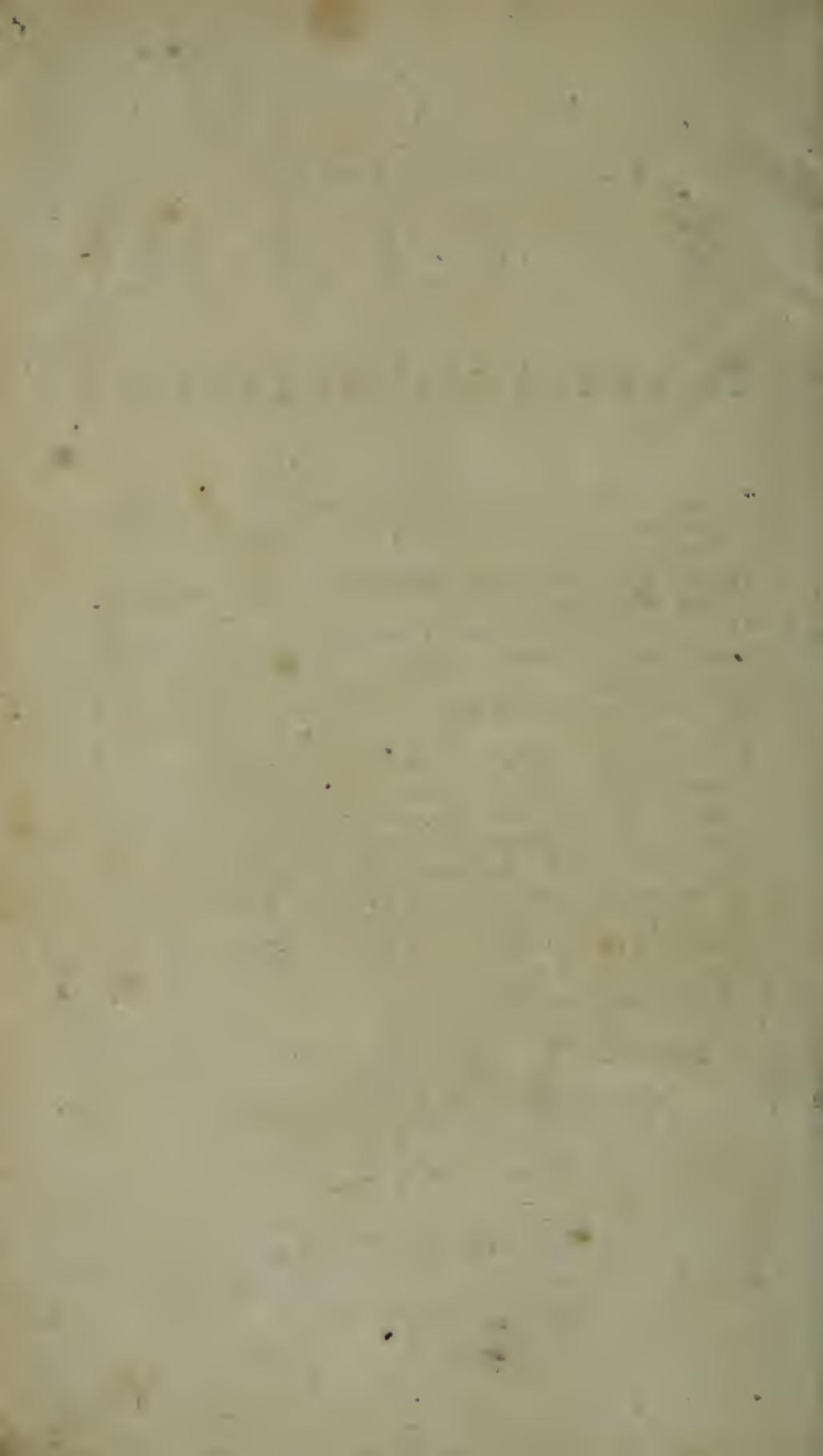
Author of the *General Practise of Physic.*

In SIX VOLUMES.

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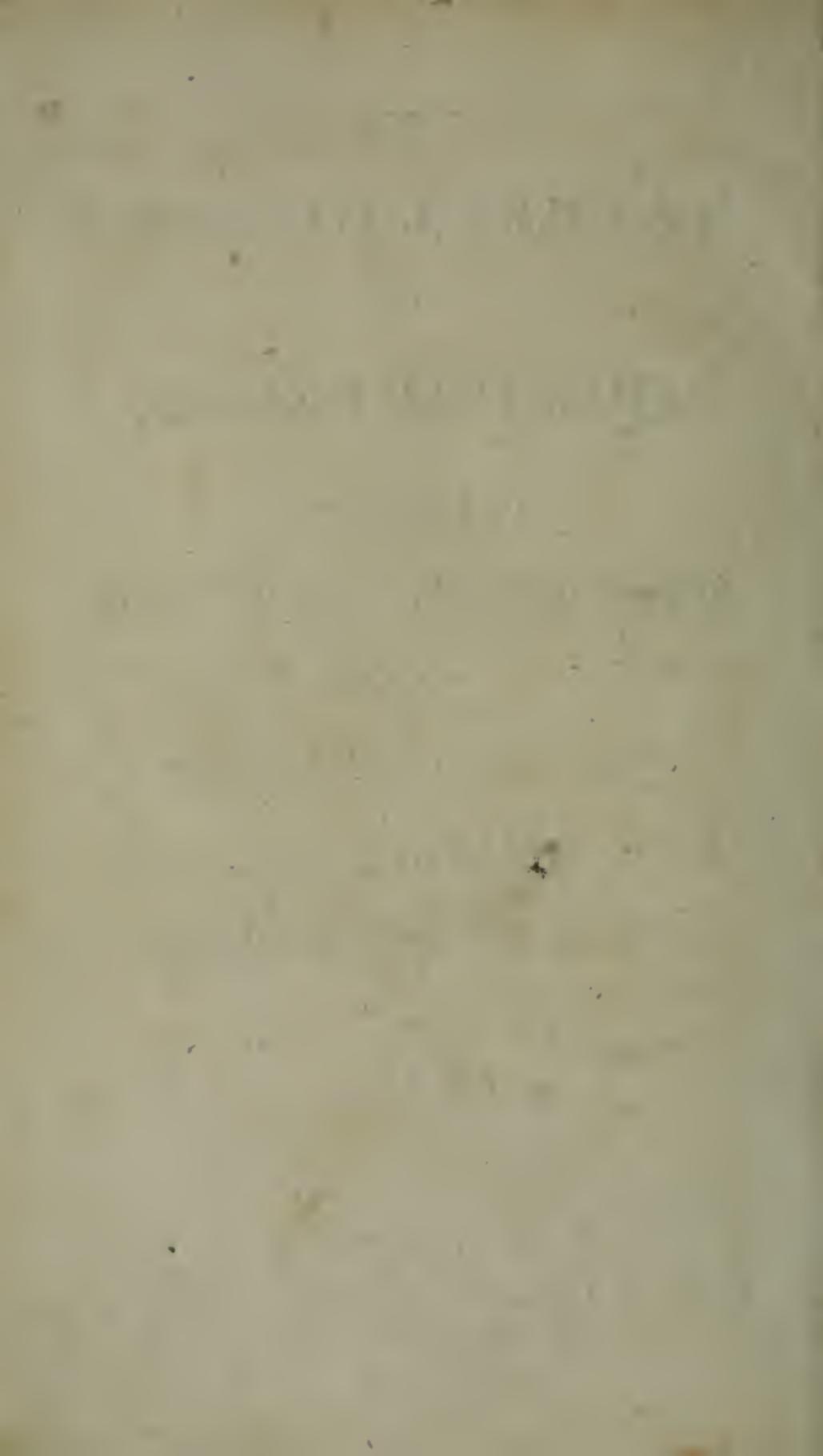
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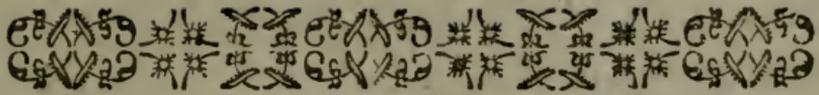
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THE
CONTENTS.

PREFACE.

An Introduction to the History of Quadrupedes.

CHAP. I.

Of Animals with an undivided Hoof of the Horse Kind, 1

CHAP. II.

Of ruminating Animals, or those that chew the cud, 23

CHAP. III.

Of the Bull, Ox, and Cow, 25

CHAP. IV.

Of the Urus, Buffalo, Bison, Bonassus, and other Animals of the Beeve Kind, 36

CHAP. V.

Of Sheep, 43

CHAP. VI.

Of Goats, 46

CHAP. VII.

Of Animals of the Deer Kind, 58

CHAP. VIII.

Of Animals of the Hog-Kind, which are cloven-footed, but do not ruminate or chew the cud, 75

CHAP. IX.

Of Anomalous Quadrupedes, with regard to their Hoofs, 90

CHAP. X.

Of Animals of the Camel kind, 109

CHAP. XI.

Of Apes, Monkeys, and Baboons, 115

CHAP. XII.

Of Mankind, 136

CHAP. XIII.

Of Animals of the Cat Kind, 174

CHAP. XIV.

Of Animals of the Dog Kind, 197

CHAP. XV.

Of Animals of the Weasel Kind, commonly called Vermin, 253

CHAP.

6 C O N T E N T S.

C H A P. XVI.

Of Animals of the Hare Kind, 262

C H A P. XVII.

Of Animals with divided feet, and a longish snout, 304

C H A P. XVIII.

Of Animals of the Bat Kind, 316

C H A P. XIX.

Of the Sloth or Sluggard, 321

C H A P. XX.

Of sanguinous Animals, which breathe through the lungs, and lay eggs, 323

C H A P. XXI.

Of Lizards, 332

Of Monkeys omitted, and of the Goryua. See PREFACE.

A T A B L E to the P L A T E S of
Q U A D R U P E D E S.

A.			
A N T E L O P E	Page	50	Plate in Page
<i>American Sloth</i>	—	321	— 321
<i>African Sloth or Potto</i>	—	322	— 321
<i>Armadillo</i>	—	311	— 321
B.			
<i>Buffalo</i>	—	38	— 36
<i>Bison, American</i>	—	41	— 36
<i>Buffalo, little Indian</i>	—	39	— 36
<i>Barbyroussa</i>	—	82	— 76
<i>Boar Wild</i>	—	78	— 76
<i>Beaver</i>	—	275	— 184
<i>Bear, White</i>	—	196	— 204
<i>Bear, N. American</i>	—	192	— 232
<i>Badger</i>	—	249	— 233
C.			
<i>Caribou</i>	—	68	— 20
<i>Carcajou</i>	—	68	— 20
<i>Cow, Barbary</i>	—	42	— 36
<i>Cow, Siberian</i>	—	42	— 38
<i>Camel, Bactrian</i>	—	110	— 109
<i>Camel, Arabian</i>	—	111	— 109
<i>Camelo-Pardalis</i>	—	74	— 60
<i>Chimpanzee Female</i>	—	128	— 126
			Civit

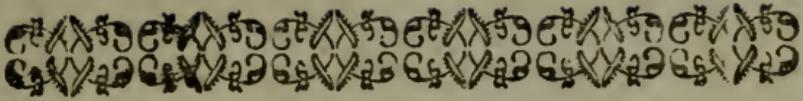
T A B L E O F P L A T E S. 7

	Page	233	Plate in Page	238
Civet Cat				
Coati Mondi		238	—	238
Camelion	—	361	—	332
Crocodile	—	332	—	332
Crocodile, Purse-bellied		339	—	332
D.				
Doe Moose,	—	64	—	60
Doe Serdignion	—	60	—	60
Deer, Rain	—	70	—	70
E.				
Elk	—	63	—	60
Elephant	—	95	—	90
F.				
Fox, <i>American</i>	—	233	—	20
Fox, <i>Common</i>	—	230	—	70
Fox, <i>Macassar</i>	—	233	—	232
Ferret	—	254	—	261
G.				
Gerbua, (<i>See Preface</i>)		16	—	126
Goat, <i>Shamoy</i>	—	48	—	45
Goat, <i>Jeer</i>	—	55	—	45
Goat, <i>Asian</i>	—	55	—	70
Guanaco	—	114	—	109
Guinea Pig	—	296	—	232
H.				
Hog Cow	—	38	—	38
Hyæna	—	185	—	174
Hedge Hog	—	307	—	253
I.				
Jackall	—	222	—	184
<i>Indian Ichneumon</i>	—	261	—	261
Iguana		343	—	261
Llema	—	114	—	109
Lion	—	174	—	174
Lynx	—	184	—	184
Lizard, a sort of	—	332	—	321
Lizard, <i>Thorn-tail'd</i>	—	254	—	332
M.				
Muffon	—	45	—	45
Musk Animal	—	106	—	38
Monkey, <i>Lion</i>	—	117	—	115

Monkey,

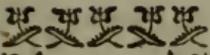
T A B L E o f P L A T E S.

	Page	Plate in	Page
Monkey, Little black	118	Plate in	115
Monkey,	115	—	115
Maucauco	135	—	115
Monkey, St. <i>Jago</i>	131	—	124
Monkey, <i>Ceylon</i>	124	—	124
Mongooz	132	—	124
Maucauco, Black	133	—	124
Man of the wood	126	—	126
Martin	257	—	253
O.			
Orang-Outang	126	—	115
Otter	219	—	238
P.			
Pecary	82	—	76
Porcupine	267	—	184
Pollum	246	—	232
Porcupine, <i>American</i>	271	—	253
Pole Cat	256	—	261
Q.			
Quick Hatch	252	—	238
R.			
Rhinoceros	90	—	90
Raccoon	236	—	232
S.			
Sheep, <i>Earbary</i>	44	—	38
Squirrel, Flying	286	—	45
Siyah Gush, or Shoegoose,			
Preface, and Page	183	—	45
Sheep, <i>Cretan</i>	45	—	45
Sucotario	105	—	76
Sea Horse	94	—	90
Sanglin, or Cajus Minor	120	—	124
Sea Calf	204	—	204
Sea Lion	217	—	204
Sea Bear	214	—	204
T			
Tiger	179	—	174
Tockey	355	—	332
W.			
Weasel	253	—	252
Z.			
Zebra	20	—	20



T H E

P R E F A C E.

 F all the studies which have employed the industrious or amused the idle, perhaps Natural History deserves the preference; other sciences generally terminate in doubt, or rest in bare speculation, but here every step is marked with certainty, and while a description of the objects around us teaches to supply our wants it satisfies our curiosity.

The multitude of Nature's productions however seems at first to bewilder the inquirer, rather than excite his attention; the various wonders of the *Animal*, *Vegetable*, or *Mineral* world seem to exceed all powers of computation, and the science appears barren from it's amazing fertility. But a nearer acquaintance with this study, by giving method to our researches, points out a similitude in many objects which at first appeared different; the mind by degrees rises to consider the things before it in general lights, till at length it finds nature in almost every instance acting with her usual simplicity.

Among the number of philosophers, who, undaunted by this supposed variety, have attempted to give a description of the productions of nature, *Ari-*

Astotle deserves the first place. This great philosopher was furnished by his pupil *Alexander* with all that the then known world could produce to complete his design. By such parts of his work as have escaped the wreck of time it appears, that he understood Nature more clearly, and in a more comprehensive manner than even the present age, enlightened as it is with so many later discoveries, can boast. His design appears vast, and his knowledge extensive; he only considers things in general lights, but leaves every subject when it becomes too minute or remote to be useful. In his history of Animals, he first describes man, and makes him a standard with which to compare the deviations in every more imperfect kind that is to follow. But if he has excelled in the history of each, he, together with *Pliny* and *Theophrastus*, have failed in the exactness of their descriptions. There are many creatures described by those naturalists of antiquity, which are so imperfectly characteriz'd, that it is impossible to tell to what animal now subsisting we can refer the description. This is an unpardonable neglect, and alone sufficient to depreciate their merits, but their credulity and the mutilations they have suffered by time, have rendered them still less useful, and justify each subsequent attempt to improve what they have left behind.

The most laborious, as well as the most voluminous Naturalist among the moderns is *Aldrovandus*. He was furnished with every requisite for making an extensive body of Natural History. He was learned and rich, and during the course of a long life indefatigable and accurate. But his works are insupportably tedious and disgusting, filled with unnecessary quotations and unimportant digressions. Whatever learning he had he was willing should be known, and unwearied himself, he supposed his readers could

could never tire: in short, he appears an useful assistant to those who would compile a body of Natural History, but is utterly unsuited to such as only wish to read it with profit and delight.

Gesner and *Jonston*, willing to abridge the voluminous productions of *Aldrovandus*, have attempted to reduce Natural History into method, but their efforts have been so incomplete as scarce to deserve mentioning. Their attempts were improved upon some time after by *Mr. Ray*, whose method we have adopted in the history of Quadrupedes, Birds, and Fishes, which is to follow. No systematical writer has been more happy than he in reducing natural history into a form, at once the shortest yet most comprehensive.

The subsequent attempts of *Mr. Klein* and *Linnaeus* it is true have had their admirers, but as all methods of classing the productions of nature are calculated merely to ease the memory and enlighten the mind, that writer who answers such ends with brevity and perspicuity is most worthy of regard. And in this respect *Mr. Ray* undoubtedly remains still without a rival; he was sensible that no accurate idea could be formed from a mere distribution of animals into particular classes; he has therefore ranged them according to their most obvious qualities; and, content with brevity in his distributions, has employed accuracy only in the particular description of every animal. This intentional inaccuracy in the general system of *Ray*, *Klein* and *Linnaeus* have undertook to amend, and thus by multiplying divisions, instead of impressing the mind with distinct ideas, they only serve to confound it, making the language of the science more difficult than even the science itself.

All order whatsoever is to be used for the sake of brevity and perspicuity, we have therefore followed
that

that of Mr. Ray in preference to the rest, whose method of classing animals, tho' not so accurate, perhaps, is yet more obvious, and being shorter is more easily remembered. In his life time he published his *Synopsis methodica quadrupedum et serpentini generis*; and after his death there came out a posthumous work under the care of Dr. Derham, which, as the title page informs us, was revised and perfected before his death. Both the one and the other have their merits, but as he wrote *currente calamo*, for subsistence, they are consequently replete with errors, and tho' his manner of treating natural history be preferable to that of all others, yet there was still room for a new work that might at once retain his excellencies and supply his deficiencies.

As to the Natural History of Insects, it has not been so long or so greatly cultivated, as other parts of this science. Our own countryman *Moufett*, is the first of any note, that I have met with, who has treated this subject with success. However it was not till lately, that it was reduced to a regular system; which might be in a great measure owing to the seeming insignificancy of the animals themselves: even tho' they were always looked upon as of great use in medicine, and upon that account only, have been taken notice of by many medical writers. Thus *Dioscorides*, has treated of their use in physick; and it must be owned, some of them have been well worth observation on this account. There were not wanting also those who long since had thoughts of reducing this kind of knowledge, to a regular form, among whom was Mr. Ray, who was discouraged by the difficulty attending it: this study has been pursued of late however with diligence and success. *Reaumur* and *Swammerdam* have principally distinguished themselves on this account; and their respective treatises, plainly shew that they did

not spend their labour in vain. Since their time, several authors have published their systems, among whom is *Linnaeus*, whose method being generally esteemed, I have thought proper to adopt. He has classed them in a very regular manner, though he says but little of the Insects themselves. However I have endeavoured to supply that defect, from other parts of his works, and from other authors who have written upon this subject; by which means it is hoped, the curiosity of such as delight in these studies, will be in some measure satisfied. Such of them as have been more generally admired, have been longest insisted upon, and particularly Caterpillars and Butterflies; relative to which, perhaps there is the largest catalogue that has ever appeared in the *English* language.

Mr. *Edwards*, and Mr. *Buffon*, one in the history of Birds, the other of Quadrupedes have undoubtedly deserved highly of the public as far as their labours have extended; but as they have hitherto cultivated but a small part in the wide field of Natural History, a comprehensive system in this most pleasing science has been hitherto wanting. Nor is it a little surprising, when every other branch of literature has been of late cultivated with so much success among us, how this most interesting department should have been neglected. It has been long obvious that *Aristotle* was incomplete, and *Pliny* credulous; *Aldrovandus* too prolix, and *Linnaeus* too short to afford the proper entertainment, yet we have had no attempts to supply these defects, or to give an history of nature at once complete and concise, calculated at once to please and improve.

How far the author of the present performance has obviated the wants of the public in these respects, is left to the public to determine; this much however he may without vanity assert, that whether
the

the system here presented be approved or not, he has left the science in a better state than he found it. He has consulted every author whom he imagined might give him new and authentic information and painfully searched through heaps of lumber to detect falsehood, so that many parts of the following work have exhausted much labour in the execution, tho' they may discover little to the superficial observer.

Nor have I neglected any opportunity that offered of conversing upon these subjects with travellers, upon whose judgments and veracity I could rely. Thus comparing accurate narrations with what has been already written, and following either, as the circumstances or credibility of the witness led me to believe.

But I have had one advantage over almost all former Naturalists, namely, that of having visited a variety of countries myself, and examined the productions of each upon the spot. Whatever *America*, or the known parts of *Africa* have produced to excite curiosity has been carefully observed by me, and compared with the accounts of others. By this I have made some improvements that will appear in their place, and have been less liable to be imposed upon by the hearsay relations of credulity.

A complete cheap, and commodious body of Natural History being wanted in our language, it was these advantages which prompted me to this undertaking. Such therefore as chuse to range in the delightful fields of nature, will, I flatter myself, here find a proper guide: And those who have a design to furnish a cabinet, will find copious instructions. With one of these volumes in his hand a spectator may go with profit and delight thro' the largest Museum, the *British* not excepted, see Nature thro' all her varieties, and compare her usual operations with those wanton productions in which she seems to
sport

sport with human sagacity. I have been sparing however in the description of the deviations from the usual course of production, first, because such are almost infinite, and the Natural Historian who should spend the time in describing deformed nature, would be as absurd as the Statuary, who should fix upon a deformed man from whom to take his model of perfection.

But I would not raise expectations in the reader which it may not be in my power to satisfy, he who takes up a book of science must not expect to acquire knowledge at the same easy rate that a reader of romance does entertainment: on the contrary, all sciences, and Natural History among the rest, have a language and a manner of treatment peculiar to themselves, and he who attempts to dress them in borrowed or foreign ornaments, is every whit as uselessly employed as the *German* apothecary we are told of, who turned the whole dispensatory into verse. It will be sufficient for me if the following system is found as pleasing as the nature of the subject will bear, neither obscured by an unnecessary ostentation of science, nor lengthened out by an affected eagerness after needless embellishments.

The description of every object will be found as clear and concise as possible, the design not being to amuse the ear with well turned periods, or the imagination with borrowed ornaments, but to impress the mind with the simplest views of nature. To answer this end more distinctly, a picture of such animals is given as we are least acquainted with. All that is intended by this, is only to guide the enquirer with more certainty to the object itself as it is to be found in nature. I never would advise the young student to study any science either Anatomy, Physics, or Natural History by looking on pictures only, they may serve to direct him more readily

dily to the objects intended, but he must by no means suppose himself possessed of adequate and distinct ideas 'till he has viewed the things themselves, and not their representations. Copper plates, therefore, moderately well done, answer the learner's purpose every whit as well as those which cannot be purchased but at a vast expence; they serve to guide us to the archetypes in nature, and this is all that the finest picture should be permitted to do, for nature herself ought always to be examined by the learner before he has done.

There have been of late many new discoveries in natural history, which lying scattered in different essays required also to be reduced into system, each of these I have taken care to range under their proper classes in the body of this work; but as this is a science that continually improves, new matter arises even during the short period between printing and publication. As I would have nothing omitted, therefore it may be proper to insert here such animals as have newly come to my notice.

I was once of opinion with Mr. *Ray*, that there was no such animal as the *Glutton*; but I have since been better informed. Mr. *Klein* tell us, that there was one brought alive from *Siberia* to *Dresden*, and that the skin is kept in the cabinet of the King of *Poland*. He devoured every day thirteen pounds of flesh, and yet was not satisfied, which shews that he had a quick digestion; but that he forces out what he has eaten upwards and downward, by squeezing himself between two trees, as some authors pretend, is certainly a fable, as well as that he feeds only on dead carcasses. The above was of a blackish brown colour, an ell and almost eight inches long, and about a foot and a half high; which is all the description he gives of this animal. But *Scheffer* tells us, the *Glutton* has a head somewhat
more

more round than that of a Wolf; that the teeth are strong and sharp, the body large, the feet small, and the skin black. It is generally agreed that the skin is extremely valuable; and that he inhabits the immense forests of *Siberia*.

There is another Quadrupede which has been taken notice of from Captain *Hamilton*, and which he calls a Shoe-goose; but the real name in the *Perfian* language is *Siyah Gush*. There was one of these brought over last year, and kept in the Tower of *London*; but the coldness of the climate soon killed him. He was of a bright bay colour on the back, and white on the belly, with black ears about six inches long and tufted at the top. *Thevenot*, in his voyages, gives an account of these animals, and says they are of the cat-kind, but larger than a common cat, with black ears which are near half a foot in length, they are used for hunting in the countries where they are bred.

After a careful review of this history I do not find any other omission, except in the article of Monkeys, which are so extremely numerous, that it would be no wonder if there are new discoveries made every day. Those that I have met with since the sheets have been printed off shall be inserted here, as I would not willingly have this history in any manner deficient.

The BROWN SAPAJOU, called the BROWN MONKEY, with the top of the head black. It was kept in the cabinet of the late Mr. *Reaumur*. The length of the body, from the top of the head to the root of the tail, was thirteen inches; and that of the tail fourteen inches and a half. The circumference of the body, near the breast, was seven inches and a half; the eyes were brown; the ears were like those of a man; the tail was rolled up spirally, and by the help of this, he adhered
strongly

strongly to any thing within his reach. The whole body was covered with brown hair, which was deeper on the back than on the belly, and the legs and tail were nearly of this last colour.

The **HORNED SAPAJOU** was also in the cabinet of the above gentleman, who called him the Monkey variegated with black and brown, whose head was adorned with two tufts of hair resembling horns. The length of the body of this animal, from the top of the head to the root of the tail, was fourteen inches; and that of the tail fifteen. The eyes were brown and full of fire, and the ears were like those of mankind. The tail was covered with short shining hair, and he carried it rolled up spirally, unless when he laid hold of any thing therewith. The hair which covered his face, side, belly, and the forepart of his legs, was brown; but that which covered the top of the head, the middle of the back, the tail, and the hinder part of the legs was black.

The *Sapajou* with a *Fox's tail*, was called the Monkey with black hair, white at the point, and the tail beset with very long black hair. This was sent to Mr. *Reaumur* from *Guiana*. The length of the body of this animal, from the top of the head to the root of the tail, was six inches, and that of the tail ten inches. The nails were long and blunt, except those on the thumbs, which were long and more rounded. The hair that covered the face was whitish, and the tail was beset with very long black hair. The whole body was covered with long hair, which was black, except at the points, and the breast and belly were of a dirty white colour.

Another animal of this kind, was called the *Variegated Monkey*, and the length of his body, from the top of the head to the root of his tail, was eleven inches, and that of the tail about fifteen. On each side of the lower jaw, there was a kind of purse,
big

big enough to contain a large nut, and the ears were round. The nails were long and blunt, except those on the thumbs, which were short and rounded. The face was black, and the hair on the top of the head was a mixture of black and yellow; that on the cheeks was pretty long, being a mixture of the same colours; but that on the back was black and red. On each side near the root of the tail there was a white spot; and there were stripes on the fore part, which were black, as well as the four feet. The hinder legs were of a blackish brown, mixed with very little yellow and red; but the under part of the body, and the internal part of the legs were white and the tail grey.

The LION MONKEY was sent from *Brazil*, in the year 1754, to Madam *Pompadour*. The length of the body, from the top of the head to the root of the tail, was about seven inches, and the head was round, and covered with long hair, not unlike that of a Lion. The face was naked and brown, the eyes red, the ears round, naked, and hid under the hair, the nails were long, crooked, and sharp, except on the greattoes, which were broad, flat and roundish. The whole body was covered with long hair, as soft as silk and of a whitish yellow shining colour. The hair which surrounded the face was of a deep red, that on the breast of a yellowish red, and that on the tail of a whitish yellow. The forepart of the legs, and the four feet were red, only there was a little mixture of blackish on the forepart of the feet. This differs from the Lion Monkey, mentioned in its proper place.

The LITTLE MONKEY of *Para*, was brought from *Brazil*; and the length of the body from the top of the head to the root of the tail was seven inches; but that of the tail was twelve inches and a half. The nails were long, crooked and sharp, except

except the great toes on the feet, which were large, flat and rounded. The whole body was covered with long hair, as soft as silk, and of a greyish, silver colour. The hair on the tail was of a chestnut colour, approaching to black, and the face and ears were tingled with so lively and skinning a red, that it would incline a person to think it was not natural.

The MONKEY *with the tail of a Rat*, was very small, and had a very short nose, with the eyes deeply placed in their orbits. The forepart of the head was round, and covered as far as the root of the nose with reddish, black hair, which was somewhat long behind, where it became blackish; but the face was whitish. The end of the nose, and part surrounding the mouth, were black. The face was full of wrinkles, which gave this animal a disagreeable look. The ears were large in proportion, resembling those of a man, and the nails were short and flat, the tail was long, pretty thick, and was like that of a rat. The hair that covered the back was not of so deep a red as that on the head; and from the chin to the belly, and the inside of the thighs there was a very little light yellow hair, as well as on the feet and small of the back; this was an *American* Monkey.

The GREAT MONKEY of Mr. *Reaumur*, from the top of the head to the root of the tail, was fifteen inches long; the length of the tail was fourteen inches; the ears were narrow and long; and the nails short and rounded; the cheeks were covered with long white hair, and that on the top of the head and on the neck was a mixture of grey and yellow. The tail, sides, and the external parts of the legs were grey, and the inner white, as well as all the lower part of the body.

The GREAT MONKEY of *Cochin China*, was brought

brought from that country to Mr. *Reaumur*; and the length of the body, from the top of the head to the root of the tail, was about eight feet, and that of the tail one foot nine inches. The ears resemble those of a man, and the nails were long and blunt, except those on the thumbs, where they were short and rounded. There was a ring or collar round the neck, of a purplish, chesnut colour, as well as the face, the legs and hinder feet. The cheeks were furnished with long hair of a yellowish white colour, which had the appearance of a beard, and the top of the head, the body, and the forepart of the thighs were grey. The forehead, the upper part of the shoulders, the hinder part of the thighs, the fore feet were black. The tail and the fore part of the legs were white; and the hinder part of the back, above the root of the tail had a spot of the same colour.

The RED MONKEY of *Guiana*, is a very thick animal, of a deep reddish bay colour, and he makes a terrible noise by means of a particular structure of the heioide bone.

The BLACK EGYPTIAN MONKEY, is of the size of a Baboon, and is black all over, especially on the face, which is surrounded with long black hair.

The RED EGYPTIAN MONKEY, is of the size of a Cat, and has a small round head; the face is like that of a man, and the body is very slender near the haunches; the whole body is covered with ruffet-coloured hair, and the face is black, encompassed with white hair, which gives him the aspect of an old man.

The LITTLE MEXICAN MONKEY, is about seven inches long from the top of the head to the root of the tail, and the length of the tail is about a foot. The ears are like those of a man,
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and the nails are long, crooked and sharp, except those on the thumbs, which are broad, flat and rounded; the face is black and void of hair, even beyond the ears, and the top of the head is covered with long white hair; the upper part of the body is covered with hair variegated with brown and red, and that on the under part of the body, as well as the four feet is whitish; the tail from the root to half the length is red, and the rest black.

The Monkey called BELZEBUB, by the people at *Paris*, has a body fifteen inches long, from the top of the head to the root of the tail; the length of the tail is two feet. The fore legs, from the shoulders to the end of the nails, are a foot and a half long, and the length of the hinder legs is the same. The circumference of the body about the breast is a foot and a half, and the ears are black, and like those of a man. The face, head, and fore part of the back, the external parts of the thighs before, and those of the thighs and legs behind, as well as the fore legs, the fore feet, and the tail, are black. The hinder part of the back is of a blackish brown; but the sides are red. All the lower part of the body; namely, the throat, breast, belly, inner part of the thighs before, and those of the legs and thighs behind, are of a dirty white and yellow colour. There are four toes on the fore feet, and five on those behind. The tail terminates in a point, and is covered with hair throughout its length, except on the lower part from the end to one third of its length, where it is covered with a furrowed skin. The tail performs the office of a hand, for he carries his nourishment to his mouth therewith.

The GERBUA is a very extraordinary animal; it is sometimes called the *Egyptian Rat* or *Pharaoh's Rat*. Its head is oblong; the crown of it convex, and the sides seem as it were swelled out. It has
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an oval body; its snout is short, large and obtuse; the opening of its mouth is small; its upper jaw is large, and composes the whole snout; the under jaw is very small, and hid in the upper one. It has two teeth before in each jaw, convex and sharp; its nostrils are at the end of the snout, broad, round, and near each other, being nearer the upper than the lower part of the snout. On these nostrils is a little round substance, somewhat raised, terminating at the bottom in two excrescences as strait as a line. Its whiskers are copious and in three rows; the first is at the lower edge of the snout; the hair is here very thick, soft, short, and white; the second row is near the nostrils, near the upper part of the snout; these are harsh, long, black, and few in number; the third row is betwixt the other two, towards the back part of the head, and consist of about ten hairs, which are very harsh, and very long, one of them exceeding the animal's whole body in length; they are black and white. Its two eyes are on the side of the head, and situated rather backward, and when compared to the body are large, prominent, and black. The ears are situated near the back part of the head; they are erect, of an oval form, broad at the top, naked, transparent, and the arteries in them are very distinctly seen. The fore feet which are called the hands, are near the neck, very short, round, naked, never touch the ground, and are so hid in the animal's fur, as to be scarcely visible: The toes are separated, small, and almost of equal length. The hind legs, which, comprehending the thighs, are three times as long as those before, and twice as long as the animal's whole body, are set close, and are naked. The thighs have no hair on them. The soles of the feet are long and thick; the toes are separate, close, and of equal length. The tail,
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which is of square form, and uniform size, is at least three times as long as the body, and is covered with very short harsh hair; at the end is a tuft of long soft hair, for about three inches in length. The body and head are covered with long soft thick hair. The upper part of the head and body of this animal is of a pale brown to the middle of the sides; the other part, and the belly, are white. It has white hair in form of little circles, near the tail, which is of a pale brown colour, somewhat brighter than the body. Its ears and feet are of a flesh colour. This animal uses only its hind feet in walking; it frequently leaps in its motions. It rests on its hams, at which time its fore feet are not visible. With these forefeet it feeds itself like a squirrel, and the fingers or toes being crooked, it takes water in them to drink. It sleeps all day, and is awake all night. It eats wheat, and a plant called Sefanus. It is not afraid of men, yet is not easily tamed, and must therefore be kept in a cage. It is a native of *Egypt*, and the mountains that separate *Arabia* from *Egypt*. Its *Arabian* name is *Garbua*, and it is about the size of a Rat.

INTRO-



INTRODUCTION.

Of QUADRUPEDES in general, and their way of living.

WHEN we turn our eyes to that variety of beings endued with life, which share with us the globe we inhabit, we shall find that Quadrupedes demand the foremost place. The similitude between the structure of their bodies and our own, those instincts which they seem to enjoy in a superior degree to the other classes that live in air or water, their constant services to man, or the unceasing enmity they bear him, all render them the foremost objects of his curiosity, the most interesting part of animated nature.

In the first ages of the world it is probable, that all living creatures were nearer an equality than at present. Man, while yet savage himself, was but ill qualified to civilize the forest. While yet naked, unarmed, and without shelter, every wild beast was a formidable rival, and the destruction of such was the first employment of heroes. But when he began to multiply, and arts to accumulate, he soon cleared the plains of its brute inhabitants; he soon established an empire over all the orders of animated nature; a part was taken under his protection and care, while the rest found a precarious refuge in the burning desert of the howling wilderness.

The most obvious and simple division therefore of Quadrupedes, is into the Domestic and Savage; by Domestic I mean, such as man has taken into friendship, or reduced to obedience; by the Savage, those who still preserve their natural independence and ferocity; who either oppose force by force, or find safety in swiftness or cunning.

The savage animal preserves at once his liberty and instinct, but man seems to have changed the very nature of domestic animals by cultivation and care. A domestic animal is a slave, which has few other desires, but those which man is willing to grant it. Humble, patient, resigned, and attentive, it fills up the duties assigned, ready for labour, and content with subsistence.

But not only its native liberty, but its very figure is changed by the arts and industry of man; what an immense variety in the ordinary race of dogs, or horses; what a difference between the large *English* mastiff, and the small *Spanish* lap-dog; yet the whole has been effected by the nature of the climate and food, seconded by the industry of man, in continuing the species without mixture.

As in external figure they bear evident marks of human cultivation, so is there also some difference in the internal structure of their bodies. The stomach of the domestic animal is not usually so large: For such receiving food at certain and expected intervals, and that but by little at a time, this intestine seems to contract to its contents, and fits the animal for the life it is obliged to lead.

Thus we, in some measure, see Nature under a continual constraint, in those creatures we have taught to live about us; but it is otherwise when we come to examine the savage tenants of the forest, or the wilderness; there every species preserves its characteristic form, and is strongly impressed with the instincts and appetites of nature. The more remote from the tyranny of mankind, the greater seems their sagacity; the Beavers, in those distant solitudes, where men have rarely past, exert all the arts of architects and citizens; they build neater habitations than even the
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rational inhabitants of those countries can shew, and obey a more regular discipline than ever man could boast; but as soon as man intrudes upon their society, their spirit of industry and wisdom ceases; they no longer exert their social arts, but become patient and dull, as if to fit them for a state of servitude.

But not only their industry, but their courage also is repress'd by the vicinity of man: The Lion of the deserts of *Nubia*, that has been only taught to measure his strength with weaker animals, and accustom'd to conquer, is possess'd of amazing courage; instead of avoiding man, as other animals are found to do, he attacks whole caravans crossing the Desert, and, when over power'd, retires still facing the enemy. But the Lion of *Morocco*, which is a more populous country, seems to acknowledge a superiority, and is even scared away by the cries of women and children.

Wherever man approaches, the savage beasts retire; and it is thought not without some share of reason, that many species of animals had once birth, which are now totally extinct. The Elk, for instance, which we are certain was once a native of *Europe*, is now no longer, except in *Canada*: Those monstrous bones of the Mahmout, as the *Siberians* call an animal, which must have been at least four times as big as the elephant, which are dug up in that country, and which by no means belong to the Whale, as has been falsely imagined, may serve to convince us, that there were once animals existing, which have been totally extirpated. The histories of *Aristotle* and *Pliny*, serve to confirm us in this opinion, for in them we find descriptions which have not their archetypes in the present state of nature.

It is in the forest therefore, and remote from man, that we must expect to find those varieties, instincts, and amazing instances of courage and cunning, which Quadrupedes exert in a very high degree. Their various methods of procuring subsistence, may well attract our admiration; and their peculiar conformation for the life in which they find greatest pleasure, is not less surprizing. The rapacious animal is in every respect formed for war; yet the various kinds make

their incursions in very different ways. The Lion and Tyger pursue their prey by the view alone, and for this purpose they have a most piercing sight. Others hunt by scent, while some lie in wait and seize whatever comes near them, or they are able to over power.

The teeth of carnivorous animals differ in every respect from those which feed upon vegetables. In the latter they seem entirely designed for gathering and comminuting their simple food; but in the rapacious kinds, for holding and tearing their prey. In the one the teeth serve as grindstones, in the other, as weapons of offence. In both, however, the surfaces of the grinding teeth are unequal, with cavities and risings, which fit each other when the jaws are brought into contact. These inequalities serve the better to grind and comminute their food, but they grow smoother with age, which is the reason why old animals take a longer time to chew their food than those in the vigour of life.

The legs and feet of Quadrupedes are admirably suited to the motion and exercises of each animal. In some they are made for strength only, and to support a vast unwieldy body, as in the Elephant, the Rhinoceros, and the Sea-horse, whose feet in some measure resemble pillars. Deer, Hares, and other creatures that are remarkable for swiftness, have theirs slender, yet nervous. The feet of some serve for swimming, as the Otter and Beaver; the toes of these animals are joined together with membranes like those of geese and ducks; which is a sufficient demonstration that they are designed to live in water as well as on land: Though the toes of the fore feet of the Beaver are not thus united, because they use them as hands. The feet of some are made for walking and digging, of which the Mole is a remarkable instance; and others for walking and flying, as the Bat. The legs of some are weak, and of others stiff and strong, that they may traverse the ice with less danger. The common Goat, whose natural habitation is on the rocks and mountains, has legs of this kind, and the hoof is hollow underneath, with sharp edges, so that when become domestic, it will walk as securely on the top of a house, as on level

vel ground. Many are shod with rough and hard hoofs, of which some are whole, and others are cloven; some again have only a callous skin, and these are composed of toes which supply the place of hands, as in all of the Monkey kind. Many have only short nails, for their more ready and safe running, or walking, while others have sharp and strong talons; as the Lion, and most ravenous beasts to destroy their prey.

The heads of Quadrupedes also differ greatly from each other; for in some they are square and large, suitable to their slow motion, food, and abode; in others, slender, and sharp, the better to fit them for turning up the earth, of which a Hog is an instance. Some Quadrupedes have long necks, and not very strong, serving chiefly to carry their mouths to the ground, in order to feed; in others they are shorter, brawney, and strong, as in Moles and Hogs, thereby the better to turn up its surface, while in general the Quadrupedes that feed upon grass, are enabled to hold down their heads, by a strong tendonous ligament, that runs from the head to the middle of their back; by the help of which, the head, though heavy, may be held down a long while, without any labour, pain, or uneasiness to the muscles of the neck.

The stomach is generally proportioned to the quality of the animal's food: Those who live upon flesh, and such nourishing substances, have it small and glandular, affording such juices as are best adapted to digest and macerate its contents. On the contrary, ruminating animals, or such as chew the cud, who feed entirely upon vegetables, have four stomachs, all which serve as so many laboratories to prepare and turn their simple food into proper nutriment. In *Africa*, however, where the plants afford greater nourishment than in our temperate climate, several animals which with us have four, are there found to have but two. But in all, the difference in the manner of living, seems to arise from the internal conformation; and each animal lives upon food more or less nourishing in proportion to the size of its intestines, which are to digest it.

In general, whatever be the food, nature seems
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finely to have fitted the creature for procuring it, tho' never without a proper exertion of its strength, or industry. Large animals of the forest, such as the Elephant, and Lion, want swiftness, and a distinguishing scent for catching their prey, but have strength to overcome it: Others who want strength, such as the Wolf and the Fox, make it up by their cunning; and those to whom nature has denied both strength and speed, as the Hound, and the Jackall, follow by the smell, and at last overtake their prey by perseverance. Thus each species seems only possessed of one talent in perfection, so that the power of destruction in one class, may not be greater than the power to escape in another.

Few wild animals seek their prey in the day time, but about night the whole forest echoes with a variety of different howlings. That of the Lion resembles distant thunder; the Tyger and Leopard's notes are something more shrill, but yet more hideous; while the Jackall, pursuing by his scent, barks somewhat like a dog, and hunts in a pack in the same manner. Nor is it uncommon for the strongest animals to follow where they hear this cry begun; and when the Jackall has hunted down the prey, to come in and monopolize the spoil. It is this which has given rise to the report of that little animal's being the Lion's provider; but, in fact, the Jackall hunts for himself alone, and the Lion is an unwelcome intruder upon the fruits of his industry.

This is a common method with larger animals, yet their most usual way is to hide and crouch near some path frequented by their prey, or some water where cattle come to drink, and with a bound seize them instantly. The Lion is said to leap twenty feet at a spring, and, if we can credit father *Tachard*, the Tyger goes still farther. However, notwithstanding this surprising force, it would often happen that they might perish for want of food, had not nature endowed them with an amazing power of sustaining hunger for a long time; for as their subsistence is precarious, their appetites are complying. When once they have seized their prey they devour it in the most voracious manner,

ner, often bones and all, and then retire to their retreats, continuing inactive till the calls of hunger again excite their courage and industry. But as all their methods of pursuit are counter-acted by their prey, with all the arts of evasion, in this manner they often continue to range without success, supporting a life of famine and fatigue for eight or ten days successively. Beasts of prey seldom devour each other, nor can any thing, but the greatest degree of hunger, induce them to it. But, in such extremities, and when hunger makes them less delicate, the weakest affords its antagonist a disagreeable repast. What they chiefly seek after is the Deer, or the Ox, those harmless creatures which seem made to embellish nature; of which when caught they first suck the blood, and then devour the carcass; between such there is cause of enmity. Yet there are antipathies among the rapacious kinds, which render them enemies to each other, even though no ways instigated to it by hunger. The Elephant and the Tyger, the Dog and the Wolf, are mortal foes, and never meet without certain death to the weaker side.

When at *Siam*, says father *Tachard*, I had an opportunity of seeing a combat between three Elephants and a Tyger. The place of engagement was in a sort of railed amphitheatre, and the Elephants were defended by a kind of armour which covered their heads, and a part of their trunk; but as if this were not sufficient, the Tyger was also restrained by cords from making the first onset. When one of the Elephants approached, he began the combat by giving his enemy three terrible blows with his trunk on the back, which stunned the other so much, that he continued for some time as if insensible, but the instant he was let loose, he flew at the Elephant with an hideous howl, and attempted to seize him by the trunk; this the Elephant artfully evaded by wrinkling in his trunk, and then receiving his antagonist upon his armour, he in the most dextrous manner flung him up into the air. This served entirely to intimidate the Tyger, who durst no longer face him, but made many efforts to escape; now and then trying to fly up at the spectators, but the
three

three elephants now beginning to press him, they struck him such terrible blows, that they would soon have dispatched him, had not the signal been given for finishing the combat.

But to have a more distinct idea of the life of a beast of prey; let us turn to one among the number; the Wolf, for instance, and view him in his native deserts; with the most insatiable appetite for animal food, nature seems to have granted him the most various means of satisfying it. Possessed of strength, agility, and cunning, he seems fitted for finding, overcoming, and devouring his prey; yet, for all this, the Wolf often dies of hunger, for he is the declared enemy of man. Being thus proscribed, he is obliged to frequent the most solitary part of the forest, where his prey too often escapes him, either by swiftness, or cunning, so that he is most frequently indebted to hazard alone for subsistence. He remains lurking whole days in those places where the lesser animals most frequently pass, till at last becoming desperate thro' want, and courageous through necessity, he ventures forth to attack such animals as have taken refuge under the protection of man. He therefore falls in among the fold, destroys all he meets, kills merely from a pleasure in slaughter, and, if this succeed, he returns again, till being wounded, or frightened by dogs or men, he ventures out only by night, ranges the fields, and destroys whatever he has strength to conquer. He has been often seen when those sallies have proved unsuccessful, to return back to the woods and pursue the wild animals; not so much with the hope of overtaking them himself, as in expectation of their falling a prey to some other of his own species, with whom he may come in to divide the spoil. In short, when driven to the last extremity, he attacks even man himself, and grown quite furious, encounters inevitable destruction.

Such are the beasts of the forest, which are formed for a life of hostility, and, as we see, possess of various methods to seize, conquer, and destroy. Nor are such as are their destined prey, less sagacious in their efforts to escape destruction. Some find protec-
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tion in holes in which nature has directed them to bury themselves; others seek safety by their swiftness, and such as are possess of neither of these advantages, generally herd together, and endeavour to repel invasion with united force. The very sheep, which seems the most defenceless animal of all, will yet make resistance, the females falling into the centre, and the males with their horns forming a ring round them. Some animals that feed upon fruits, which are to be found only at one time of the year, have the sagacity to provide against winter; thus the Badger, the Hedgehog, and Mole, fill their holes with several sorts of plants, which enable them to lie concealed during the hard frosts of the winter, contented with their prison which affords them safety. These holes are constructed with so much art, that the builders seem endowed with an instinct almost approaching reason. In general there are two apertures, one by which to escape, when an enemy is in possession of the other. The doublings of the Hare, and the various tricks of the Fox to escape the Hounds, are not less surprising. Some animals have the power of raising such an intolerable stench, that no Dogs will follow them: Many creatures which herd together, place a centinel upon the watch, to give notice of an approaching enemy, and take this duty by turns. These are the efforts of instinct for safety, and they are in general sufficient to repel the hostilities of instinct only; but no arts the wretched animal can use, are sufficient to repress the invasions of man. Wherever he has spread his dominion, terror seems to follow; there is then no longer society among the inferior tenants of the plain; all their cunning ceases; all their industry is at an end; the whole is then only subsistence, and human art, instead of improving brutal sagacity, only bounds, contracts, and constrains it.

The wild animal is subject to few alterations, 'till he comes under the dominion of man. In their native solitudes they live still in the same manner; they are not seen to wander from climate to climate, the forest where they have been bred seems to bound and satisfy their desires, they seldom leave it, and when they

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do, it is only because it can no longer afford security. Nor is it their fellow brutes, but man they in such cases seem to avoid. From the former their apprehensions are less, because their means of escape are greater. In their fellow brutes they have an enemy to whom their powers are equal; they can oppose fraud to their force, and swiftness to their sagacity; but what can be done against such an enemy as man, who finds them out though unseen, and though remote destroys them.

We have observed, that among animals of the same kind, there is little variety, except what is produced by the art of man; but we would have this observation extend only to animals of the same climate. As in the human species many alterations arise from the heat or cold, and other peculiarities of the region they inhabit, so among brute animals the climate marks them with its influence, and in a few successions they entirely conform to the nature of their situation. In general it may be remarked, that the colder the country, the longer and warmer is the fur of each animal, to defend it from the inclemency of the season. Thus the Fox and the Wolf, which in temperate climates have but short hair, yet have it much longer in the frozen regions, near the north-pole. Those Dogs which with us have long hair, when carried into the hot tropical climates, in a few years cast their thick covering, and assume one more fitted to the place. The Elephant and Rhinoceros, which live in the hottest countries, have no hair at all; while the Beaver and the Ermine, which are found in greatest plenty in the cold regions, are remarkable for the warmth and the fineness of their furs. There is one exception to this general rule, in the Quadrupedes of *Syria*, which though an hot country, are remarkable for the length and fineness of their hair; the *Syrian* Cat, Sheep, and other animals affording sufficient quantity to be manufactured into that stuff called Camblet, so common over all *Europe*.

The quantity of food in any country, or its nutriment adapted to each peculiar species, serves also to make a variety in the size of the respective animal. Thus the beasts which feed in the valley, are much larger.

larger than those which glean a scanty subsistence on the mountains; such as live in those hot countries where the plants are much larger and more succulent than with us, are equally remarkable for their bulk. If *Africa* has been remarked to a proverb, by antiquity, for its monstrous Serpents, it is no less remarkable for its Lions, its Elephants, and Leopards also. Their dispositions too seem to partake of the rigours of the climate; and being bred in the extreme of heat or cold, they shew a peculiar ferocity, that neither the force of man can conquer, nor his adulations allay.

The same physical causes which have rendered the men of those wretched climates barbarous and unfocial, seem to extend their influence even to brutes. For ever where the men are most savage, the brutes are most fierce, the reasoning powers on one hand being less, while the active powers on the other being greater, the forces on both sides seem almost levelled to an equality, and in those regions brutes and men seem to struggle for divided dominion. All the attempts which have hitherto been made to tame the savage animals brought home from the pole or the equator, have proved ineffectual; while young the Lion, and even the Leopard, are harmless and gentle; but they acquire all their natural ferocity with age; catch at the hand that feeds them, and as they grow up become more dangerous and more cruel. A person who shewed wild beasts about the country, some years ago, had confined a young Mastiff and a Wolf cub from *Senegal*, in the same room. While young they played together, and seemed much delighted with each other's company; but as the Wolf grew older, he began to acquire new fierceness, and they often had slight quarrels about their food, which was given them together. It always began upon the Wolf's side, who, though there was much more than both he and the Mastiff could possibly consume, yet still kept the Mastiff away, and watched over the remainder. This ill-matched society therefore every day became more turbulent and bloody, till it ended in the death of the Dog, whom the Wolf caught at an unguarded moment, and tore in pieces.

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Thus we find, that even among carnivorous animals, there are different dispositions, some generous and valiant, others cruel and cowardly: Some animals are rapacious merely to satisfy their hunger, but the Tyger, Hyæna, and the Panther, destroy whatever they meet, slay without distinction, and are cruel without necessity.

It has been observed, that the extensive Deserts of *Africa*, lying between the tropics, produce the largest and fiercest animals, yet in the same latitudes in *America*, the animals are in no wise so terrible. It may indeed be remarked in general, that all the Quadrupedes of that new world, are less than those of the old, even such as are carried from hence to breed there, are often found to degenerate, but are never seen to improve. If with respect to size we should compare the animals of the new and the old world, we shall find the one bear no manner of proportion to the other. The *Asiatic* Elephant, for instance, often grows to above fifteen feet high, while the Tapurette, which is the largest native of *America*, is not bigger than a calf of a year old. The Lama, which some also call the *American* Camel, is still less; nor is the Bison, though really bulky, by any means large to appearance. Their beasts of prey also are quite divested of that courage, which is so often fatal to man in *Africa*, or *Asia*. They have no Lions, nor properly speaking, either Leopard, or Tyger. Travellers, however, have affixed those names to such ravenous animals, as are there found most to resemble those of the ancient continent. However, the Cougar, the Jaquar, and the Jaquurette, among them are despicable, in comparison of the Tyger, the Leopard, and the Panther of *Asia*. The Tyger of *Bengal* has been known to measure twelve feet in length, without including the tail; while the Cougar, or *American* Tyger, as some affect to call it, seldom exceeds three. All the animals therefore in the southern parts of *America*, are different from those in the southern parts of the antient continent; nor does there appear to be any common to both, but those, which being able to bear the rigours of the north, have travelled from one continent

continent to the other. Thus the Bear, the Wolf, the Rain-deer, the Stag, and the Beaver, are known as well by the inhabitants of *Canada*, as *Russia*; while the Lion, the Leopard, and the Tyger, which are natives of the south with us, are utterly unknown in southern *America*.

But if the Quadrupedes of *America* be smaller than those of the ancient continent, they are in much greater abundance; for it is a rule that obtains thro' nature, that the smallest animals multiply in the greatest proportion. The Goat, imported from *Europe* to southern *America*, in a few generations becomes much less, but then it also becomes more prolific, and instead of one Kid at a time, or two at the most, generally produces five, six, and sometimes more. The wisdom of providence in making formidable animals unprolific is obvious; had the Elephant, the Rhinoceros, and the Lion, the same degree of fecundity with the Rabbet, or the Rat, all the arts of man would soon be unequal to the contest, and we should soon perceive them become the tyrants of those who affect to call themselves the masters of the creation.* Final causes are obvious, but as the great *Bacon* says, *Investigatio causarum finalium sterilis est, & veluti virgo Deo dedicata, nil parit*; such in fact produce no discoveries; it is for the efficient cause we should enquire; and yet such is the darkness of the subject, that we must be contented in the present instance, only with the former: Upon anatomical inspection, the matrix of smaller creatures is evidently fitted to produce many at a time, while that of larger Quadrupedes is adapted for the gestation of one alone, or of two at the most. As large animals require proportional supplies from nature, providence seems unwilling to give new life, where it has denied the necessary means of subsisting.

In consequence of this pre-established order, the larger creatures which bring forth but few at a time, seldom produce their species till they have acquired, or almost acquired, their full growth. On the other hand, those which bring forth many, engender before

* The reasons of this fecundity are not so easily assigned as the creator's motives for this difference.

they have arrived at half their natural size. The Horse and the Bull come almost to their Acme before reproduction; the Hog and the Rabbet scarce leave the teat before they become parents themselves. The large animals also go with young in proportion to their size. The Mare continues eleven months with foal; the Cow nine; the Wolf five; and the Bitch nine weeks. In all, however, the young are produced by the female without hæmorrhage, and mostly without pain, the intermediate litters being ever most fruitful.

Whatever be the natural disposition of animals at other times, they all acquire new courage and fierceness in defence of their young; even the mildest, if wild, will then resist and threaten the invader; but such as have force, and subsist by rapine, are at such times terrible indeed. The Lioness seems more hardy than even the Lion himself; she attacks men and beasts indiscriminately, and when she has overcome, carries them reeking to her young, whom she accustoms betimes to slaughter. We are told by some travellers, but with what truth I will not take upon me to determine, that the hunters who find her cubs, and carry them off, have no other method to escape her pursuit, but by dropping one at some distance from the den, which finding, she takes care to carry back, before she attempts to rescue the rest, and so the hunter escapes with a part.

The first aliment of all Quadrupedes is milk, which is a liquor at once both nourishing, and easily digested, this being in carnivorous animals in much less quantity than others, the female often carries home her prey alive, that its blood may supply the deficiencies of nature in herself.

But their care in the protection of their young, is not greater than their sagacity in chusing such months for bringing forth, as afford the greatest quantity of provision, suitable to the age and appetite of each peculiar kind. In general they couple at such times as that the female shall bring forth in the mildest seasons, such as the latter end of spring, or the beginning of autumn. The Wolf and the Fox, for instance, couple in *December*, so that the time of gestation continuing

tinuing five months, they may have their young in *April*. The Mare who goes eleven months, admits the horse in summer, and foals in the beginning of *May*. On the contrary, all those which lay up provisions for the winter, as the Beaver and Marmotte, couple in the latter end of autumn, so as to have their young about *January*, for which severe season they have already laid in the proper supplies. This provisional care in every species of Quadrupedes, of bringing forth at the fittest seasons, may well excite human admiration; in man the business of procreation is not marked by seasons, but brutes seem to decline indeterminate copulation, as if conducted less by appetite than the future subsistence of their offspring.

Their choice of situations too may be remarked, for in most of the rapacious kinds, the female takes the utmost precautions to hide the place of her retreat from the male, who, when pressed with hunger, would be apt to devour her cubs. She seldom therefore strays far from the den, and never returns while the male is in view, nor visits him again till her young are out of danger, or capable of resistance. Such animals as are of tender constitutions, take the utmost care to provide the warmest lodging for their young; those on the contrary that are hardy, and are found to subsist in northern climates, are not so cautious in this particular. The rapacious kinds bring forth in the thickest woods; the Ruminant, with the various species of lesser creatures, chuse some hiding place in the neighbourhood of man; some chuse the hollow of a tree, and all the amphibious kinds bring up their young by the water, and accustom them betimes to either element. There are, however, some animals which leave their brood to chance alone, and their own early instinct for their preservation; I mean the oviparous kinds, or those which bring forth eggs, such as the Tortoise, the Lizard, and the Crocodile. These take no farther care of their young than by burying their eggs in the sand, and the heat of the sun alone brings them to perfection. As soon as hatched, without any other guide than instinct, they immediately make to the water, though not without

having their numbers diminished in their passage, by such birds as make them their peculiar food.

All the kinds of Oviparous animals are covered with shells, or scales; those of the viviparous, or such as bring forth their young alive, with hides and hair. The Oviparous are much more fruitful; a Tortoise or a Crocodile, laying not less than an hundred eggs at a time. These as being more imperfectly formed than animals of the viviparous kind, sooner arrive at a state of maturity, for in general it may be observed, that the more imperfect each animal is, the sooner it arrives at its greatest state of perfection. The Lizard is capable of providing for itself as soon as hatched; the Otter swims in quest of food at one day old; the dog takes longer time; the Horse and the Lion are more slow in their advances, while man, the most perfect work of nature, labours under the longest imbecillity.

But while I divide animals into viviparous and oviparous, perhaps it may be observed, that a distinction is made where nature has made none, and that all creatures are produced in the same manner, equally proceeding from eggs. The generation of animals has excited curiosity in all ages, and the Philosophers of every age have undertaken to explain the difficulty. *Hippocrates* has supposed fecundity to proceed from the mixture of the seminal liquor of both sexes, each of which equally contributes to the formation of the incipient animal. *Aristotle*, on the other hand, would have the seminal liquor in the male alone to contribute to this grand effect, while the female only supplied the proper nourishment for its support. Such were the opinions of these two great men, and they continued to be adopted by Physicians or Schoolmen for a long succession of ages, with blind veneration, till *Steno* and *Hervey* guided by anatomical inspection, perceived in every viviparous animal, two glandular bodies near the womb, resembling that cluster of small eggs which is found in fowls, and from the analogy between both, they gave these also the name of Ovaria. However, as they seemed detached from the womb, it was objected at first that such could contribute no way to the

the formation of the fœtus ; but upon more minute inspection, *Fallopïus*, the great anatomist, perceived two tubular vessels, depending from the womb, which like the horns of a snail, had a power of erecting themselves, embracing the Ovaria, and receiving the eggs in order to be fœcundated by the feminal liquor. This discovery soon altered the opinion of Philosophers, and as the followers of *Aristotle* ascribed the rudiments of the fœtus to the male, the followers of *Hervey* gave it entirely to the female. This last opinion therefore was established in the schools a long time without much controversy, till *Leuwenhoek* discovered, that the feminal liquor in the male had numberless living creatures, each of which might be considered as a miniature of the future animal. The business of generation was now therefore given back to the male a second time, though not without long controversy, and some abuse. Succeeding speculators, willing to compound the matter, were of opinion, that the feminal animal might enter the egg predisposed for its reception ; and thus both sexes might conspire in the formation ; the subject offered infinite scope for conjecture. *Mr. Buffon* loved to speculate, and he was unwilling to let slip so fair an opportunity of speculation. He therefore broached a new theory ; he found by microscopical inspection, that the feminal liquor, both of males and females, equally abounded with the moving beings, first taken notice of by *Leuwenhoek*. These he takes not to be real animals, but living substances, which have the property of making a part in all organized bodies, without being organized themselves. All animals, he continues to observe, as well as vegetables, are composed of these living unorganized substances, a part of which are taken up for the animals own support and growth, and the superfluity thrown off in the feminal liquor of both sexes, for the reproduction of other animals of the same species.

This hypothesis, as well as all the rest, is embarrassed with unsurmountable objections, and only serves to shew that too minute a pursuit of nature, leads to uncertainty ; in such cases, every last opinion serves to overturn the preceding, while itself only waits to be over-

overturned by some succeeding speculation more pleasing, because more new. Happily for mankind, the most intricate enquiries are generally the most usefess. Modest nature has concealed her secret operations from rash presumption; it may suffice man to be certain, that she always acts with uniformity and success. Tho' we cannot discover how animals are generated, we know that every species is still transmitted down without mixture, and that the same characteristic marks which distinguished them in the times of *Aristotle* and *Pliny*, divide them to this day. Creatures of different kinds may be brought to produce between them, indeed an animal partaking something of each; yet different from either, but here the confusion ends; for this new being, this monster of nature, is incapable of continuing the breed, and is marked with perpetual sterility. Nor does this arise from the figure, for there is more difference between the Mastiff and Lap-dog, with respect to external shape, than between the Horse and the Ass, yet the animal produced between the two former is prolific, while the Mule, which is begotten by the latter, continues unalterably barren.

But though nature has provided that every species of animals should be thus kept distinct, yet we have many reasons to believe, as has been observed before, that she has not been so solicitous for the preservation of them all. We have already taken notice of the Mahmut, which is computed to have been at least five times as big as the Elephant, and if so might consequently require the produce of an immense tract for its subsistence. How so huge a body, therefore, could be supported upon earth, or if the bones once belonged to an inhabitant of the deep, how they came buried at such an immense distance, as they are found from the sea, are questions that ignorance may ask, but sagacity never resolve, the use, and not the cause of things, is all allowed us here. 'Tis sufficient for us that every thing we see is good, and that all those good things have been granted for our enjoyment. A mind willing to employ itself in vain conjectures can never want subjects upon which to expatiate; thus for instance, whether brutes have souls? whether they reason? whether they have

have memory? or are only mere machines; these are topics that may employ the speculative, but that can never recompence the enquiry. They are questions concerning which we may form doubts, and ask questions, but can never have them resolved till brutes themselves find language to inform us, and farther enlighten our philosophy.



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C H A P . I .

Of Animals with an undivided Hoof, of the HORSE Kind.



HORSE is a noble animal so well known to every one that he needs no description ; however it will not be amiss to say something of the best properties of a Horse, which may serve as directions how to chuse a good one, and first of all it will be necessary to determine his age, the knowledge of which is principally derived from his teeth.

The first teeth that appear are four, two above and two below, which are called foal teeth, and may be easily distinguished from the others by their whiteness.

The

The rest come out afterwards till they are twelve in number, six above and six below. When a colt is between two years and a half and three years old, he casts four of these teeth, two above and two below. These we call nippers or gatherers, and are much longer and larger than the fore teeth, with these he nips off the grass and pulls the hay from the Rack. When these are complete the horse will be three years old or somewhat more.

When he is about four he casts again two above and two below, one on each side the nippers; so that now there are no fore-teeth remaining but the corner teeth; and hence it may be concluded that he is about four years old. The tusks appear next after these, and are a little crooked. Those below come out before those on the upper jaw, and at four years old they are very small. When all the colt teeth are cast, and the corner teeth begin to shew themselves, then the Horse comes five.

From five to five and a half the corner teeth remain hollow within, and are not quite filled up till the Horse is six. At five and a half they are about a quarter of an inch high, and when he is full six near half an inch. Every thing that is to be examined at six years old, are the corner teeth and the tusks. That part of the corner teeth that had flesh in at first turns to a brownish spot, like the eye of a garden bean. At seven the mark or spot becomes faint, and the tooth more even. At eight it quite disappears, though it possibly may remain in a very small degree for two or three years more, which has deceived many. The longer the corner teeth are the older is the Horse, and they are apt to grow foul and turn yellow. When the mark is gone if you touch the tusks on the upper jaw with your finger, and find it worn away and equal with the palate, you may certainly judge that the Horse is ten years old at least. Lastly, when the Flanks of a Horse are much sunk, the feet broken and spoiled, the pace bad, and the eye pits very hollow, you may certainly conclude the Horse is considerably advanced in years.

When

When the Horse is without blemish, the legs and thighs are clean, the knees strait, the shin and flank thin, and the back sinew strong and well braced. The sinews and the bones should be so distinct, as to make the legs appear thin and lathy, not full and round. The pastern joints should never be large and round, nor must there be any swelling near the coronet. The hocks should be lean and dry not puffed up with wind.

With regard to the hoof, the coronet should be equally thick, and the horn shining and greyish. A white horn is a sign of a bad foot, for it will wear out in a short time, and likewise when the horn is thin it is liable to be spoiled in shoeing, and by travelling hard on stony grounds. This is best known when the shoe is taken off, for then the verge all round the sole will appear thin, and the Horse will wince at the least touch of the pincers.

A strong foot has the fibres of the hoof very distinct running in a direct line from the coronet to the toe like the grain of wood. In this case care must be taken to keep the foot moist and pliable. The greatest inconvenience attending a hard strong foot, is its being subject to rifts and fissures, which cleave the hoof quite through sometimes from the coronet down to the bottom.

A narrow heel is likewise a defect; and when it is not above two fingers in breadth the foot is bad. A high heel causes a Horse to trip and stumble often; and the low one, with long yielding pasterns, is very apt to be worn quite away on a journey. Too large a foot in proportion to the rest of the body, renders a Horse weak and heavy.

The head of a Horse should be small, and rather lean than fleshy. The ears should be small, erect, thin, sprightly, and pointed. The forehead, or brow, should be neither too broad nor too flat, and should have a star or snip thereon. The nose should rise a little, and the nostrils should be wide that he may breath more freely. The muzzle should be small, and the mouth neither too deep nor too shallow. The jaws should be thin, and not approach too near together at the throat, nor too high upwards towards the onset, that the Horse
may

may have sufficient room to carry his head in an easy graceful posture. The eyes should be of a middle size, bright, lively, and full of fire. The tongue should be small, that it may not be too much pressed by the bit; and it is a good sign when his mouth is full of white froth, for it shews that he will not soon be overheated.

The neck should be arched towards the middle, growing smaller by degrees from the breast and shoulders to the head. The hair of the mane should be long, small, and fine; and if it be a little frizzled so much the better. The shoulders should be pretty long, the withers thin, and enlarge gradually from thence downwards; but so as to render his breast neither too narrow nor too gross. A thick-shouldered Horse soon tires, and trips and stumbles every minute; especially if he has a thick large neck at the same time. When the breast is so narrow that the fore thighs almost touch, they are never good for much. A Horse of a middle size should have the distance of five or six inches between his fore thighs, and there should be less distance between his feet than his thighs near the shoulders when he stands upright.

The body or carcase of a Horse should be of a middling size in proportion to his bulk, and the back should sink a little below the withers; but the other parts should be strait, and no higher behind than before. He should also be home ribbed; but the short ribs should not approach too near the haunches, and then he will have room to fetch his breath. When a Horse's back is short in proportion to his bulk, and yet otherwise well limbed, he will hold out a journey though he will travel slow. When he is tall at the same time with very long legs he is but of little value.

The wind should never be overlooked in the choice of a Horse, and it may easily be known by his flanks if he is broken winded when he stands quiet in the stable; because he always pinches them in with a very slow motion, and drops them suddenly. A thick winded Horse fetches his breath often, and sometimes rattles and wheezes. This may be always discovered when he is put to brisk exercises.

The

The temper of a Horse should always be observed; a vicious Horse generally lays his ears close to his pole, shews the whites of his eyes, and looks fullen and dogged. An angry Horse may be known by his frowning looks; and he generally seems to stand in a posture of defence, when he is very vicious he pays no regard to the groom that feeds him. However some Horses that are ticklish will lay back their ears, and yet be of a good disposition. A fearful Horse is apt to start, and never leaves it off till he is old and useles. A fretful Horse is very unfit for a journey; and you may discover his temper as soon as he gets out of the stable. A dull, heavy, sluggish Horse may be easily known, whatever tricks are used to rouse his spirits.

With regard to the colour of a Horse the bright bay, and indeed all kind of bays in general, are accounted a good colour. The chesnut Horse is generally preferable to the sorrel, unless the former happens to be bald, or party coloured with white legs. Brown Horses have generally black manes and tails, and their joints are of a rusty black. Those of this colour that are dappled are much handsomer than the rest. Horses of a shining black, and well marked without too much white, are in high esteem for their beauty. A star, or blaze, or white muzzle, or one or more feet tipped with white, are thought to be rather better than those that are quite black.

Of greys the dappled are accounted best; though the silver greys make a more beautiful appearance, and often prove good. The iron grey with white manes and tails are thought not to be so hardy. Greys of every kind will turn white sooner or later; but the nutmeg grey, when the dappled parts incline to bay or chesnut, are said to be good hardy Horses. Roan Horses have a diversity of colours mixed together; but the white is more predominant than the rest. They are all generally hardy, and fit for the road; and some are exceeding good. Those of a strawberry colour most resemble the sorrel, and they are often marked with white on the face and legs. When the bay is blended with it he seems to be tinged with claret;
and

and some of these prove to be very good. Dun, fallow, and cream coloured Horses have a list down their backs; and their manes and tails are black. Dun Horses are seldom chosen by gentlemen, and yet they may be very useful to the country farmer. The fallow and cream coloured are better esteemed, both for beauty and use. Those Horses that are finely spotted with gay colours like leopards are a great rarity, and for that reason are only in the hands of great men.

It likewise will not be improper to take notice of the different denominations of the external parts of a Horse; because these are often the subject of common discourse. The coat of a Horse is called the hair, which has different names in several parts of the body. The foretop is the topping or tuck, the hairs on the under lip are the beard; and those which grow along the upper part of the neck are called the mane. That part of the neck which is most arched has the name of the crest, and when that sinks a Horse is said to be crest-fallen. The tuft of hair which grows on the lower part of the leg behind above the heel is termed the feet-lock, or fetlock. The hair that grows round over the top of the hoof is the crown, or crown-net, and the hair on the eye-lids is the brills.

The usual term by which the body of a Horse is distinguished is the carcass. Thus a Horse with a large body is said to have a large carcass; and when it is compact and well made he is said to have a good carcass. The forehead is often called the brow; and the two hollows above the eyes most remarkable in old Horses, are termed the eye pits. The mark, if any, that runs down the face, is the rache; and where there is a white spot in the forehead it is the star. The back part of the head that joins to the neck is the poll; and the juncture of the head and neck the onset. The lips with the tip of the nose form the muzzle; and the place in the inside of the mouth where the tongue lies is the charnet. The fleshy rows that run across the upper part of the mouth are called the bars, and these are very remarkable in young horses.

The top of the shoulder blades, and highest part of the spine, at the setting on of the neck, are the withers;
and

and from the top of this a Horse is measured to know his size. From the withers to the hind part of his back are the reins, and next these are the loins. The extremity of the reins above the hips to the tail, is called the croup; and the part where the crupper lies, is the channel; the tail is the dock or runt, and the sinking of the back, if any, has the name of the sway.

The hinder part of the belly next the genitals, is called the flank, and this reaches from the small ribs to the haunches. The loose skin which covers the yard, is the sheath, and the belly reaches from this to the brisket. The point from the withers to the top joint of the thigh, inclosing the whole breast on both sides, is called the shoulder, at which the fore legs or arms begin; and the hind part pointing towards the brisket, is the elbow; the middle part is the knee, to which the fore leg or arm reaches. The extent from the knee to the pastern, is called the shank; and the strong tendon behind the shank inserted into the heel, is the back sinew. The place where the shank joins the pastern, is distinguished by the pastern, or fetlock joint; and the pastern reaches from the lower part of the joint to the foot, and has a joint in the middle to facilitate the motion of the foot, and which distinguishes it into two parts, namely, the great pastern next the shank, and the less next the foot. The joining of this last with the foot, is called the coffin joint.

The hoof is generally called the horn or the coffin, because it incloses the bottom of the foot. The tender part of the hoof next the heel, is the frush; and the ball of the foot, the frog. This reaches from the middle part of the foot to the heel; and the sole is the horny part which covers the rest of the bottom of the foot, and adheres to the verge of the hoof, where nails are driven in, when a Horse is shod. The sides meeting on the heel, are called the quarters.

The haunches begin at the two bones of the back part of a Horse, which enclose the loins, and descend to the ham, or hock, or hough. The stifle is the knee-pan of a Horse, and is seated in the middle joint

joint of the thigh; and is outwardly that part which jets out from the thigh towards the belly. The thigh or gascoin begins at the stifle, and reaches to the bending of the ham or hock; the hock is the bending of the hind leg; and the round knob behind is the heel of the hock, in which the great master sinew is inserted. The small of the hind leg, has the name of the instep. The pasterns and feet, are distinguished in the same manner, as in the fore legs; and that side of a Horse which we approach, is called the near-side, and the other the off-side. Hence comes the terms of near-foot, and off-foot, near-eye, and the off-eye, and so of the rest.

There is some difference in Horses according to their different countries where they are bred; for instance in *France*, those of *Bretagne* are pretty strong made, and have generally black hair, or brown bay; and they have good legs and feet, with a hardy mouth, and a head short and fleshy; but in general, they are pretty clumsy. The Horses of *Franche Comptè*, are said to have the legs of Tigers, and the belly of a Hind; but they are short and thick, and of a middle size, being much more proper for drawing than riding. The Horses of *Gascony*, are not unlike those of *Spain*, but they are not so handsome, nor so active, and therefore, they are more proper to draw carriages. The *Limosin* Horses are very vicious, and are good for little till they are six years old. Their colour is generally bay, or a bay brown. The Horses of *Normandy*, are much like those of *Bretagne*, and those of *Poitou*, have good bodies, legs, feet, and eyes; but they are far from being handsome.

The Horses of *Germany* are much better and more handsome, than those of the *Low Countries*. They are of great use for carriages, but much more for the army, and for drawing the artillery. They have a great deal of hair, especially about the legs. They are not large, but they are well set, and yet they have tender feet. The *Hungarian* Horses are excellent for the coach, as well as for riding; but they are large, though well proportioned, and they are of all colours, and in general very swift.

The

The *English* Horses are of all kinds, they having been brought at first from different countries; but for racers no country can equal them, they having been bred from what are called Barbs. The *Danish* Horses are low, short, and square; but they have a fine head, and short hair. The Horses of the *Low Countries* are very fit for the coach, and they are best known by the names of *Flanders* Mares. The *Polish* Horses are like the *Danish*, only they have not so fine a forehead. Their colour is generally a bright bay, and that of the outward peel of an onion, and they are fiery and vicious. The Horses of *Switzerland* are pretty much like those of *Germany*, which is no wonder, since the *Germans* purchase a great number of them. The Horses of *Piedmont* are fiery, of a middle size, and of all sorts of colours. Their legs are good and handsome; their eyes fine; their ears small, and their mouths good; but they do not carry their heads well.

The Horses of *Naples* and *Italy* are generally ill made, and lean, and yet they are good and useful, for they are light and proper for racing, though not for a long course; they never do well in a colder climate. The *Spanish* Horses are very well made, and handsome, as well as very active and nimble; they have good eyes, handsome legs and heads, and are easily managed; they are also good for racing, if they are well kept. However they are not so good in northern climates as in their own country. The *Turkish* Horses are of different shapes, but they are generally swift, though their mouths are bad. Most of them are white, though there are other colours, and they are large, handy, strong, and fit for the road.

The Horses of *Barbary* commonly called Barbs, have strong hoofs, and are more proper for racing than any others whatever. Some have said they never grow old, because they preserve their vigour to the last. They are excellent stallions, and some of them are used as such in *England*; however the *Arabian* Horses are not quite so good as the *Barbary*; though some think they are both of the same kind, only those

those that are used to the deserts of *Arabia* are always in action. The *African* geographer *Leo*, affirms, that there are wild Horses in the deserts both of *Arabia* and *Africa*; and that when they happen to catch one, he always serves for a feast. The Horses of the *Gold Coast* of *Guinea* are very few in number, and in other parts of that coast there are none at all; for many of the Negroes when they have been first brought over to our *American* plantations, have expressed great admiration at the sight of a horse, and have been afraid to come near one. However those that are there, are of the same size as ours, and yet they are good for little, for they are ready to fall every step they take.

The Horses of the *Cape of Good Hope* were originally brought from *Persia*, and they are generally small, and of a chestnut colour; for those that are natives of that country, are all wild, and could never yet be tamed. The Horses of *China* are good, and more particularly those in the province of *Yun Nan*, for they are very vigorous, though a little low. The Horses of the *Eluth Tartars* are good and full of fire, and their size is much the same as the *Polish* Horses. They are afraid of nothing, not even of Lions and Tigers; but perhaps this may be owing to use. In the country of the Mogul they are very numerous, and of all colours. They are generally of the middle size, tho' there are some as large and as handsome, as those in *Europe*. The wild Horses of *Tartary* differ little from the tame; but they are so swift, that they avoid the arrows of the most skilful hunters. As for the Horses of *America*, they were all originally brought from *Europe*; for there was not one in all that vast country before they were carried over. A great part of our plantations in the northern parts is so low and sandy, that they never shoe their horses; however those of *New-England* are in great esteem for their swiftness. After all, there is so much difference among the Horses of the same country, that no general character will serve for all.

With regard to the anatomy of a Horse, I shall not mention the muscles, because that would lead me too far out of the way; but it will be necessary to take notice

tice of the internal parts, because therein consist the principal difference from other quadrupedes. The peritonæum as a kind of a bag consisting of a thin membrane of a pretty close texture, and yet capable of a considerable extension and of returning to its former state. It contains the greatest part of the viscera of the lower belly, namely the guts, the stomach, the liver, and the spleen. The internal surface is smooth and sleek, and constantly moist, and when this is opened the viscera of the lower belly will appear. The liver, the biliary duct, and part of the gut called the colon, are on the right side, and the spleen, part of the colon, the caul, the bottom stomach, and the pancreas are on the left. The caul lies over the intestines, and is a very fine membrane larded with fat, which reaches from the bottom of the stomach to the region of the navel, and resembles an apron tucked up.

The Oesophagus, or gullet, is part of the intestinal canal which reaches from the mouth to the anus; this part of it extends from the mouth to the diaphragm, behind which the stomach lies. This is in shape like the bellows of a bagpipe, and consists of four coats, as well as the gullet. The intestines, or guts, are six in number, and have the same names as in other animals. The small guts, from the pylorus to the blind gut, are generally about fifty-six feet in length, and the circumference of the duodenum is about six inches where thickest. The cœcum, or blind gut, proceeds obliquely forward in the back part of the lower belly from the right iliac region to the middle of the belly, and a little to the left side. Before the colon joins to the cœcum there are two thick oblong bags, that are separated by a sort of a neck, and are nearly of the same length; after which there is a part not quite so thick, but near as long, and terminates in a third bag whose length is almost the same as the two first. The colon begins in the right side where it joins to the cœcum, and forms an arch that surrounds the cœcum before, and on the sides, the arch takes up the right and left sides of the lower part of the abdomen by its two first bags, and the neck between them, lies behind the diaphragm under the stomach on the left side. The colon forms some sinuosities

ties in the hypogastric regions at the extremity of the arched gut spoken of; and makes a second which reaches over the first, to which it adheres by a cellular web, and it is terminated in the right side by the third bag, whose extremity extends backwards as far as the kidney on the right side, and to the left as far as the other kidney. From the place where this bag proceeds, the colon forms circumvolutions throughout the whole extent of the left side over the jejunum, and the greatest part of the ilium, then it joins to the rectum by a bending that proceeds from the same side. When the cœcum lies on the right side, the two first arches of the colon are always entirely on the left. The colon proceeds from the right side, in the umbilical region and bends back to the left behind the diaphragm; afterwards it runs along the whole length of the left side, and thus the two first bags of the colon are formed, which occupy the middle on the left side of the abdomen, then it bends upwards over itself, and returns forwards towards the diaphragm where it turns to the right; and the third bag reaches all along the right side. Some make three distinct colons of these bags.

The ilium is seven inches in circumference, and the cœcum is two feet and a half in length, and is two feet in circumference where thickest, and that is about eight inches distant from its insertion with the ilium. The circumference of the cœcum is a foot and ten inches near this insertion; and a foot, and three or four inches below, from its extremity which is conical, and terminates in a point. The first part of the colon forms a sort of a bag that is crooked like a cross, and terminates in a crooked point; for which reason this cavity may be taken for a second cœcum, though it is not proportionable to the first, yet it is a foot and eight inches in circumference; the last portion of the colon and rectum are eight feet in length; but that of the whole colon and rectum, taken together are twenty-eight feet, which being added to fifty-six, the length of the small guts, make the entire length of the intestines seventy-seven feet, without the cœcum.

The stomach which is not unlike that of a man, lies more on the left side than on the right, and the left
side

side is raised, and a little bent inwards, and is three feet and an inch in circumference where the convexity is greatest. The pylorus is five inches in circumference, and that of the duodenum where thickest, a foot; as also the gullet is four inches near the stomach.

The liver extends almost as much to the left side as the right, and is divided into four lobes; one of which lies against the middle of the diaphragm. There are three pretty deep furrows in the lower part of this lobe; and the suspensory ligament runs in the first furrow to the left; there is but one lobe on the lower part of the left side; and the right part of the liver is composed of two lobes, one of which is bigger than the rest, and the other very small, and seated behind the large one. The liver is a foot and a half in its greatest extent, and that of the right lobe is ten inches and a half from the top to the bottom; the left lobe is nine inches and a half long, and that in the middle eight inches and a half. It generally weighs near five pounds; and there is no gall bladder; but the hepatic duct is very large; the colour is blackish both within and without.

The shape of the spleen is that of a longish triangle, and it is seated obliquely, the base being upwards and backwards; and the point lowermost and forward; and the left side lies against the stomach. It is nine inches and a quarter in length, and four inches and a half broad at the base; the greatest thickness wants somewhat of an inch, and the weight is upwards of twelve ounces; it is grey without, and of a blackish red within. The pancreas is seated between the left kidney, the stomach, the duodenum, the liver, and the first portion of the colon over the third bag of this gut. The figure is irregular, it having three branches, the shortest of which terminates at the duodenum, another at the right kidney, and the third reaches to the left. These branches where they unite, form a flat mass, that may be called the body of the pancreas, whose greatest thickness is but half an inch.

The kidneys are much of the shape of treefoil or clover grass, and the emulgent vessels represent the

pedicle; however, they are sometimes roundish. They are not always of the same size, for the right is generally bigger than the left, and is about five inches long, and as much broad; the left kidney is narrower on the fore part. The nervous center of the diaphragm is very large, for it is fifteen inches broad in the middle, and nine from the vena cava to the part next the sternum; likewise it reaches backwards as far as the last bastard rib. It is very thin, for the fleshy part is but the twelfth part of an inch in thickness near the nervous center; but it is more thick near the ribs; where it is seven inches broad, and four above the sternum.

The right side of the lungs hath only a single lobe, whose part is furrowed on the lower edge; the left part only consists likewise of one lobe, but the fore part is furrowed in two places towards the lower edge. There is also a third lobe, which is very small, and seated near the base of the heart, and is extended from the right to the left; this is partly connected to the right lobe. The heart is seated in the middle of the breast, the base being upwards, and the point downwards, and a little backwards. It is large in proportion to the bulk of the animal, and is sharp pointed; it is fifteen inches in circumference at the base, and it is six inches and a half from the point to the rise of the pulmonary artery. The great artery is near an inch and a half in diameter, where it proceeds from the heart, and is divided into two branches.

The tongue is a foot in length, roundish at the end, pretty thin, and two inches broad; but much narrower between the first of the teeth called the grinders; the palate is crossed with about seventeen crooked furrows; and the epiglottis is pointed and terminates in a small globe, insomuch, that it resembles the rump of a fowl. The brain is four inches and three quarters in length, three inches and a half broad, and two thick. The length of the cerebellum is two inches and three quarters, and the greatest breadth a little above two inches; the former weighs fourteen ounces, and the latter two.

The

The urinary bladder is small in proportion to the size of the animal, and of a roundish shape, and is connected in Horses to the rectum, but in Mares to the vagina, and in both to the os pubis.

The parts of a Horse that are made use of in medicine are, the testicles, the warts, the hoof, and the dung, to which may be added, the Mares milk, though it is seldom used in these parts of the world. The testicles are said to be an efficacious remedy to promote the lochia, and to cure the cholic. They are to be cut in slices, dried in the oven, and then powdered; the dose is from two scruples to a drachm, either alone, or mixed with saffron and borax. It is also said to be good to bring away the birth and the after-birth; but in the cholic it must be mixed with an equal part of anniseed. *Zwelfer* looked upon it as a secret against this disease, and gave it with saffron in flower de luce water.

The warts on horses legs, contain a great deal of oil, and volatile salt, and are recommended against the epilepsy and hysteric disorders. Some affirm, they are good against the gravel and suppression of urine. The dose is from a scruple to a drachm. The hoof has the same virtues as the warts in hysteric disorders, and some give an extract of them inwardly in the same dose. In the *German Ephemerides* we have an instance of a man that was afflicted with an immoderate flux of the piles, who after he had tried several remedies in vain, was advised to sit over the vapour of the shavings of a Horse's hoof, which did him more good than any thing he had taken before. The dung of a horse is looked upon as sudorific and resolvent, and has been advised by some against a pleurisy, and inflammation of the lungs, and asthma, and a bilious cholic. It is to be infused in white wine, which helps to destroy the disagreeable taste. The method is, to take two or three balls and infuse them for some hours over hot cinders, in a quartern of white wine; but the vessel must be close stopped up, and when it has been on long enough, the wine must be squeezed out very strongly, and given hot to the patient in bed. Outwardly the dung is said to be good against the

quinsy, applied as a cataplasm; but for a pleurisy, it must be mixed with hydromel and the urine of a sound person.

Mares milk is commended by many in coughs, asthmas, and consumptions of every kind. It has much the same virtues as Asses milk, but as it is not so common, it is very seldom made use of. However, among the *Tartars* and other people in *Asia*, it is a great part of their food, and they likewise distil it to make a spirituous liquor therewith. Some pretend that the stones that are found in the gall bladder, intestines, and urinary bladder of a horse, have the same virtues as bezoar; which may well be, for it is now generally believed they are no better than common absorbent powders. Some likewise pretend that the urine of a horse is an excellent remedy against the tooth-ach when held in the mouth; and they have given instances wherein it has succeeded when other things have failed; however, some have been known to make use of it without success.

The ASS is an animal whose inward parts and skeleton, have an exact resemblance to a horse, and yet they may be readily distinguished from each other with the glance of an eye, for the head is larger in proportion to the body; the ears much longer, and the forehead and temples furnished with longer hair; the eyes are not so prominent, the lower eye-lid more flat, and the upper lip more pointed and hanging. Besides, the withers are not so high, the back-bone generally stands more out, and the buttocks are higher than the withers; add too this, that the tail is without hair, from the root to about three quarters of its length, though it is furnished with hair at the end, and likewise the mane is more short. However, the fore legs are like those of a Horse, though in the hind legs there is some difference, for they are generally more crooked.

The large head, the forehead and temples are loaded with hair, the eyes sunk into the head, and at a great distance from each other, with the muzzle prominent towards the end, give an air of stupidity to an Ass, that never appears in an horse; nor is the shape when
taken

taken altogether by far so beautiful, as that of this noble animal; likewise his paces are quite different, and he is much more slow and sluggish. Notwithstanding all this, Asses would be of great value, if Horses were not so common, and if he was taken as much care of, he would in all probability turn out to a much greater advantage than he does at present. But we must not forget that an Ass is not without some good qualities, for he seems to know his master, and can distinguish him from all other men, though he has been never so ill treated; he also knows the roads he has been accustomed to, and can find them out without a guide; he has good eyes, a fine smell, and an excellent ear. However, when he is overladen he will hang down his head and ears, and when he is beaten more than ordinary, he will open his mouth and draw back his lips in a very disagreeable manner; if you cover his eyes he will not stir a step, and if he is laid down in such a manner that one eye is covered with the grass, and you hide the other with a stone or a piece of wood, he will continue in the same situation without the least motion, and will not so much as attempt to rise and free himself from these impediments. He walks, trots, and gallops like a Horse, but his pace in all other respects is much more slow; likewise, though he may set out very freely at first, yet he is soon tired, and then no beating will make him mend his pace. The Horse neighs, but the Ass brays in a very disagreeable manner, insomuch, that a musical ear can hardly bear it; but the she Ass has a more shrill and piercing cry; likewise, an Ass that is gelded, makes a very weak noise in comparison with one that is not, insomuch, that he cannot be heard at any great distance.

Of all animals that are covered with hair, the Ass is least subject to vermin; for he has no Lice, which perhaps may proceed from the hardness and dryness of his skin, which are much greater than in the generality of most quadrupedes; for the same reason, he is less sensible of the strokes of a whip, and the stinging of Flies than a Horse. The teeth fall out, and grow at the same age, and in the same manner as in

a Horse, and he has the same marks in his mouth. Asses generally breed in *May* and *June*, and in the tenth month the milk appears in the dugs of the female; but she does not bring forth till the twelfth month; seven days after which, she is ready for the male again. She always brings forth one at a time, at least, there are few instances to the contrary, for it has not been known in many ages, that ever she produced two.

The Ass like the Horse, is three or four years in growing, and will live till twenty-five or thirty. They sleep much less than a horse, and they never lie down for that purpose, unless, they are very much tired. In general, they have much better health than a Horse, and are subject to fewer diseases.

Travellers inform us, that there are two sorts of Asses in *Persia*, one of which is used for burdens, they being slow and heavy, and the other is kept like Horses for the saddle, for they have smooth hair, carry their head well, and are much quicker in their motion; but when they ride them, they sit nearer their buttocks than when on a Horse, They are dressed like Horses, and are taught to amble like them; but they generally cleave their nostrils to give them more room for breathing. Dr. *Russell* likewise, tells us, they have two sorts in *Syria*, one of which is like ours, and the other very large, with remarkable long ears; but they are both put to the same use, which is to carry burdens.

The ONAGER or WILD ASS has been by some Authors been confounded with the Zebra, but very improperly, for this last is a distinct species; for the Onager is not streaked like this, nor is his shape so beautiful. Likewise, some have been of opinion, that the wild Ass is not a distinct animal from the common Ass; but all judicious travellers that have taken notice of them, affirm the contrary. They are said to be very swift of course, and when they see a man, they will make a bound, and immediately fly away; insomuch, that there is no taking of them, but by traps and gins. They have much the same shape as common Asses, but they are of a brighter colour, and there runs a white list from the head to the tail. Of the

the hide of these asses, and particularly of that part next the rump, they make that excellent leather, which we call shagreen, and which is put to so many curious uses.

In *America* they had no Asses at all, nor yet Horses; but they have been carried long ago, at first by the *Spaniards*, and afterwards by other nations, where they have multiplied greatly; insomuch, that in some places there are whole droves of them that run wild, and are very hard to be caught. Asses in general carry the heaviest burdens in proportion to their bulk, and as their keeping costs little or nothing, it is a great wonder they are not put to more uses than they generally are among us.

The flesh of the common Ass is never eaten in these parts of the world; though some pretend their colts are tender, and not disagreeable. The parts that have been used in medicine, are the hoof, the urine, the dung and the milk. The hoof contains a great deal of volatile salt, and some pretend it is good in all disorders of the brain, when reduced to powder, or calcined to a whiteness; and the dose is from a scruple to a drachm every day for a month, in some cephalic water. The urine of an Ass according to some, is an efficacious remedy in disorders of the kidneys, and applied outwardly, it is said to cure the itch; likewise, others affirm, it will take away the fici and callous excrescences. Asses dung is recommended to stop bleedings, when gathered in *May*, and reduced to a powder. The dose is a drachm in substance, or two drachms in infusion with some astringent water; but all these remedies are of little or no use with us, because we have much better for the same purposes. Asses milk is well known to be of great use; because it will yield neither so much cheese or butter as other milk; besides, it is clearer, lighter, and more easy of digestion; for these reasons, it is greatly employed in curing diseases of the lungs, and may be of service in all internal ulcers. Some affirm, it helps the gout and the rheumatism, by abating the acrimony of the fluids.

The MULE is an animal ingendered between a Horse and a she Ass, or between an Ass and a Mare, and it consequently partakes of both their natures. Some authors pretend that there are Mules in the Mountains of *Savoy*, produced between Bulls and Mares; but this must be a fable. The common Mule is very healthy, and will live above thirty years, and they are very fit to carry great burdens, for they seldom or never stumble. In *Spain* the coaches are all drawn by mules, and they are of great service in the mountainous parts; for they climb exceeding well, and will pass very safely upon the very edge of precipices. They are also employed in carrying the litters of sick persons, the baggage of an army, and the equipage of princes and officers; in short, they serve for all the purposes of Horses, and are much more patient and laborious. Some pretend the best Mules are ingendered between an Ass and a Mare, and that they are better, and more beautiful than those that proceed from a Horse and she Ass; but this is doubtful. The medicinal use of the parts of a Mule, are much the same as in a Horse.

The ZEBRA has been mistaken by many Authors for the wild Ass, though it is a quite different animal. They are very common in the southern parts of *Africa*, even as far as the *Cape of Good Hope*; but there are none in the northern. They are the most beautiful quadrupedes yet known, and are of the size of a middling Horse. The legs are slender and well proportioned, and the hair is soft and smooth. There is a black list runs along the back from the mane to the tail, from which proceed a great number of streaks of several colours, that form so many circles and meet under the belly; some of these are white, others yellow, and others of a chestnut colour. The head and ears are adorned with small streaks of the same colours; and those that are on the mane and tail are generally white, chestnut, and brown. They herd together in great droves, and they are very hard to be tamed; however, that some have actually been so, appears from the female that was in the possession of the late Prince of *Wales*, at *Kew*;
of

Zebra 20.



American Fox 233.



Caribou and
Carcayou 68.



of which Mr. *Edwards* gives the following description.

This curious animal was brought alive together with the male from the *Cape of Good Hope*, and her general colour exclusive of the stripes, which are all black, is of a bright bay on the head, neck, upper part of the body, and thighs; but the belly, legs, and the end of the tail are white. On the joints of the legs, it had such corns as we see in Horses, and the hoofs are blackish. The head is striped a little different from that of the male, and the mane is black and white; the ears are of a bay colour, and there is a little white on the forehead, with several broad-stripes round the neck, which become narrow on its under side. It has a black list runs along the ridge of the back and part of the tail, and another along the middle of the belly; the stripes on the body proceed from the list on the back, and some of them end in forks on the sides of the belly, others in single points, and these have some longish spots between them. The upper part of the body is spotted in a more irregular confused manner, and the two sides are marked very uniformly. The noise it made was much different from that of an Ass, resembling more the confused barking of a mastiff dog. It seems to be of a savage and fierce nature; for no one would venture to approach it, but a gardener in the Prince's service, who was used to feed it, and could mount on its back. He saw it eat a large paper of tobacco, paper and all; and he was told it would eat flesh, or any kind of food they would give it. He supposed that proceeded from necessity or habit in its long sea voyage; for it undoubtedly feeds naturally much as Horses and Asses do, he means on vegetables. He never saw a skin brought over agreeing with this, which makes it a much greater curiosity than the male.

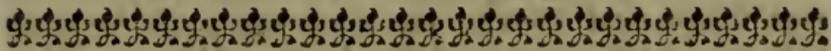
The *male* ZEBRA, continues Mr. *Edwards*, is about the size of a Mule or a middle sized saddle Horse, and its general shape is like that of a well made Horse. The head is shaped like a Horse, except that the ears are a little longer, but not quite so long as those of an Ass. The mane is short, not hanging

down like a Horse's, but erect; and the muzzle is of a dusky colour. The head is striped, with fine stripes of black and white, which in a manner center in the forehead. The ears are also variegated with a white and dusky brown; and the neck has broad stripes of the same dark brown running round it, which takes in the mane, leaving narrow white stripes between them. The body is striped also across the back with broad bars, leaving narrower spaces of white between them, and ending in points on the sides of the belly, which is white, except a black line pectinated on each side, reaching from between the fore legs along the middle of the belly two thirds of its length. There is a line of separation between the trunk of the body and the hinder quarters on each side, behind which on the rump is a plat of narrow stripes joined together, by a stripe down the middle of the rump to the end of the tail, which forms the figure of a fish bone. The tuft at the end of the tail is dark brown; and on the outsides of each thigh are drawn obliquely three bars of brown, ending roundish at the both ends. The tail is rather like an Afs's than a Horse, having short hair on it, except that at the end it has a tuft of long hair; its under side is white. The legs are all encompassed with rings of white and brown, alternately in an irregular and broken manner. It is hoofed like a Horse, and the feet are brown a little way above the hoofs. All the marks are of a dark blackish brown, and all the spaces between them are white.

This description was taken from a stuffed skin preserved in the Royal College of Physicians; and from the accounts that other Authors have given of this Animal, particularly *Kelben*, it appears that the marks and colours are not the same in all; especially since *Kelben* had an opportunity of seeing great numbers of them.

It has generally been believed, that there is another animal with an undivided hoof, with a horn in his forehead, and which is called a UNICORN. The body has been said to be like that of a Horse or Afs, and many Authors pretend to describe him, as if they
were

were sure of his existence. But after the most diligent enquiry made by the most judicious travellers in all parts of the world, there is no such creature to be found. We know of no quadrupede that has a single horn, but the Rhinoceros; and that is not in the middle of the forehead, but on the nose; however, this has in all likelihood given rise to the fable of the Unicorn; and in some sense, he may be properly so called, as that word signifies no more than a single horn. There are indeed many horns kept in the cabinets of the curious, that have been said to be Unicorn horns; but they do not belong to a quadrupede, but to a fish that is now known by the name of the Sea-Unicorn; of which more will be said hereafter.



C H A P. II.

Of Ruminating Animals, or those that chew the Cud.

ALL ruminating animals of every kind have four stomachs; the first of which is called the *paunch*, which receives the food after it has been slightly chewed. After it has continued there a little time and rendered soft, it is returned back again into the mouth, and chewed over again. The second is called the *honey-comb*, because the inside of it is like the cells into which the Bees convey their honey. The third is called the *manifold*, on account of the many pellicles of skins contained therein. It is never used by the cooks in making tripe, because it is so difficult to be cleansed. These skins are beset with tubercles on both sides, but in the fore part they are longer and larger than in the hind part. The food is contained between these, and they have a kind of circular motion, by which it was formerly thought to be ground small; but it is now found to be a mistake, for digestion in these animals is now well known to be performed by a menstruum or liquor. The fourth has no distinct *English* name, for

it goes under the general one of the stomach or paunch. It is smooth on the inside, and divided into large cells by pellicles or skins; by which the aliment receives farther concoction. In this stomach is contained, what in calves, they call rennet, so well known for curdling milk, when the making of cheese is intended.

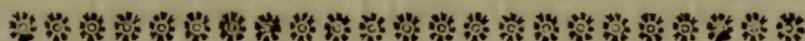
All ruminating animals, as well horned, as otherwise, are endowed with these four stomachs; and they have no fore teeth in their upper jaw. Some have foolishly asserted, that the horned animals of this kind are without them because the matter which serves to produce fore teeth in other creatures, went to nourish the horns; whereas they did not consider that the want of these teeth was rather useful than otherwise in procuring their food. It is very certain that Oxen, and Sheep, can crop the grass in good pastures, more easily and speedy than Horses, which are furnished with upper teeth.

Ruminating animals, especially those that have horns, have all suet; whereas all others have only fat, which is softer, and melts more easily before the fire. The horns of these creatures are generally hollow, except in the Deer kind. Likewise the horn of the Rhinoceros is quite solid, and yet it is different from that of a Deer, because the last has branches. Likewise no horned animal, except the Deer, shed their horns.

Bifurcated or cloven footed animals have each toe covered with a sort of a hoof, whose upper part is of a hard horny substance; and the lower, which is the sole of the foot is callous, and more soft in the Deer, Goat, Sheep, and Hog kind; which however is not continuous to the horny part; for when it is dipped in boiling water, or held before the fire, both the bottom and top will come off together, nor can they be divided from each other, except by cutting or some other force. Likewise, these sort of animals have two small hoofs or nails behind, which are of no other use than to keep the feet from sliding. However, there is a great difference between the cloven-footed animals that ruminate, and those that do not. As for
instance,

instance, Goats though they ruminates, have no hoofs or nails behind for keeping the feet steady, nor yet any bone; but a sort of soft round tubercles. There are indeed very little bones, but they are of no use for this purpose.

The Hog kind have not only a sort of hoofs behind, but they have also toes, one of which has three joints like a man's little finger, and the other two like the thumb. They have likewise bones of the metatarsus, but so slender and weak, that they are of no more use in walking, than the hind hoofs of ruminating animals.



C H A P. III.

Of the BULL, Ox, and Cow.

WE have no *English* name for all these animals, except Beeve, which is now almost out of use, though very proper to be retained, for which reason we shall make use of it, because it answers to the *Latin* word *Bos*, which comprehends an Ox, Bull, and Cow; and may be extended to all of this kind. The Ox is well known to be a castrated Bull, with cloven feet, and the most general colour is fallow, though there are many others; for some are entirely black, others white; as also reddish bay, brown, and variegated with different colours.

In general the hair of an Ox, is softer than that of a Horse; and the proportion of one that was measured is as follows. He was from the end of the muzzle measured in a right line to the anus, about seven feet and a half in length, and four feet two inches high before, and four feet four inches high behind. The head was a foot and nine inches and a half long, from the end of the lips to the hinder part of the horns. The dewlap is the skin which hangs under the lower jaw, runs along the throat, and descends as far as the fore legs.

The

The Beeve, like all other ruminating animals, has no fore teeth in the upper jaw; but in their stead, there is a thick hard membrane formed of the inward skin of the mouth, which serves for the same purposes. The fore part of the lower jaw, is furnished with eight incisive or cutting teeth of different lengths, and so disposed, that those in the middle are longer and broader than the rest, which grow less gradually. There are no dog teeth at all between the inciders and grinders; insomuch, that there is a large space without any teeth at all. In each jaw there are twelve grinders, six on each side; and there are several pointed protuberances on the top, between which, there are little cavities, in such a manner that when the upper and lower meet the points of those above, fall into the cavities of those below and the contrary; however, they allow the under jaw a motion sideways, which is not above half so broad as the upper, and renders it more proper for motion, as well as to grind the food; for this reason, the teeth in the upper jaw are much broader, which consequently supply their want of motion.

The age of a Beeve is known by the teeth and horns; for the first fore teeth fall out at the age of six months, and are replaced by others that are not so white, but they are all broader. At the end of sixteen months, the next milk teeth likewise fall out, and others grow in their room; at the end of three years, all the inciders are renewed, and then they are long, pretty white, and equal. In proportion as the animal advances in years they become unequal and black, as well in the Ox, as the Bull and Cow; for castration makes no change either in the teeth or horns, only that these last become much longer in an Ox after it; but at the age of three years the horns fall off, and new ones arise in their places, that continue as long as they live. At four years of age, the Ox has small pointed, neat, smooth horns, that are much thickest near the head, which the next year rise to a greater distance, and are thrust forwards by a horny cylinder, that is also terminated by another swelling part, and so on; for as long as this animal lives

lives, the horns continue to grow, and these swellings become so many annular knots, which may be easily perceived in the horn, and consequently the age certainly known; but then the point or upper part of the horn to the first knot, must be reckoned for three years, and one year for each of the rest. They are all hollow, and in the middle there is a bone, which is also hollow, and whose cavity reaches a great way in the frontal bone.

The head of an Ox is not so long in proportion as that of a Horse, because the jaws are not so long; the orbits of the eyes are placed on the frontal bone, and under its apophyses. The articulation of the head with the first vertebra, is a little above half the height of the upper surface, and there are seven vertebræ in the neck, of which the first is very like that of a Horse; but the five last are not so long by far, as the first and second; the back bone consists of thirteen vertebræ, to which the thirteen ribs are joined, and of these there are five true, and five that are called the bastard ribs; the longest of which are the eighth, ninth, and tenth; but it would be too tedious to give an account of all the bones, especially as they come often under every ones inspection. When an Ox is opened, the epiploon appears, which covers all the intestines, as far as the bladder. There are four stomachs, as has been taken notice of in the former chapter, and therefore need not be repeated. The gut called the duodenum, extends backwards as far as the right flank, and the jejunum and ilium have circumvolutions backwards, and on the right side of the paunch under the cœcum, which reaches transversely from the right to the left in the iliac and hypogastric regions. The colon occupies the right side, and forms several circumvolutions, that are heaped up as it were together. The small intestines are an hundred and sixteen feet in length, from the pylorus to the cœcum; and the length of the colon and rectum taken together, are thirty-four feet; so that the length of the whole intestinal tube, is an hundred and forty-nine feet without the cœcum, which is two feet and a half long. The liver is placed on the right side, and is
divided

divided into three lobes, two of which are large, and the other small; the colour is blackish, and the gall-bladder which often extends five inches beyond the edge of the liver, forms a bag seven inches in length. The spleen is seated on the right side of the paunch, and is a foot and eight inches in length; it is grey without and blackish within. The pancreas terminates by one of its branches in the duodenum; and the kidneys are composed of several tubercles, and divided as it were into so many parts. The nervous center of the diaphragm, is a foot and seven inches broad in the middle, and it is a foot and a half the other way. The fleshy part is five inches broad between the point of the nervous center and the breast bone. The right side of the lungs is divided into four lobes, of which three are pretty equal, and the fourth is the smallest. The left side is divided into two lobes, whose fore part is almost cloven into two by a deep furrow, like that of the fourth lobe on the right side. The heart is seated in the middle of the breast, with the base above, and the point below. The tongue is about a foot and three inches long; but this is of different sizes, as well as the parts of all other Beeves in proportion to their bulk. On the upper surface of the fore part, there are pointed threads that are very hard, and lie backwards, that feel like a rasp when the hand is passed along them contrary to their direction. The brain is four inches and a half in length.

An Ox is of the greatest esteem among all horned animals, and he is maintained at a very small expence; for wherever he feeds he renders the ground rather better than worse by his dung; whereas a Horse and most other animals will make the best ground become poor in a few years time. The Ox is not so proper as Horses, Asses, Mules, and Camels to carry burdens; though they are made use of for riding in some eastern countries; however, he is of great use in ploughing, and harrowing land, and is very fit to bear the yoke. In some parts of *Europe* they do not yoke them together by the necks, but by the horns; and not long ago in *Ireland* they obliged them to draw
the

the plough with their tails. In short, the large size, the slow motion, the shortness of their legs, and the patience of these animals in enduring labour, render them very proper to cultivate the fields.

Though the colour of Oxen as was observed above is greatly different; yet those are in the highest esteem that are reddish, and those that are black are next. But whatever the colour may be, the hair should be always shining, thick, and soft; for when it is otherwise, it is a sign that the animal is not in health, or at least that he is weakly. The time of inuring them to labour, is at the age of two years and a half, or three years at farthest; for when he is older he becomes untractable, and sometimes will never be thoroughly tamed. At ten years of age it will be proper to take him from his labour to feed him, and sell him to the butcher; and with proper care he will become fat in four or five months time.

An Ox sleeps but a little at a time, and he will wake at the least noise; he lies generally on the left side; and the kidney on the left side is always larger, and surrounded with more fat than the right. The Ox is very quick in feeding, and fills himself very soon, after which he lies down and ruminates, or chews the cud. The two first stomachs, are nothing but a continuation of the same bag, and are very capacious. After the grass has been chewed over again, it is reduced to a sort of paste, not unlike spinage; and it is under this form, that it is retained in the fold of the third stomach; but the digestion is not entirely perfected till it comes into the fourth.

The Ox fills the two first stomachs as fast as possible, and then the membrane being stretched re-acts upon the grass that it contains, which has been chewed very little; but it undergoes a sort of fermentation therein; if the aliment had been liquid, the same power of contraction would make it pass into the third stomach, which communicates with the former by a narrow conduit, and whose orifice is seated near the upper part of the first, and almost as high as the gullet; for which reason, this conduit will not admit of dry aliment. It is therefore necessary, that the driest parts should re-ascend

ascend through the gullet, whose orifice is larger than that of the conduit, as in reality does. Then the animal chews the grass over again, and it is more intimately mixed with the saliva; consequently rendered proper to pass into the third stomach, because it is more small and fluid; after it has been macerated in this, it passes into the fourth, where it is reduced into a perfect mucilage or pulp. This is farther confirmed by the calves which suck; for at that time they do not ruminate at all; because the milk being liquid, it readily passes through the first stomachs to the last; add to this, that they chew the cud most in winter, when they feed upon dry grass or fodder.

There are the greatest plenty of Beeves in *Europe*, especially in the northern parts; for in general they can bear cold better than heat; for this reason, they are not so plenty in the southern countries; for there are but few to the south of *Armenia* in *Asia*, nor beyond *Egypt*, and *Barbary* in *Africa*. As for *America* there were none at all before they were carried thither by the *Europeans*. There is indeed a kind of Beeve, which some call a Bison, and some a Buffalo to be described hereafter; but these could never be tamed. Those likewise that are found at the *Cape of Good Hope*, have been transported thither by the *Spaniards*, and the *Dutch*. The largest Beeves are to be met with in *Denmark*, *Podolia*, the *Ukrain*, and among the *Calmuck Tartars*; likewise those of *Ireland*, *England*, *Holland*, and *Hungary*, are much larger than those of *Persia*, *Turkey*, *Greece*, *Italy*, and *Spain*, but those of *Barbary* are the least of all.

The Bull that is to be turned among Cows, should always be the most beautiful that can be found. He ought to be large, well made and fleshy, with a black eye, a fierce look, and open front, a short head, thick short black horns, long hairy ears, a big muzzle, a short strait nose, a fleshy thick neck, large breast and shoulders, a strait back, thick fleshy legs, a long tail well covered with hair, a firm gait, and red hair. He ought to be of a middle age, that is between three and nine years old; he ought not to have above fifteen cows; though this rule is never observed near

London.

London. Beeves generally arrive near their full growth at the age of two years, and the term of their lives is said to be about fourteen or fifteen at most.

Cows commonly take the Bull from the middle of *April* till the middle of *July*, they go with young nine months, bring forth at the beginning of the tenth; that is, this would be the case if they were entirely left to themselves; but now by a particular management we have veal in *London* at all times of the year. Some say that black cows and others that the red give the best milk, and that the white yield most. However when a cow is chosen she ought to be fleshy, young, and to have a brisk eye; and then with proper care and good feeding there is no danger but she will give plenty of milk. In all cold mountainous countries cows are small; for which reason those which are brought from *Wales* and *Scotland* are much less than those in *England*. In *Lapland* they are exceedingly small, and almost all white; besides many of them have no horns.

Those that have made a trial affirm that Beeves are very fond of wine, vinegar, and salt, and that they will devour greedily a sallad that is dressed. In *Spain* and some other countries they put a sort of a saltish stone, got out of the mines of sal-gem, into the stable with the calves; and they will lick it all the time the dams are feeding. This either occasions a great appetite or thirst, for the moment the cow comes into the stable they immediately lay hold of the dugs. This is done to make them grow fat sooner, which they certainly will do than when they have no salt. Likewise in some parts of *Europe* they will give the cows grass steeped in vinegar, or in salt and water, and they believe it makes them grow fat the sooner.

Ox beef contains a great deal of oil and earth; and is in great esteem as well as in common use among most people in the world; it is very nourishing, and yields a strong aliment; and we seldom or never perceive any bad effects from it; on the contrary, those that live chiefly upon beef are strong, vigorous, and healthy; but it ought to be young, fat, tender, and well fed, for otherwise it is hard, tough, breeds gross humours, and causes obstructions. It agrees at all times

times with those that are young of a hot constitution, that have good appetites, and used to labour and exercise. But as to those that are weak and live sedentary lives, as well as infants and very old people, they should use it with great moderation. With regard to its medicinal qualities, beef suet is emollient and resolvent, and it may be used in glysters to an ounce, to abate sharp humours in the intestines. It is exceeding good to heal chapped lips, and it is very common in some places to see the lower sort of people make use of tallow candles for the same purpose. The marrow is good against weakness of the nerves, and trembling of the limbs, as well as for the rickets and the scurvy; for which purposes it is made into a liniment mixed with wine. The gall of an ox or cow is preferred before that of any other animal, because it is more acrid, volatile, and penetrating. Some have given a drachm of it in laxative glysters to render them more sharp when the body is bound. A plaister composed of this gall, aloes, myrrh, and oil of coloquintida, laid upon the navel, produces the same effect, as well as kills worms; it is very proper for those that cannot take medicines inwardly. For children, a little of this gall, mixed with aloes, and applied to the belly, has been often found beneficial on the same account. A bit of cotton steeped in this gall and introduced into the ear, will cure hardness of hearing if continued for some time; water distilled from it is said to be good against spots in the eye, and dimness of sight from the opacity of the cornea; the best way is to lay it on with a pencil, and then it will work a cure in a short time. The tincture of Ox's gall is an excellent cosmetic when rubbed all over the face; but it must not be wiped off, nor exposed in the open air for three or four days, for in that time it will give a charming whiteness to the skin. This tincture is made by drying the gall in the sun, and infusing it in spirits of wine. It is well known that the dyers make use of this gall to cleanse their stuffs; for it is of a soapy nature, and will take spots out of cloths. It is also sometimes used by painters to give a brighter tinge to their colour; as also to cleanse old pictures.

Some

Some have applied the dung of an Ox or Cow in the form of a cataplasm, to appease the pain of inflammations, and more especially that of the gout. In the *German Ephemerides* we are told that several obstinate intermitting fevers have been cured by taking an infusion of the fresh dung in ale. It must be taken warm before the fit, and it must be repeated two or three times when the first dose will not do; it causes a plentiful sweat.

Bull beef contains a great deal of volatile salt and oil, but it is hard, tough and dry; for which reason it is seldom used for food. However it is pretended that when a Bull is killed after he has been baited, the flesh becomes more fit to eat, and this has been practised in some parts of *England*, but then the beef is only purchased by poor people. The blood of a Bull has been always looked upon as a poison by the ancients; which opinion however is found to be false, for some of the moderns have given a drachm of it mixed with wine vinegar against all internal hæmorrhages; though with what success it is hard to say. The suet, marrow, and fat, have the same virtues as those of an ox or cow; but some have looked upon a drachm of the pizzle in powder, to be an excellent remedy against the bloody flux and pleurisy.

The flesh of a Cow is not so good as that of an Ox; though when she has been well fatted, especially when young, it is not much inferior, and this is commonly called heifer beef. The urine of a Cow has of late been recommended by some as a medicine, it being purgative, bringing away serous humours without gripes. It is good in the asthma, dropsy, rheumatism, sciatica, and gout; but then it must be that made in the spring, or towards the end of may when flowers abound in the pastures. Two glasses are to be drank in a quarter of an hours time, and every morning fasting; it must likewise be drank as hot as possible, that is when it is just made. Cows milk is of universal use, and is always preferred for food before that of any other animal where it can be had. It is very balsamic, and good in many diseases, especially when attended with a falling away of the flesh. Some pre-
scribe

scribe it against the pains and fluxes of the bleeding piles, and in all diseases of the skin that proceed from the blood. It is excellent in the gout, and all other diseases a-kin thereto, particularly the rheumatic gout. It is best in the spring and autumn, and when the cow is not above two or three years old. It should be taken while warm from the cow, nothing that is sour or acid should be used while it is taking. It is apt to curdle upon the stomach, to prevent which some mix it with sugar, and others with crabs eyes. It is not good in disorders of the head and brain, nor in obstructions of the viscera; because milk is thought rather to increase than to cure them. Externally it is anodyne, and eases pains; and is recommended by some in the gout, and in contractions of the limbs.

Whey is an excellent remedy in many disorders; as in heats of the viscera, dryness of the breast, efferverescences of the blood, coughs, all sorts of cholics, costiveness, burning fevers, and particularly those of the malignant sort, either alone, or with the juice of oranges and lemons. It may be given safely to women with child to keep their bodies open; and it is very convenient when the viscera are obstructed, because it has an opening quality. In most cases it should be given twice a day with a little sugar, or the syrup of violets for a months time. However it will be best in particular distempers to mix it with the juice of those herbs that are recommended against them.

Some of late have been very profuse in the praise of sugar of milk; which is made by boiling four or five quarts of milk with an ounce of cream of tartar in very fine powder. As soon as the milk is curdled the clear part must be taken, filtered, and clarified with the white of an egg; then it must be evaporated to a pellicle, and the vessel must stand in a cool place for a day or two; after which you will find crystals at the bottom and on the sides of the vessel. These are called sugar on account of their sweetness, and they are good in all cases where milk is useful. Some affirm that it is excellent against the gout, but that ought to be chosen which is brought from *Switzerland*, and

is generally mixed with pectoral infusions and decoctions, in the proportion of one drachm to three to a pint of liquor. In the *German Ephemerides* it is not only recommended in the gout, but in fits of the gravel, the bloody flux, the scurvy, cancer, and all other disorders that proceed from the acrimony of the fluids. The dose prescribed therein is from one drachm to two, three or four times a day in tea.

Almost every one knows that butter is extracted from cream, and that they have both the same virtues. It is of great use in all the northern countries of *Europe* except *France*, where they have no great opinion of it, because they say it weakens the stomach, takes away the appetite, and creates sickness. It is pectoral and emollient, and is good to blunt the points of corrosive poisons. It helps the breeding of teeth, and cures the itching of the gums when rubbed thereon. It abates all kinds of acrimony, and therefore is exceeding good for all those that work in mines; upon which account it should be eaten plentifully in a morning with bread.

Cheese is made with the grossest part of the milk as every one knows, and is very nourishing; but then it is hard of digestion, especially when eaten to excess; but a small quantity is reckoned good to help digestion, especially when made with new milk. *Boerhaave* affirms that very old strong cheese has sometimes inflamed the lips, gums, tongue, and throat of those that have eaten it; from whence he concludes that it must be bad for the stomach and intestines.

Veal contains a great deal of oil, phlegm, and volatile salt, and the use of it is well known; it is nourishing, well tasted, easy of digestion, and rather keeps the body open than otherwise; and agrees very well with weakly delicate constitutions, and persons who do not use much exercise. The lungs of a calf are pectoral, and proper to abate acrimonious humours in the breast; some affirm they are very good in a consumption; for which purpose they are in great esteem in some parts of *Europe*. Calves feet are also pectoral, gelatinous, and proper to sheath the acrimony of the fluids. Broth made of a knuckle of veal is a good restorative

restorative after a loss of blood, and to restrain the excessive flux of the piles; some likewise recommend it in all hæmorrhages whatever. Veal marrow and suet are resolvent and emolient, and are of some use when applied outwardly to soften hard swellings, and to supple contracted tendons. Rennet is nothing else but the cheesy matter that is found at the bottom of the stomach of young calves; the use of it is universally known for the curdling of milk in order to make cheese.

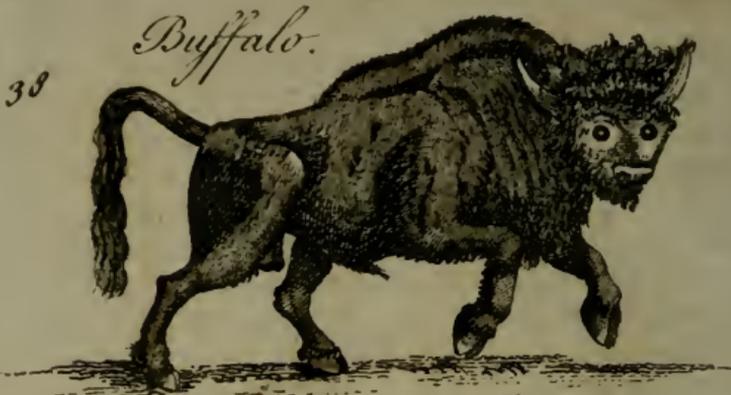


C H A P. IV.

Of the URUS, BUFFALO, BISON, BONASUS, and other Animals of the BEEVE Kind.

AN URUS is the largest of all the BEEVE kind, and is taken notice of by *Julius Cæsar* in his commentaries on the *Gallic* war. He affirms that he is in size little less than an Elephant, though he has the colour and shape of a Bull, and that he is exceeding strong and swift; to which he adds that the horns are quite different. Other authors affirm the same thing, but we have the best description of him in *Blaise Vigenere*, secretary to the duke of *Nivernois*. He informs us that this animal is chiefly to be met with in *Masovia*, near *Lithuania*. He is called by the inhabitants of that country *Thur*, and resembles a Bull in many respects, but is vastly larger, and that there is no quadrupede, except the elephant, equals him in size. They are quite black, except a stripe mixed with white that runs from the neck to the tail along the top of the back. The flesh is not near so good as that of an Ox, and therefore the most valuable part of him is the hide, which serves for various purposes. *Gesner*, in his description of animals has taken a *Bison* for a *Urus*.

A BISON, called by the *Lithuanians* *SUBER*, and by the *Germans* *WISENT*, differs from others of the Beeve kind in the neck and shoulders; for, before, he
has



American Bison?



Little Indian Buffalo.



Barbary Conr.



has the appearance of a Lion with a horrid mane, and a very long beard under his chin. His head is little, and his eyes red and fiery, with a furious look. His forehead is large, and his horns so big and far asunder, that three lusty men may fit between them. On the middle of his back he has a bunch almost as high as that of a Camel; and the hair thereon is also like that of the same creature. Those that hunt him had need be very dexterous and careful, for he is a fierce cruel animal, and afraid of nothing. They are so wild they can never be tamed though taken very young. The inhabitants of *Lithuania* usually make pits, and cover them over with boughs and earth; then they get on that side of it that is opposite to the bison, who immediately makes at them, and so tumbles into the pitfall, where he is killed. There is no hunting of him unless in forests where there are trees large enough to hide the hunters. His tongue is said to be so rough and so gluey, that if he touches a part of a man's garment he seldom or never fails of getting him in his power, and tearing him to pieces. He is mightily offended with a red colour, for which reason they sometimes throw down a red cap, or some such thing, and he will never leave it till he has trod it all to bits. *Linæus* calls a Bison a Beeve with horns turned upwards, a bunched back, and a very long mane and beard. The body is covered with very long hair as far as the shoulders.

The BONASUS is of the size of a large Bull, but his horns are very unlike, for they bend round towards the cheek, and are not above a span in length; and consequently they are useless with regard to defence. His neck is very thick, with a large mane as long as that of a Horse. The colour is between red and ash colour, and they have no teeth in the upper jaw before, like others of this kind. They bellow like an ox, and their legs are covered with hair; but the tail is short in proportion to the rest of his body. He resists his enemies with his hind feet and his dung, for he will squirt the last out a considerable way, and if it falls upon a dog it will burn the hair off; but this is only when he is disturbed, and in a rage, for at other times

times it has no such power. It is to be met with in *Lydia, Phrygia*, and the neighbouring countries.

There is a sort of an animal of the Beeve kind that seems to be of a middle nature between a Beeve and a Hog, and may be called a BEEVE HOG. The female of this kind has been exposed as a shew in *England* for these two or three years past. It is of the height of an *As*, but broader and thicker, and the colour is of a whitish dun, or a sort of a cream colour. The hair on the body is very thin, and more like that of Hogs than a Cow. From the neck to the tail there is a row of bristles down the spine of the back, which are not quite so strong as those of a Hog. The tail has stiff bristles at the end, and appeareth much like that of an *As*. The head is very long, and the snout, though pretty much like that of a Cow, is a little inclining to the Hog kind. On the top of the head there are two black flattish horns, that bend inwards like a bow, and lie pretty close to the neck. There is no udder like that of a Cow, but there are two teats between the hind legs, which are not visible unless you stoop down to view them, for they are close to the body without any appearance of an udder. In short it is a very uncommon animal, and seems not to have been described hitherto by any author. Those that made a shew of it pretend it was brought from the *East Indies*, and that the true name of it is a *Bonafus*, than which nothing can be more unlike. It is the business of these sort of people to impose upon the vulgar, and therefore they seldom give the right name to those animals that are well known; thus one of these people in his bills pretended there were two Beavers among his collection, which were nothing else than *Racoons*.

A BUFFALO seems to be a native of the *East Indies*, though there are some in the kingdom of *Naples*, which are kept chiefly for the sake of their milk. They also use them to draw carriages, and guide them with a rope tied to a ring thrust through their noses; for though he may be pretty well tamed, they always retain something of their natural fierceness. A Buffalo is larger than an ox, has a thicker body, and a very hard hide. The horns are large, thick, black
and

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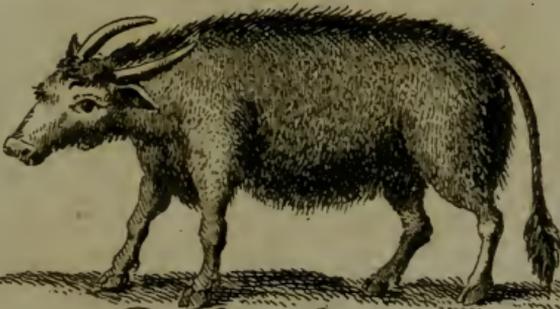
Siberian Cow

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*Musk
Animal*

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Hog Cow

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Barbary Sheep



and crooked, and they are greatly used at *Rome* for making of combs. Some deny that this is the same that is called by the ancient writers of the history of animals a *Bubalus* or Buffalo; but Mr. *Ray* thinks that both the name and the animal had their origin in *India*; and *Bellonius* affirms that they are not only very frequent in *Italy*, but also in *Greece* and *Asia*.

Dellon, who saw a great many Buffaloes on the coast of *Malabar* in the *East Indies*, informs us, that he is larger than an Ox, but much of the same shape, only his head is somewhat longer and flatter; and his eyes, which are almost white, a great deal larger. The horns are likewise more flat, and sometimes ten feet long, with very short thick legs. In general it is a very ugly animal, with scarce any hair on his body. His pace is very slow, but he will carry a great burthen, that is when he is tame. These feed in herds like Cows, and yield plenty of milk, of which butter and cheese is made. Their flesh is pretty good, but not to be compared to beef. The wild Buffaloes are very dangerous animals; and they will often tear or crush travellers till they have killed them. However, in the woods they are not so much to be feared as in the plains; because their large horns are apt to be entangled in the branches of trees, which gives those who are surpris'd by them time to escape the danger. They are excellent swimmers, and will cross the largest rivers without any difficulty. They are generally wild upon this coast, for which reason any stranger has the liberty to hunt and kill them at pleasure for his own use. The hides are very serviceable for many purposes on account of their great thickness; but the principal use the *Indians* put them to is the making of vessels, in which they keep their water and other liquors.

The Little INDIAN BUFFALO is of the size of a calf six months old, and is in shape much like an *English* Bull, except the horns, which are very short, and a bunch rising on its back between the shoulders. They are used in the *East Indies*, for drawing coaches, instead of horses. The nose is pretty broad and flat, bare of hair, and moist on the outside in which the

nostrils are placed. The lips or muzzle have some loose staring hairs, and the hair on the sides of the nose is whitish. The circles round the pupils of the eyes are of a hazel colour, and the eyes are placed in longish plats of black. The horns are dusky and small, appearing but little above the frizzled hair on the top of the head. The ears are much longer and larger than the horns, being of a flesh colour on the inside where there is no hair. The hair is pretty sleek all over the body, and the head, neck, back, tail and sides, are of a bluish ash colour. The loose skin on the neck is white, and the belly is so thinly covered with lightish hair that it shews the flesh colour. There is a whitish line above the black spot that surrounds the eye, and a light brownish line on the under side of the same spot. The legs are of a light colour, spotted and marked with black, which becomes gradually white near the feet. The tuft at the end of the tail is black, and the hoofs are of a dusky brown, formed like those of our cattle.

Kolben, in his history of the *Cape of Good Hope*, speaks of another animal of the BEEVE kind, which he calls a Buffalo. He says that they are very numerous in that country, and that they are larger than those in *Europe*; that their colour is of a dark red, and that on the forehead there is a tuft of coarse curled hair. The whole body is well proportioned, and he thrusts out his head very much. Their horns are very short, and the points of them turn inwards towards the neck, and therefore in this respect is more like a Bonasus than a Buffalo. His hide is so hard and tough that there is no killing him without a very good musket. The flesh is neither so fat nor so tender as that of our Ox. He likewise resembles the Bonasus in his hatred to red cloth; for if he happens to see any one with a red coat, he stamps with his feet, throws up the earth, and overcomes all obstacles, except a strong wall, to come at the person, for neither fire nor water will stop him.

There is another animal of the BEEVE kind in the north parts of *America*, which seems to differ from all the rest in some particulars. He is larger than an ox, and
has

has low, black, short horns, with a large beard under his chin; and his head is so full of hair that it falls over his eyes and gives him a frightful look. He has a bunch on his back, which begins at the haunches, and increases gradually till it comes to the shoulders. The first rib before is higher by half a yard than the rest upon the back, and is three inches broad. The whole bunch is covered with reddish long hair, and the rest of the body with a sort of black wool in very high esteem. The breast is large, the buttocks narrow, and the tail very short. He has scarce any neck, but his head is larger than that of a Bull. He will fly away at the sight of any man, and a whole herd of them will make off when they perceive a single Dog. He has a very quick smell, insomuch that there is no coming near him except on the leeward side. However when he is wounded he becomes very furious, and turns back upon the hunters. The flesh is good, but they eat none except that of the female. As for the hide there is no better in the world; for though it be very thick, it becomes as supple, soft, and oily as the best shamoy leather. The savages make bucklers of them, which though very light are not easily pierced with a musket ball. In the western parts of *New France*, on this side the *Mississipi*, the most famous hunting is that of this animal. The hunters range themselves in four lines, which form a very large square; then they begin to set fire to the grass, which is dry at that time and very long. As the fire runs along the lines they advance closer together, and these creatures being greatly afraid of fire, they constantly fly from it, and so get close into a body. This done, the savages attack them very briskly, and seldom let one escape. Very credible witnesses affirm, that these hunters never return home till they have killed 1500 or 2000 of these Beeves.

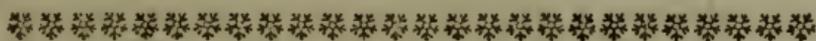
Mr. *Catesby*, in his natural history of *Carolina* calls this the AMERICAN BISON; and says it is the only species of the Wild Cow kind known in *North America*, there being none like the *European* but what were first carried over. They are of a low stature, but weigh more than our largest Oxer, and the hide is too heavy

for the strongest man to lift from the ground. Their limbs are large, their chests and heads broad; their horns are large at the base, and turn inwards, and on their shoulders there is a great bunch. In winter their whole body is covered with long shaggy hair, which in the summer falls off, and their skin appears black and wrinkled, except on the head, on which the hair remains all the year round. The forehead of the male is furnished with very long hair that hangs over his eyes, and in a manner hinders his sight, which is frequently the cause of his destruction. However this is in some measure remedied by his excellent smell. The male in summer with his body bare and head muffled up with long hair makes a very formidable appearance. They range in droves feeding in open savannahs morning and evening, and in the heat of the day they retire to shady rivulets and clear streams of water, gliding through thickets of tall canes; which though a hidden retreat, yet as their heavy bodies cause them to make a deep impression with their feet in the moist sand, they are often traced and shot by the artful *Americans*. Their hoofs more than their horns are their offensive weapons, and whoever opposes them is in no small danger of being trampled into the earth. To this he adds that their flesh is very good and of a high flavour, differing only from common beef as venison does from mutton. The bunch on their shoulders is thought by the *Americans* to be the most delicate part.

The *SIBERIAN BEEVE* is another animal of this kind, which seems to be more anomalous than any of the rest; for the bull has neither horns nor mane, but he has rough curled hair on the top of his head, and his tail is like that of a Horse. His whole body except his legs and face, is covered with long strait hair, insomuch that he has little more than the shape of any of the above animals; but he has no bunch on his back or neck. He is to be met with in *Siberia*, near the lake *Baykal*, and doubtless in the neighbouring parts.

In *Africa* there is an animal called the *BARBARY COW*, which for shape approaches nearer that of a Stag than an *English Cow*. The hair is reddish, and
of

of the same thickness near the points as at the roots, which is very unusual. Likewise the horns are not exactly like those of common Cows, for they rise very near each other because the head is extremely narrow in that part. They are a foot long, very thick, and bend a little backwards. They are black, and twisted almost like a screw, except near the ends where the channels are almost obliterated. The tail is thirteen inches long, including the tuft of hair at the end, which is about three inches. The ears are like those of an Antelope, and without hair, except on the inside which is partly white. The eyes are so high, and so near the horns, that the head seems to be almost without a brow. Their teats are two in number, and very slender, short, and quite different from those of our Cows. The shoulders are very high, with a sort of a bunch that terminates at the neck. There is also a callosity beneath the sternum, nearly like that of a Camel. It has four stomachs like other ruminating animals, and the whole length of the intestines is seventy feet. This is probably the same animal mentioned by voyagers to be found in the *Gomera* islands near *Madagascar*, which some call a Buffalo and others a Cow. They are very extravagant in the praise of the bunch or large hump, as they call it, upon his back, affirming that it is very delicious eating. *Belon* is also of opinion that it is the Buffalo of the ancients; but this is a circumstance of no great consequence.



C H A P. V.

Of S H E E P.

ONE of the chief properties of a SHEEP is to bear wool, and he has a narrower muzzle in proportion than an Ox. The horns are hollow, bent backward, and twisted. It has two teats, large prominent eyes, and is a harmless fearful creature.

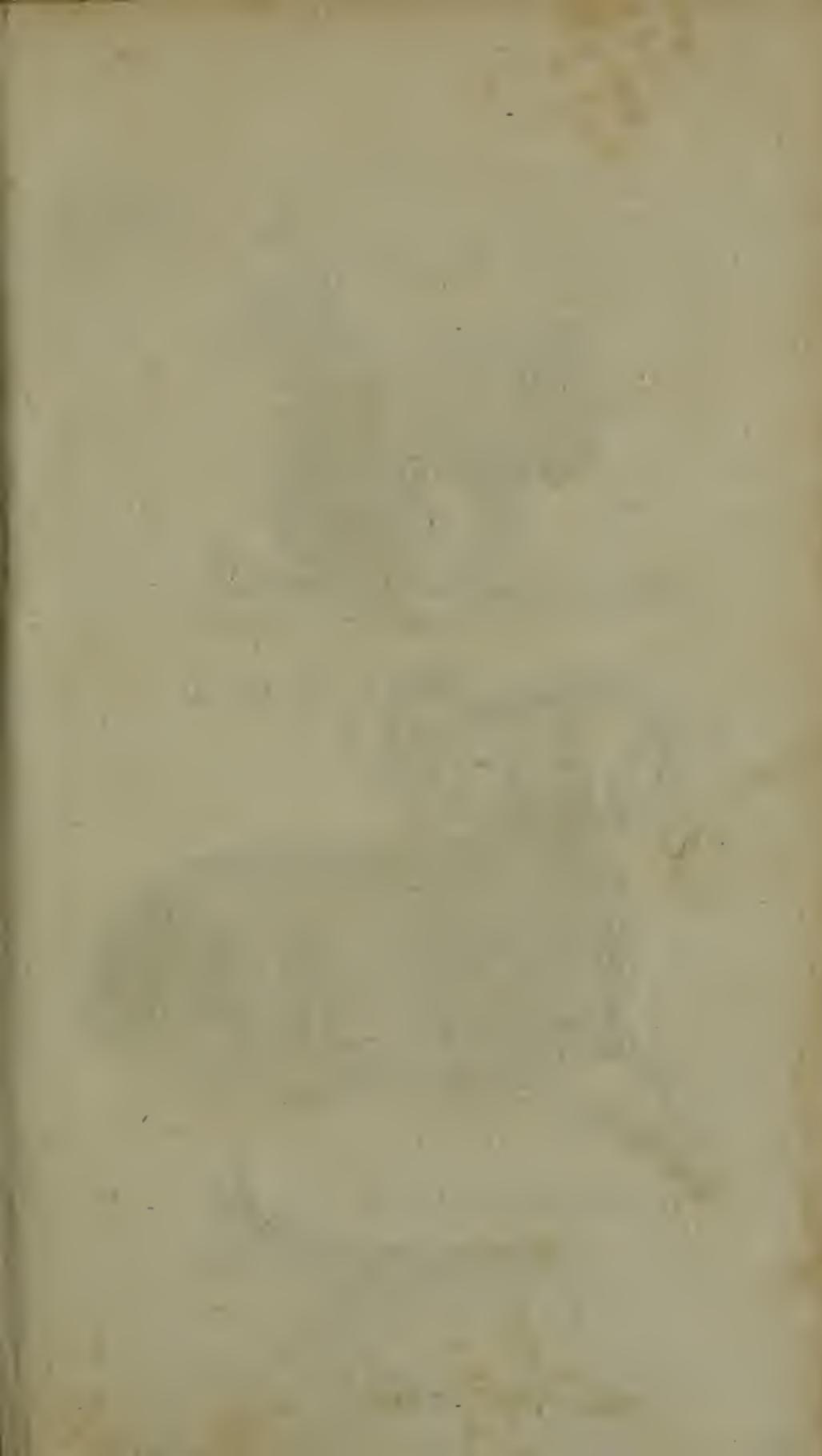
The DOMESTIC, or ENGLISH SHEEP, whose male is called a RAM, their female a EWE, and their young a

LAMB, is well known to be a mild gentle animal, and of very great use, not only for food but for cloathing and medicine; infomuch that a complete history of it could hardly be contained in a small volume; and therefore I shall only take notice of some particulars.

A RAM is a cloven footed horned ruminating animal; and when perfect in his kind, has a broad well-covered forehead, hazel eyes, large ears, and broad breast, shoulders, and buttocks. He sometimes lives to the age of fifteen years, and begins to procreate his species at two years old; and is fit for that purpose till eight. Two of these animals when they meet together often engage very fiercely, butting each other with their head and horns. One Ram is sufficient only for sixty ewes, and therefore where there is a larger flock, more Rams are necessary. There are some Rams that have no horns at all, and yet it does not appear they are worse upon that account. When Rams are castrated they are called WEATHERS, and then they grow larger, become more fat, and the flesh is much sweeter.

The Ewes are said to live about ten years; however they seldom reach that age, but they will bear lambs during that time. They generally have but one at a time, though some have two, three, and even four. The season for Lamb was formerly at one particular time of the year, but now by a particular artifice of the shepherds it is to be had at all times, especially near *London*. They bear their young five months, and their milk continues a long while unless the pasture is very bad, or they take the Ram again. It is very strange that every Ewe knows its own Lamb, though there be 400 in the flock. Sheep differ greatly from each other in different countries, of which I shall give some account.

The BROAD TAILED SHEEP, which is common both in *Asia* and *Africa*, is remarkable for its heavy tail, which sometimes will weigh fifteen pounds, and when they are well fed thirty, which would hardly be believed if it was not affirmed by very creditable witnesses. These at *Aleppo* in *Syria* are usually kept in the yard, for fear of injuring their tails; for when they are in the fields the shepherds are obliged to fix a piece
of



Flying Squirrel 286.

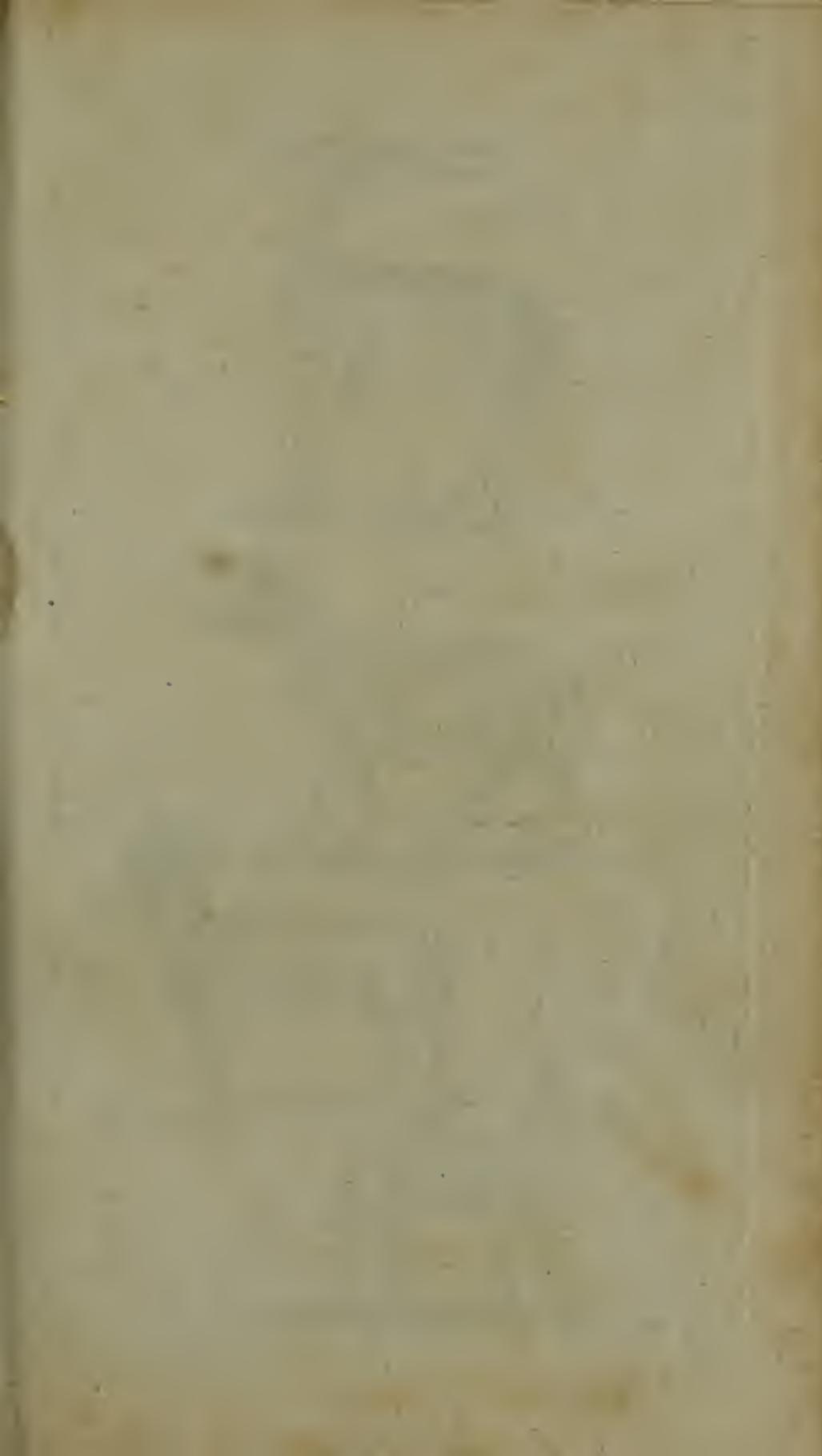


Muflon 45.



Siyah Yush Preface 183.





Antelope

50



Shamoy-Goat.

48



Jeer-Goat

55



Cretin
Sheep

45



of thin board to the under part of the tail, to prevent its being torn by bushy thistles and the like; for it is not covered underneath with thick wool like the upper part. Some to render the dragging of the board more easy, fix a pair of small wheels thereto; from whence comes the common story of their having carts to carry their tails.

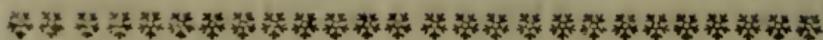
The Sheep called STREPSICEROS is a native of the island of *Crete* in the *Mediterranean*; and it differs from our Sheep in having strait horns surrounded with a spiral furrow; but in other respects they are like the *English*.

The AFRICAN SHEEP instead of wool are covered with short hair. It is in shape like the common Sheep, but does not seem to be of the same kind with the *English*.

The GUINEA or ANGOLA SHEEP is of the size of our Ram; but the back part of his head is more prominent, his ears are long and pendulous, and the tail hangs down to the houghs. The scrotum is very large, and the pizzle is in the middle of the belly. The horns are small, and bend downwards towards the eyes; and it has a long mane which reaches below the neck. Instead of wool it has hair like a Goat, and they are larger than ours, with dewlaps like a Bull.

The MUSIMON is an animal as is pretended peculiar to *Sardinia* and *Corfica*, and though it is mentioned by the ancients it may be doubted whether there is any such creature in being or not. Some think there has been such an animal but that the race of it is now lost; which is contrary to the opinion of others, who cannot be brought to believe that any kind of creature that ever had a being in the world is become extinct. However some have pretended to give a figure of this kind, and they make it to have a skin and hair like a Stag; with Ram's horns turned back towards the ear. The size is that of a Stag, and he is supposed to live among mountains; and to be exceeding swift of course.

The MUFLON is a kind of RAM, and is now kept in the *French* king's menagerie; but in what country he was found we could get no account. See the figure drawn from the life.



C H A P. VI.

Of G O A T S.

A COMMON GOAT differs from a Sheep in having hair instead of wool, and straiter horns, with a beard under his chin, and a rank smell. They are of the ruminating kind, and have no fore teeth in the upper jaw, and are also cloven footed. A she Goat goes with young five months, and in some places bears twice a year. The rutting time is in *November* and they bring forth their young in *March*, generally one at a time. They live about eight years, and they breed all that time. They feed upon grass, hay, and on the fruits, leaves, and barks of shrubs. They are more easily tamed, and brought to live among mankind than sheep; but they are more impatient of cold, In some places Goats are extremely useful on account of their milk, butter, cheese, fuet, skins, and young, which are called KIDS.

The HE GOAT is accounted best that has an ample body, soft, long, thick, shining hair; a full short neck, hanging heavy ears, and fleshy thighs. A he Goat is so strong, and runs with such force against a man with his head that he will sometimes beat him down. He is a salacious animal, and begins to procreate his species at seven months old; for this reason he is supposed to shorten his life. Upon the above account many think he has so rank a smell.

Many sorts of goats will climb up to places almost inaccessible to other animals, and will stand firm on small stones, and on the sides of precipices, where one would think it impossible for them to keep their station, and though their feet seem quite unfit for such a purpose. Sometimes they seem to hang as it were on the sides of rocks, and yet they never tumble down.

The flesh of a he Goat is seldom or never used as an aliment, because it has a bad taste and a disagreeable smell; but the flesh of a Kid of three or four months old, is tender, delicate, and agreeable to the taste;

taste; it is easy of digestion, and agrees with persons of all ages and constitutions. As for the flesh of the she Goat it is never eaten except she be very young; for otherwise it is very tough and hard of digestion. The blood, the suet, the dung, and the urine of a he Goat have been often used in medicine, as well as the milk of the female. The blood of a he Goat is sudorific and resolvent, and good to dissolve coagulated blood, as well as to cleanse the kidneys. The dose is from one scruple to four, after it is dried and reduced to powder. Goat's suet is emollient, resolvent, and discutient, for which reason it enters the composition of ointments and plaisters in divers parts of *Europe*. The tongue has been formerly given as a diuretic, and to open obstructions of the viscera; but it is now of no use with us. Goat's milk is of a middle nature between that of a Cow and an Ass. It is accounted excellent in diseases of the breast, and in consumptions, as well as in obstinate loosenesses of all kinds. The whey is more aperient and diuretic than that of a Cow; for which reason it is recommended in the gout, scurvy, and obstructions of the lower belly.

The LLITTLE GOAT of *America* is of the size of a Kid, but his hair is as long as that of a Goat. The horns which are hardly as long as a man's finger are thick, and bend downwards so close to the head that they almost enter the skin.

The GOAT of *New Spain* is covered with a reddish hair, but that on the head and belly is not of so deep a colour. The head and neck are short with large hanging ears, and a thick blunt tail. The horns are round and upright, only they are bent like a bow, and have a spiral furrow from the top to the bottom.

The *Indian* GOAT has very large ears, and the horns are not unlike those of a Ram. The GOATS in the plains of *Tartary* are of a red colour, and much of the same size and shape as ours, but the hair is red, and much rougher than that of the *European* Goats. They run exceedingly swift, in which their safety consists. The GOAT of the Mountains which separate *Siboria* from *Great Tartary* is of a kind much like that of the *Alps*.

The *ABYSSINIAN GOAT* is a very strong animal, and the male is the size of a Calf. They are covered with thick hair that is so long it drags on the ground, and of their hides they make leather which is in great esteem. The *WILD GOATS* of *Ægypt* delight to be among the trees, and t' e inhabitants kill them with musket balls. In their hair and tails they resemble the *Shamoy Goats*; but their fore feet are shorter than the hinder being made like those of *Hares*. They have no beards, and their necks are long and black; they can go up a hill much more swiftly than they can down; but upon level ground they run exceeding swiftly. Their horns are upright, only they are a little crooked at the end, and those of the males are larger than the females.

The *IBEX*, called by some the *STONE-GOAT*, is an inhabitant of the *Alps*. The horns are very large and bend backward. They are full of knots, and it is generally affirmed there is one added to them every year. *Bellonius* tells us, he has seen some of those horns at least two yards long. Their legs are slender, and their heads small, infomuch that in some degree, they resemble a *Stag*, though much less. The male has a long black beard under his chin.

The *SHAMOY GOAT* is an inhabitant of the *Alps* in *Switzerland*, and particularly of the country of the *Grifons*, where it is very frequent, and where the horns may be seen fixed up in most of the inns. With regard to the shape of the body this animal nearly resembles a *Stag*; and the belly, forehead, throat, and the inside of the ears are white; but over the eyes on both sides there is a yellowish streak. The rest of the body is of a dirty blackish colour, and the tail is black all over, and not white underneath as in *Deer*.

The female as well as the male has horns four inches and a half long, and wrinkled underneath; and there is a wrinkle added to them every year, as in other animals of this kind. The upper part of them are turned back into a sort of hooks, which are black, and not very smooth, there being furrows running along according to the length. The inside of them is filled with a solid bone which proceeds from the scull, and they

they rise from the fore part of the head over the eyes. There is a black stripe runs along the spine of the back, and the ears are longer than those of a Sheep.

Altmann informs us that there are two sorts of Shamoy Goats in *Swisserland*, of which one is less and redder than the other, never descending into the valleys, but continues during the winter on the most inaccessible mountains. The other sort is larger and browner than the former, and sometimes comes down to the foot of the mountains, where they live in winter on the ends of fir-tree branches. At this time there is one of the herd always set to watch, to see or hear whether any one approaches, and if he does he has a particular cry that gives notice to the rest, upon which they all make off. The time of rutting is in *September*, and the female goes with young nine months.

In a Shamoy Goat that was dissected, the caul appeared to be connected to the left side of the first stomach; it proceeded from thence to the right, and adhered to the third; but it did not lie upon the intestines as is common. There were three stomachs, the first of which was the largest, and consisted of two membranes, the innermost of which was shaggy, and readily separated from the other. The second was smaller, and had high wrinkles within placed like net work. The third was of a middle size, and had dentated leaves, like those in the third stomach of Oxen. The length of all the guts together were four feet, and the cœcum was eight inches. The colon was a foot long, and the spleen was round flat like a cake; it was two thirds of an inch thick in that part that adhered to the large stomach, but the other part grew thinner gradually to the very edge. The liver had three lobes, and the gall bladder was seated at the middle of the right lobe. The adipous membrane was not joined to the body of the kidney as is common; for there was a void space between them. The lungs consisted of eight lobes, four on the right side, three on the left, and one in the middle. The heart was long and pointed, and near the point there was a callous white hard round process, it rose out of the heart, and was of the thickness of a man's little finger.

The

The brain was two inches broad and three long, comprehending the cerebellum. The brain itself was divided into the right and left by a long cavity as is common; but there was no production of the dura mater to make what is called the falx. The pineal gland was large and of a round shape; the optic nerve entered the globe of the eye obliquely; the chrystaline humour was more convex on the outside than within; and the arachnoide membrane was very thick and hard, infomuch that it easily parted from the chrystaline.

The parts of this animal that are used in medicine are the fat, the gall, and the stone that is sometimes found in the stomach, which some call *German* bezoar. The fat mixed with milk is said to be good in ulcers of the lungs; and the gall to strengthen the sight, to cleanse ulcers of the cornea, and to take away spots. The stone is generally about the size of a walnut, is of a blackish colour, and has a fine smell when broken. It was formerly in great request, because it was thought to have the virtues of oriental bezoar; and that may very well be, for it is little more than an absorbent, however cried up by many practitioners. The dose is from half a scruple to a scruple in some cordial water.

The ANTELOPE, called by *Latin* Authors GAZELLA AFRICANA, is thought by some to be the same as the LYBIAN GOAT; for this last is described to be light of course, with a white belly, and the rest of the body of a fallow colour; and that the white and the fallow on the sides are parted by a black stripe; that the eyes are black and the ears large, which description agrees exactly with the Antelope. Add to this that he has a blackish tail, and a stripe a little more brown than the rest of the hair which descends from the eye down to the muzzle. He is about the size of a Roe-Buck, and his hair, has a nearer resemblance to that of a Roe-Buck than to that of a Goat, it being very short. Under the hair the skin is black and shining, though in some it is greyish. The ears are large and bald within, where the skin is black, like polished ebony. The eyes are black and large; and the horns are likewise black striped cross ways. They
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are fifteen inches long, and near an inch in diameter at the bottom. They are sharp at the points, and are pretty strait, though they turn a little outwards in some places, and in others inwards. The horns of the male are bent a little more back than those of the female, which are very round; but those of the male are a little flattish.

These horns at the root have a tuft of hair longer than that on the rest of the body, and are hollow about half way, only they are filled with a pointed bone which fastens them to the skull by help of the skin that covers them. This skin is very hard, very thick, and full of blood vessels.

The nose is a little flat like that of a goat, but more in the males than the females. The palate is covered with a hard skin in the form of long scales, and there are no fore teeth in the upper jaw, because it is a ruminating animal. The tail of the females is covered with long blackish hair, but in the males it is but little longer than on the rest of the body, and yet it is more soft than the former. The fore legs, about the part called the knee, is furnished with pretty long coarse hair, and here likewise the skin is thicker than in other parts, and seems to serve instead of a cushion to kneel down upon, like the callosity in the knee of a camel. The feet of the Antelope are more cloven than in most other animals, and are covered with hoofs of a horny substance, forming the two points of the toes, that are tied together by a skin which will stretch greatly. The female Antelope has but two udders and two teats, and on each side the udders in the groin there are deep cavities, where the skin is without hair, the same as the teats. These cavities discharge an unctuous matter, which has given occasion for some to mistake the Antelope for a civet cat, but very absurdly, for they are quite different animals.

The Antelope is a ruminating animal that has but two stomachs, which are distinguished and separated from each other by a slender canal in which there is a valve. The first and largest which immediately receives the aliment from the gullet, is very wide and broad at top, and pointed at the bottom. It is furnished

nished with two membranes lying upon each other, which may be easily separated. That which makes the internal surface of the upper part, is full of eminences that are three times as long as thick; and the thickness is only that of a middling pin. The membrane below it is reticulated, and looks like the net work wherewith women formerly covered their hair. It is of the same kind as that which lines the second stomach of other animals; though in this they both made but one ventricle; but it may be said to be double, because the upper part is much wider than the lower, and may in some sense be distinguished from it by a contraction which is not very evident. On the top of this great stomach, towards the right side, it contracts like the pylorus, where there is an opening that is the passage into the second; and this is closed by a membrane in the form of a great valve, and it is made like a small bag to hinder the aliment from returning back into the great stomach.

The second ventricle from its entrance to the middle is like the third of oxen or sheep, and is full of a sort of leaves about half way like them, which grow less by degrees. The colour of this part is of a violet red, whereas that of the former is white. The second part of the stomach is much larger than the first; and this is like the fourth stomach of ruminating animals. It had also some inequalities and eminences in the manner of leaves; but they were all smooth and polished. This structure is in the female; but the first stomach of the male is not pointed below, nor has the lower part the net work folds, nor yet the valve between the two stomachs, but there is a bunch which the females have not. The small guts are nearly a quarter of an inch in diameter, and the colon above half an inch. There are no cells in the colon of the female, but that of the male has a great number; but they are very small. The branches of the mesaraic veins are very large, and connected to the colon by many other small branches proceeding from them. The blind gut is seven inches in length, and an inch thick. The kidneys are almost round, and the right lies under the right lobe of the liver; and the left under the point of the stomach; that

that is in the female, for in the male the left lies under the great artery; and the right is seated two inches higher.

The lungs consist of four lobes, two to the right and two to the left; the heart is long and pointed, it being four inches and a half long, and two and a half broad. The brain has but few anfractuosities, and is divided into two parts at the place of the falx. The globe of the eye is very large, it being an inch in diameter, is covered with an internal lid, and the cornea is oval.

The INDIAN GAZEL has very long strait horns, which are annulated near the head. They are each a yard long, of a blackish colour, and smooth from the rings upwards. He is about the bigness of a buck, with ash coloured hair, and a tail about a foot in length, and covered with rough long hair. Some take this to be the same Goat in which bezoar is found, which opinion seems to be favoured by *Bontious*, who tells us that these Goats are not much unlike those in *Europe*, only that they have strait long horns, and some of them are spotted like a tiger.

However *Kæmpfer* affirms that the true BEZOAR GOAT is found in *Laar* and some other provinces in *Persia*. He is a sort of a wild Goat called by the inhabitants *Pafen*, and by the *Europeans* the Goat Deer, or the Deer Goat, because he is of a middle nature between both. He is covered with short greyish hair that has a reddish cast; and is of the size of a common Goat, and is bearded in the same manner. The female has scarce any horns; but those of the male are very long, which are marked with rings, whose number discovers his age. The body is in shape like a Stag, and he is altogether as active and nimble. He is a very fearful animal, and inhabits the most inaccessible mountains, seldom or never descending into the plains. He was informed by the hunters that the bezoar is not found in them all; but in those only that frequent such mountains as are full of alexipharmac herbs proper to breed them.

Marcgrave acquaints us that the *occidental* BEZOAR GOAT is shaped like the Camel Sheep or Guanacoes, only they are of a different colour; for their hair is as red as a ruby. They never can be tamed, and they
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are so swift, that a Man on Horseback cannot overtake them. See *Guanaco*.

Bezoar was formerly in the highest esteem as a cordial, and alexipharmac, and it has always born an extravagant price; but most physicians are now convinced, its virtues are not much greater than those of Crabs eyes.

There is an AFRICAN GAZEL with shorter horns, which are annulated from the bottom almost to the top, and are bent about the middle turning a little backward. He is less by one half than a Deer, but is of the same colour with a white belly. The tail is longer and blacker than that of a Deer; less hairy, and white underneath. The horns arise out of the middle of the forehead between the eyes, and are pretty long, and the ears are large, and the feet small. There is a white line runs from the eyes to the nose, and he feeds on the same things as Sheep.

The WILD AFRICAN GOAT is of a dark ash colour, and in the middle of the head is a hairy bundle standing upright, and on both sides between the eyes and the nose, there are two cavities, which contain a yellow oily liquor, which coagulates into a black substance, that has a smell between musk and civet. This being taken away, the liquor again runs out and coagulates as before. These cavities have no communication with the eyes, and consequently can have nothing at all of the nature of tears.

The ASSYRIAN GOAT of *Gesner* is somewhat larger than ours, with ears almost a foot long, and broad in proportion. The horns are not above two inches and a half long, and they bend a little backwards. The hair is of the colour of a Fox, the horns black, and under the throat there are two wattles. There are a great number of these animals about *Aleppo* in *Syria*, that are kept chiefly for their milk, which is sweet and well tasted. They are brought to the city about the beginning of *April*, are driven through the streets, and their milk is sold as they pass along, till the month of *September*.

The

The GOAT of *Natolia* is one of the finest in the world, and is chiefly to be met with near *Angora*. Their hair is of a dazzling white, and as fine as silk. It is nine inches long and curls naturally, and is made into very fine stuffs, particularly camblet. He has a long beard under his chin, and the horns are annulated and almost strait, though they bend backwards.

The BUSELAPHUS or MOSCHELAPHUS is of the size of a Hind, and in shape between a Hind and a Heifer. The head is long and slender, as well as the legs and hoofs; and the tail is a foot long like that of a Cow. The head is every where of a reddish colour, and the horns black, smooth at the top, and rough below. It has two udders, and is a very mild tractable and playful animal. It seems to be a kind of a Gazel, being not very unlike the Antelope.

The TRAGELAPHUS of Doctor *Keys*, is bred in the mountains of the kingdom of *Fez*: Its size is between a Stag and a Buck, and the body, colour, and hair is like that of a Stag, but he is deeper fided. The neck throughout the whole length is covered with shaggy hair underneath, which hangs down almost to the knees, and above there is a bristly mane of a darker colour than the rest of the body. Likewise the knees are covered with long thick hair turning backwards, and the hoofs fall off every year. The horns are black and like those of a Ram, or rather like those of a Goat, and the ears are shorter. The eyes, genitals, and tail are like those of a Stag. It is a wily wanton animal, and delights in craggy rocks and all high places.

The TRAGELAPHUS of *Belon*, called by some the Deer-Goat, has no beard; but his horns do not fall off yearly like those of a Stag; and they are sometimes twisted like those of a Ram. The mouth, the fore part of the forehead, and the ears resemble those of a Ram, as doth the scrotum which is large. So likewise the legs, and the buttocks, under the tail, are white, though the tail itself is black. The upper and lower part of the neck as far as the breast is beset with long hair, so that at first sight he seems to have a beard. The shaggy hair on the shoulders and breast

are black, and on each side there is an ash-coloured spot. The nostrils are black, the mouth white, as is also the lower part of the belly.

About the *Cape of Good Hope* in *Africa*, there are several sorts of Goats, one of which is called the TAME or DOMESTIC GOAT, which is like our's, only it is not so large; and it brings forth young twice a year. The BLUE GOATS are in shape like the Domestick, but they are as large as Stags. Their hair is very short, and of a delightful blue; but it looses a great deal of its beauty when the animal is dead. They have a very long beard, but the horns are not so long in proportion as those of other Goats; but from the bottom to the top they are turned almost like a screw. They have very long legs, but well proportioned, and the flesh is well enough tasted but lean; for which reason, they are killed chiefly for the sake of the skins. They seldom come near the *Dutch* settlements, but they are common farther up the country.

The SPOTTED GOAT is adorned with red, white, and brown spots. They are of the same size as the blue Goats. The horns which are about a foot long, bend a little outwards, and they are rough as far as the middle; but the remaining parts are very smooth, and they terminate in sharp points. They have a very long beard of a deep red colour, and their legs are well proportioned with regard to the rest of the body. The flesh is hard but well tasted, having somewhat of the taste of venison. They are very easily taken and tamed whilst they are young, and they are turned out to feed with the Sheep. These animals are very common among the *Hottentots*, where they may be seen in flocks of thousands at a time,

The GREY GOAT is nearly the same size as the Domestick, and the body is extremely well proportioned. The muzzle is black, the hair short, and the colour of a dark red mixed with grey, from whence it has its name. The tail is very short, and coloured with mixed hair like the rest of the body. The horns are of a deep brown, and not above six inches in length; they are are turned almost like a screw, and are very sharp at the points. The flesh of
this

this animal is excellent eating, and very wholesome, being in high esteem among the *Dutch*. The females are somewhat less than the males, and are without horns.

The WILD GOAT is so called, because he has received no other name, and is of the size of a Stag. The head is very handsome, and adorned with smooth horns, three feet in length, and two feet asunder at the points, which are very sharp. From the forehead along the neck, and on the spine of the back to the tail, there is a white stripe; and another of the same colour that crosses the former on the neck, which runs quite round. There are two others of the same kind, one behind the fore legs, and the other before the hind legs, which run round the body. The rest of the hair is grey, with small red spots, except under the belly, which is white. The beard is grey and very long, and the legs though long, are well proportioned. The flesh is very good, and is preferred by many to venison. The female is small, and without horns; but the flesh is as good as that of the males. These animals are as numerous as any among the *Hottentots*.

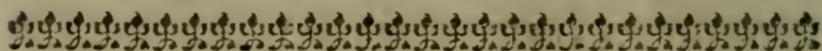
The DIVING GOAT is larger than the *Domestick*, but nearly of the same colour. When he thinks himself in danger, or is hunted, he rolls himself up and endeavours to hide himself among the grass. He lifts up his head from time to time as if he intended to examine whether the danger is over or not; but does not stir till he is killed or taken.

The SHAMOY GOAT of the *Cape of Good Hope*, is much less than that of the same name in *Europe*, being only of the size of a Kid of three months old. The horns are generally about six inches long, and do not bend outward so much as those in *Europe*. He often enters the vineyards and gardens and does a great deal of mischief if he is not immediately driven from thence. The flesh is counted a great delicacy, though it is always lean and pretty hard.

In *Congo* and *Whidah* on the coast of *Guinea*, and in other places near the *Cape*, there is a sort of Goat no larger than a Hare, but wonderfully beautiful, and exquisitely proportioned. They have horns like those

of a Stag, with branches in proportion to their age. Their legs are so small that they are often set in gold, and serve for tobacco-stoppers; but these are more properly of the Deer kind, for it is plain they shed their horns, because the branches increase in number according to their years.

However, there seems to be some mistake in this account, for *Pere Labat* informs us, that the males have two horns turned backward towards the neck, of three inches long, without branches or antlers, and that they are black and shine like jet. Now if these are the same as those abovementioned, they may be of the Goat kind, and then they are properly placed.



C H A P. VII.

Of Animals of the DEER Kind.

TH E S E animals chew the cud, and shed their horns every year, which are always solid, and this sufficiently distinguishes them from others of the ruminating kind. The STAG or HART, whose female is called a HIND, and the young a CALF, differs in size and in the horns from a FALLOW DEER. The first year he has no horns, but a horny excreffence or protuberance, which is short, rough, and covered with a thin soft hairy skin. The next year they are single and strait, have two branches the third year, three the fourth year, and so on to six; during which time his age may be easily known. They cast their horns every year in the spring season, and then they hide themselves till they are grown again, feeding only in the night time. If a stag is castrated when his horns are fallen off, they will never grow again; and if the same operation is performed while they are on, they will never fall off, which is an observation worthy of notice. Their rutting time is about the end of *August*, when the males frequently engage each other very fiercely on account of the females. When the females have conceived, they separate from the males,
for

for then they both herd together apart. They bring forth their young about eight or nine months after conception

The STAG of *New Spain*, has a short thick neck and head, and it has two short horns, as round as if they were turned in a lath, only at their extremities the points are crooked; the ears are large and hanging; but the eyes are fine, and the tail thick and blunt. The hair on the body is reddish, but that on the belly is not of so deep a colour. On the rocks and mountains of *New Spain* there is another kind that are extremely swift, and yet they are no bigger than Fawns. They are shaped much like the *European* Stags, but their horns are as black as pitch, and they are as round as if turned in a lath, ending in a crooked point; they encrease every year with a new spiral turn at the end, which serves to shew their age. Their eyes are lively; their ears long; their teeth large; and their tails are furnished with long hair, while that on the other parts of the body is short, and of a bright chesnut colour. *Hernandez* would have these animals to be a sort of a wild Goat, which produce the bezoar stone. They are often kept tame, and the Hinds bring forth their young in the stables where they are kept. In the day time they are let out into the woods to feed, and at night they return to their lodgings.

The STAGS of *Mexico* have tails as long as Mules, and they are of the same size or bigger, and have wonderful strength; two of these that were tamed were able to draw a carriage.

The STAGS of *China* are of a singular kind, for they are no larger than a common House-Dog, and they serve for the diversion of great men. The flesh of their Fawns is exceedingly good; that of those of a year old, not quite so good, but when they arrive at three years it begins to grow hard and tough, for which reason it is never eaten, except in cases of necessity; however the tongue, the muzzle, and the ears of old Stags are always in great esteem.

The STAG of *North America* is very large, being four feet high to the top of the back, the horns are three feet long, and the first branches, or antlers, one,
the

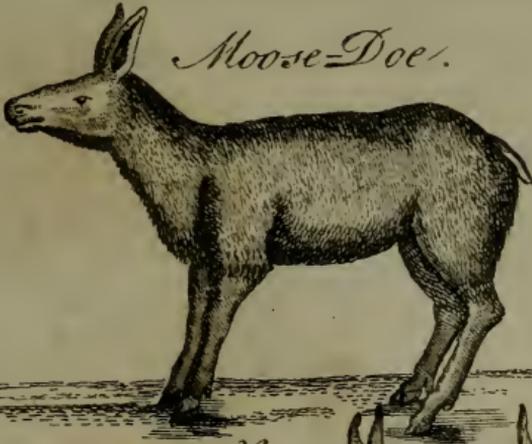
the second branches ten inches, and the rest in proportion. These horns are covered all over with a very hard hairy skin, of the same colour as that of the body, which is of a deep fallow sandy colour. This skin has a great many veins and arteries full of blood, with which the vessels seem to be swelled, especially on the inside where there are furrows to receive them. The whole length of the intestines is eighty-six feet; the small ones are sixty-six feet long, and the large without the cœcum is twenty feet; and this last is ten feet long, and six inches wide at the entrance. This extraordinary length of the intestines, which is proportionable to the largeness of the stomachs of animals that live upon grass, is quite different from those who live upon flesh; because grass is not so easily changed into aliment, and therefore stands in need of this extraordinary length, that the natural heat may act upon it a considerable time while it passes through the numerous turnings and windings. There is no remarkable difference between the Stags of this country and ours, except in the tails, for in *America* they are more long and hairy. The hinds have no horns.

There is a very pretty sort of STAGS in *Sardinia*, which are about two feet eight inches high to the top of the back. The neck is about a foot long, and the hind leg from the knee to the bottom of the foot, is two feet. The hair is of four colours, namely, fallow, white, black, and grey; and the white is predominant under the belly on the inside of the thighs and legs. Along the back here are two rows of spots in a right line; but those on the other parts of the body are very irregular. A white line runs along each side, and the neck and head are grey. The tail is black above and white underneath, and the hair upon it is six inches long.

Upon opening a Hind, the caul appeared to be connected to the peritonæum to the right of the navel, and covered the intestines to the very bottom. It consisted of a very slender membrane, and small vessels without fat. The liver was small, and was not separated into lobes, there being only a cleft on the top about the middle, and another below inclining to the right

64

Moose-Doe.



63

Elk?



Sardignian Doe.

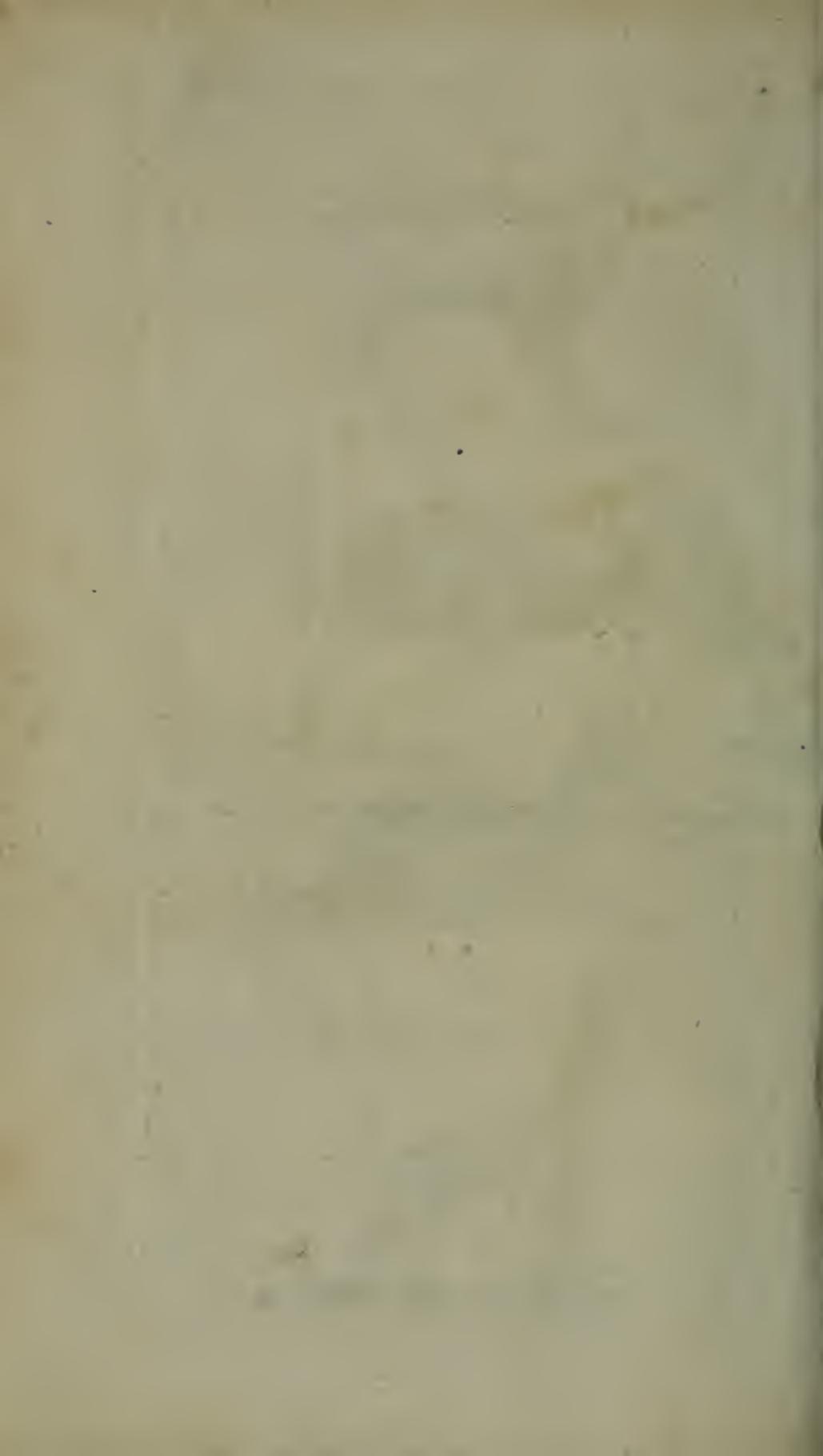
60



74

Camelo-Pardalis.





right side; there was no gall bladder. There were four stomachs, of which the first and greatest was lined with a membrane that separated readily from the other. It was covered with a great quantity of mammillæ as is common in ruminating animals. It seemed to be separated into different pouches, and was full of grafs. The second, third, and fourth stomach resembled those of a Sheep, and the guts were very long as in the Stag of *North America*, only they were less in proportion; for they were but forty feet long. There were two sorts, the first of which made up a fourth part, were of a greyish colour, and made up of folds six inches long; the others were of a reddish brown, and the folds were very short; the mesentery was composed of very thin membranes.

The spleen was covered with a hard, thick, whitish membrane, and its shape was round; and it was strongly connected to the stomach and diaphragm, the horns of the matrix were long and crooked, and their extremities reached to the testicles, or ovaries, which were very small. The heart was very large and soft, and the lungs consisted of seven lobes. The globe of the eye was an inch and a half in diameter, and the chrystaline humour was more convex behind than before.

The horns of this animal are greatly in use, and are commonly known by the name of hartshorn. It is calcined for some uses, and made into a jelly for others. Calcined hartshorn is nothing but a sort of lime deprived of all its active principles; and is used only as an absorbent to destroy acids in the stomach, and to abate the acrimony of the humours in loosenesses. The jelly is very nourishing, good to restore the strength, and some prescribe it against vomiting and spitting of blood. The dose is from half an ounce to an ounce three or four times a day; but much larger quantities are eaten for pleasure. From hartshorn there is gained a water, spirit, salt, and oil by distillation. Some use the water as a vehicle for alexipharmic remedies that are given in malignant fevers. The dose of the salt is from six to sixteen grains in a proper liquor, and of the spirit from thirty to forty drops; they are both recommended in malignant fevers, in the
small

small pox, the apoplexy, the epilepsy, the palsy, and in hysteric disorders. The oil is by some applied to the nostrils of women in hysteric fits, and as a liniment for paralytic limbs. The penis of the stag is said to be an excellent remedy against the bloody flux and pleurisy, and the dose is from half a drachm to a drachm in powder. Some pretend the blood of a Stag dried in the sun, is good in the pleurisy and gout, when given from half a scruple to a drachm in a glass of wine; but without any just reason. The marrow of a stag is preferred to that of any other animals to ease pain and to supple indurated parts.

The BUCK and DOE are animals very well known in all parts of *Europe*, and the young one with us is called a FAWN. They are generally kept in parks, and their flesh with us goes under the name of venison, and is much better eating than that of a Stag or Hind.

A BUCK is much less than a Stag, and differs from him in his broad palmated horns. However there are several kinds of these animals; as the *Spanish* DEER, which are as large as Stags, but of a darker colour with slender necks. Their tails are longer than those of ours, and are black above and white below. There is another sort, whose skins are diversified with many colours, namely, black, sandy, and white. Perhaps these are of the same kind with the *Sardinian* Hind just mentioned. The *Virginian* DEER are larger and stronger than ours, with great necks; and their colour is more inclinable to grey than to the sandy, and they have very large pizzles and testicles. Another sort have the hoofs of their hind legs marked outwardly with a white spot, and their ears and tails are much longer than the common. One of these has been seen full of white spots, with a black list down the middle of his back.

In *Guiana*, which is a country of *South America*, according to *Labat*, there are Deer without horns, which are much less than those in *Europe*; but resemble them pretty much in every thing else. They are very lively, light of course, and are excessively fearful. Their hair is of a reddish fallow colour, and is short and thick.
Their

Their heads are small and lean, their ears little, their necks long and arched, the feet cloven, the tail short, the sight piercing, and the flesh a great delicacy, but seldom fat. They climb the rocks like Goats, and will stand on a spot no broader than a man's hand. When pursued they fly into places where no other animal can follow them. The negroes are the hunters, who stand to watch for them in narrow paths, which lead to a brook or a meadow where they feed; but they are obliged to stand very still, for the least motion will drive them away. When they come within reach they then endeavour to shoot them, and they think themselves happy if they can but break one of their legs.

An ELK exceeds all the former in its size; for it grows above the height of a man, and has the bulk of a Horse. The colour of the hair is greyish, and not unlike that of a Camel, or rather an Ass. The ears are nine inches long and four broad, and the hair is three inches in length as coarse as that of a Horse; but it is smaller next the skin, for which reason it lies very flat and smooth. The horns are not branched like those of a Stag, but have a short trunk at the beginning and then immediately grow broad, with teeth on one of the edges. The muzzle is very long, and the upper lip is so large, and hangs over the nether, that this animal is obliged to go backward when he grazes. He is exceedingly fearful, and as some say more so than a Roe Buck. However if he be taken very young he may easily be tamed. The skin is very useful, and they dress it in the manner of buff. He is an inhabitant of *Lithuania*, *Moscovy*, and *Scandinavia*, and his hoof has been greatly cried up against the falling sickness; but it has really no more virtue than that of any other animal.

At the fair of *St. Germain* at *Paris* in 1752, a female Elk was exposed as a shew. It was caught in the year 1749, in a forest of *Red Russia* belonging to a Khan of *Tartary*. The height was six feet seven inches, the length ten feet, and the thickness eight; but since this time it is become much more tall and thick. The hair is very long, and like that of a wild Boar, the ears re-

semble those of a Mule, and are a foot and a half long; the upper jaw is longer by six inches than the lower, and it is void of teeth; it has a long beard under the chin like a Goat, and in the middle of the forehead between the eyes, there is a bone as large as an egg; the nostrils are four inches long on the sides next the mouth, and she makes use of her fore feet as a defence against her enemies. The man that shewed this animal affirmed, that she would eat thirty pounds of bread in a day, besides hay, and that she drank eight buckets of water.

Dr. *Leopold* affirms, that the horns of a young Elk while they are tender, are covered with a soft hairy skin, that defends them from cold till they come to a proper hardness. At first they are round, and are three or four fingers broad; after which they extend on each side towards the back like a wing, and grow to the thickness of two fingers breadth. There are large teeth upon the circumference, but smaller than the branches of a common Stag; however, in general, they are much larger than those of that animal, they being two palms in breadth when they are only two feet in length. Some of these horns have been seen with twenty teeth, but they grow to a prodigious size, insomuch, that two men may sit between them at a time. They shed their horns every year in *February* and *March*, and in *August* the new horns arrive to perfection again. Elks delight in shady moist places, and they feed upon the leaves of alder, birch, aspen and willow, as well as upon the moss that grows upon trees.

There is another sort of beast of the same kind in *North America*, near *New England* and *Canada*, which the *English* call a MOOSE DEER, and the *French* an ORIGINAL. This is of the size of a Horse, and though he has large buttocks his tail is not above an inch long. He has legs and feet like a Camel, and the withers, the neck, and the upper part of the hough are covered with long hair. His head is above two feet long, and his under lip is shorter than the upper, like that of a Camel. His nostrils are so large that a man may thrust his hand in a considerable way, and his
horns

horns are as long as those of a Stag; but they are much broader, and are flat and forked like those of a Buck. He casts them every year, but whether they increase every time or not is uncertain.

The hair of the Moose Deer is a light grey mixed with blackish red, and it becomes hollow when the beast grows old, but it never loses its elasticity, for beat it as much as you will it always returns to its former state. The flesh is very well tasted, easy of digestion, and very nourishing; and though some pretend those that eat it are subject to the falling sickness, the *American* hunters, who constantly feed upon it in the proper season, never find any such thing. The hide is strong, thick, soft and pliable, and is proper for buff leather, for it is very light when dressed. This animal delights in cold countries, and he feeds upon grass in summer, and on the bark of trees in winter. When snow is on the ground, the Moose Deer flock under pine-trees, and continue there as long as they find any thing to eat. This is the proper time to hunt them; but it is still better when the sun begins to have so much strength as to melt the snow in the day time which is frozen again at night; because the icy crust which covers the surface of the snow does a great deal of damage to his forked feet; sometimes his legs slipping through it makes them raw, and he has much ado to draw them out of the holes which are so made. At other times there is no coming near him without difficulty and danger; because when he is wounded he becomes furious, and turns back upon the hunters, treading them under his feet. To avoid this, the hunter throws down his garment, on which he spends his fury, while the hunter hides himself behind some tree, and takes his measures to bring him to the ground. His pace is always a great trot, which is so swift that it equals the running of the *American* Beeve. It is commonly said that he kneels down to drink and graze, but this is not certain.

The female of the Moose Deer has no horns, and is nearly the size of a Stag, being five feet and a half long from the muzzle to the beginning of the tail, which is but two inches long. The neck is short, being but

nine inches long and four broad ; and the ears are nine inches long and four broad. The colour of the hair is nearly like that of an Ass, but differs much from it. The length of the hair is three inches, and the thickness is equal to the coarsest hair of a Horse. It is thickest in the middle, and small at both ends ; and next the skin it is white and transparent as the bristles of a hog.

The upper lip is large and loose from the gums ; and the feet are like those of a Stag, but much thicker. The great corner of the eye is cloven downwards, and is much longer than in a Stag ; and the lachrimal gland is an inch and a half long, and above half an inch broad. The inward parts are nearly like those of a Beeve ; especially with regard to the four stomachs and the guts. These last are forty-eight feet in length. The liver is a foot long and seven inches broad, and without lobes. The spleen is eight inches long and six broad ; and the lungs are divided into seven lobes, three on each side and one in the middle.

The Moose Deer has been mentioned by several authors, but their accounts have been so very imperfect, that they have given little satisfaction to the curious inquirers into natural history. The first *English* writer that mentions this animal is Mr. *Josselyn*, who says, it is a goodly creature, twelve feet high, with exceeding fair horns, that have broad palms two fathoms from the top of one horn to another. In another place he tells us that the Moose, or Elk, is a creature, or rather monster of superfluity when full grown, it being many times bigger than an *English* Ox.

Mr. *Dudley* in the *Philosophical Transactions* informs us, there are two sorts, namely, the common light grey Moose, called by the *Americans* WAMPOOSE ; and the LARGE or BLACK MOOSE. As to the grey Moose he takes it to be the same that Mr. *Clayton* calls the Elk. *Catesby* sent over a horn from *Virginia*, and calls it the Elk's Horn, which is in all respects like those of our Stags, only larger, for it weighs above twelve pounds averdupoise, and from the burr to the top is six feet high. He acquaints us, that the grey Moose is most like the ordinary Deer, that they spring like them,
and

and herd together sometimes to the number of thirty. But whether he means the red, the *Virginian*, or the Fallow Deer is uncertain.

The BLACK MOOSE is accounted by all that have hitherto written of it a very large creature, and *Dudley* says, that the hunters have found a Stag Moose fourteen spans high from the withers, which at nine inches to a span is ten feet and a half high; and that a Doe or Hind of the fourth year, wanted but an inch of seven feet in height. The Stag, Buck, or male of this kind, has a palmed horn not unlike that of our Fallow Deer, only the palm is much longer, and more like that of the *German Elk*; in which it differs in having a branched brow antler between the burr and the palm, which the *German Elk* has not. The breadth between the two outermost tips of the lower part of the horns is thirty-six inches; the height from the lowermost tip to the uppermost is thirty-four inches; and the distance between the two uppermost and innermost tips is thirty-one inches. The shape may be seen in the figure.

There is another DEER in *North America*, which *Mr. Dale* thinks has never been described before. It is of the Stag kind, and has round horns like them, but not spreading out as in the Stag, but meeting nearer together at their tips. as also bending over the face of this animal. The brow antlers are not crooked but strait and upright, and the skin is of a sandy colour, with some black hairs intermixed, and when young it is marked all over with white spots. When full grown it is of the size of our Fallow Deer; though *Mr. Dale* takes no notice of what authors have called it, yet I am apt to believe it the same that unskilful writers have called the *Ruin Deer*, for I cannot find there are any that truly deserve that name in *North America*.

The CARIBOU is chiefly found about *Hudson's Bay* in *North America*, though he has often been seen in *Canada*. This animal is not quite so tall as the Moose Deer, and has more of the shape of an Ass. The tongue of the Caribou is in high esteem; and one *Jeremy*, who lived several years near *Hudson's Bay*, affirms that there

are prodigious numbers of these animals about the *Danish* river and *Port Nelson*, during the summer. It is extraordinary swift, and has a sort of hoofs which are flat and large, furnished with very coarse hair between the divisions, that hinder him from sinking into the snow, on which he runs as swiftly as on firm land. Some take it to be a sort of a Stag, and others think it has some resemblance to the Rain Deer of *Lapland*, though the horns are very unlike, especially, those that haunt the woods; for then the horns are very small. However as these Deer seem to be of two kinds, it is not improbable, but that the last may be the same, taken notice of by Mr. *Dale*.

The CARIBOU has an enemy called the CARCAJOU, which is a sort of a Cat, with a tail so long that it will encircle his body several times, and when he overtakes one, he fixes on the neck, and wraps his long tail round it; after which, he opens the jugular vein. This animal has but one way to avoid it; and that is by jumping into the water. The Carcajou cannot bear the water, and therefore he quits his hold immediately.

At the *Cape of Good Hope* there is an animal called an ELK by the *Dutch*, which is about five feet high, with a very handsome head, resembling that of a Stag; but it is small, and much too short in proportion to the rest of his body. The horns are about a foot in length, and near the head they are very rugged; but towards the extremities they are strait, smooth, and pointed, which plainly shews, that this creature is improperly named. The neck is of a free easy shape, and the upper lip is a very little longer than the lower. The legs are long and slender, and the tail is about a foot in length, quite unlike that of an Elk. The hair on the body is soft, smooth, and of an ash colour; and the flesh has the taste of very fine beef. The weight of these pretended Elks is about five hundred pounds.

They generally frequent the mountainous part of this country, where there are good pastures, and well watered with streams. They very readily climb up the highest and most craggy rocks, keeping their feet
pretty

pretty close together as they pass along. They often attempt to enter the gardens of the *Dutch* settlements, where, if they get in, they do a great deal of mischief. These gardens are generally surrounded with a deep ditch, over which, there is a long plank laid, or a bridge built. At one of the corners of this bridge, they fix the great end of a pole in the ground, which is very strong and pliable; and to the small end they fix a long rope, by which they bring it down in such a manner, that it will return back with a spring when set liberty. This end so bent, reaches down to the other corner of the bridge, and the fastening of the rope is so contrived, that it will slip off with a very small touch. The remaining part of the rope is made into a running noose, which is quite open at the entrance of the bridge under the bow, formed by the pole. Now the Elk finding no entrance, except over the bridge, endeavours to pass that way, and consequently must tread upon the part which lets go the rope, by which means one of his legs is caught in the running noose, and he is held fast, till by his struggling he breaks the pole, and almost always falls into the ditch, where he is sure to be taken.

There is also at the *Cape of Good Hope* an animal, which they improperly call a STAG, though it is very like one in shape, and size; but the horns are quite different, for they are about a foot long, and are round and smooth, but have no branches. They are of a dark brown, and are twisted almost like a screw, and at the ends they are three times more distant from each other than at the roots.

The HIPPELAPHUS of Dr. *Keys* and *Gesner*, seems to be a sort of an Elk, with the horns of a Roe-Buck; and is to be met with in *Norway*. He is of the size of an Elk, and in shape, partakes both of the Horse and the Stag; and has hair like a beard, hanging down from his throat. He has a well compacted body, long slender legs, with a cloven hoof, and a very short tail; but his head and ears are pretty much like those of a Mule; only his upper lip hangs over the lower, almost as much as in an Elk. He has a mane like a Horse, but thinner, and more upright. Likewise from

the shoulders to the tail there is a little mane, which grows like bristles along the back-bone.

The RAIN DEER is a native of *Lapland*, and the adjacent parts. They are a sort of Stags, with very large branched horns, whose tops bend forward like a bow. He is larger, stronger, and swifter than a stag; and his hair changes colour according to the time or season of the year. It is very strong and coarse, and has more of the appearance of bristles than hair. His hoofs are cloven and moveable, for which reason he spreads them abroad as he runs along the snow, to prevent his sinking into it. The horns are very high and lofty, and divide into two branches very near the root. There are three of these on each horn, one above another, which are again subdivided into smaller; insomuch, that no horned beast whatever, can shew the like, either for bulk, branches, or weight. They are of a light colour, and there are veins, or blood-vessels run along them, under which, there are furrows. When he runs along, he lays those horns upon his back, and yet there are two branches which always hang over his forehead, that almost cover his face.

These animals are in high esteem on account of their various uses. The *Laplanders* feed upon their flesh, which would be very good if it had not a faintish taste. Their sinews are employed in sewing the boards of their sledges together; and the milk serves them for food. They likewise make cheese of it, which is very good; and they make garments of the skins, especially those of the younger sort, whose hair is very long. All the *Laplanders*, *Finlanders*, and even some of the *Swedes* make garments of these skins, which they call *Lapmudes*. The hairy side is outward, and they line it with some other skin with the fur inwards. The skins of the old Rain Deer, serve to make stockings, or rather boots, with the hair on the outside. They are very warm, and proper to walk in on the snow in the winter time. They employ Rain Deer for travelling in those places, where Horses would be of little or no use; which is in all the northern part of this continent. Some Authors tell us, among many other fables which they have invented of the *Laplanders*,
that

230



Common Fox

55



Asian Goat

70



*Rain
Deer*

that if you whisper in their ear what place you design to go to, they understand what you say, and will bend their course accordingly. However, it is very certain, that they will travel exceedingly fast with the sledges, though they are not very strong; for in a beaten track they will travel about seventy-five miles a day; but when the snow is soft, they can scarce draw the sledges along. When the animal is tired, his master looses him from the sledge to let him feed upon the white moss which lies under the snow. This is their principal nourishment, which they get at by removing the snow from it with their feet; so that a traveller on these journies has nothing to do, but to carry provisions for himself on the sledge.

A Rain Deer when dissected, appeared to have the upper guts formed into seven circumvolutions, and the lower into nine; but they are bent backwards and forwards in different manners, without any seeming regularity; they were forty-four ells in length, besides the cœcum, which was half an ell long. The kidneys were round and oblong, and their substance was very tender. The mesentery was three or four inches broad where the vena portæ surrounded the last fold of the intestines, and where there were seventeen glands on the same fold, some of which were oblong, and others like a bean. The lungs were partly red, and partly brown, and divided into small lobes connected together by a common membrane, and had somewhat of the appearance of the lungs of a Calf. There were three lobes on the left side, and four on the right; in one of which there was a hole towards the upper end of the right part before the common bifurcation. The spleen adhered to the stomach and diaphragm; the breadth was three sixteenths of an ell, and the length a quarter of an ell, according to *Steno*. Near the circumference of the caul, there were two hydatides of the size of a hens egg; and another as large as that of a pigeon; they were both full of clear water; but the larger had a substance like plaster, of the size of a pea; and it was also surrounded by a less lymphatic vesicle. These hydatides seem to be natural to the Deer kind; for *Steno* never observed them in any other animal. The

liver was undivided, only it had two clefts, one under the kidney, and the other about the middle. The crystalline humour was large, and a little flattish; and the upper part of the brain was larger than that of a Bear dissected at the same time. The salival duct descended towards the lower corner of the jaw as in a Calf, and between the root of the tongue and the epiglottis, there was a space two fingers broad, separated by a membranous substance.

The *AXIS* of *Belon* is a native of *Africa*, and is without horns; but his tail reaches down to his hams. He is so like the Fallow Deer, that if it was not for these distinctions, he might be taken for one of them. The female is less than the male; but they are both full of red, yellow, and white spots, only the belly is altogether white. This has a near resemblance to the *Sardinian* Hind abovementioned.

The *ROE DEER* are very small, and are distinguished from others of this kind by the shortness of their horns, which are not at all like those of the Fallow Deer, but are round, like those of a Stag; inso-much, that *Ray* is of opinion, that a Roe-Buck may be called a little Stag of the northern countries. Some have placed it among the Goat kind, but very improperly, for it has not one essential mark of a Goat. The males only have horns, which are sometimes divided into six or seven branches; and they are solid as in other animals of this kind. They delight chiefly in mountainous countries among the rocks, and are very swift of foot. In other respects they are extremely like the common Deer, and their flesh is very good eating.

There is no animal makes better sport in hunting, for he always gives a great deal of diversion; the Does bring forth two or three young ones at a time; and the Bucks never leave them all the while they are big, and they likewise help to bring up the Fawns, till they are strong enough to take care of themselves.

The *ROE DEER* of *Louisiana* in *North America*, have the same hair, and are of the same colour as the common sort, but they seem to partake of the nature both of a Stag and a Buck. They are four feet high,
and

and their horns are large, and bend forward, having several branches. The flesh is dry, but tastes like mutton when it is fat. They are very common in these parts, especially among the woods, and upon the hills; for they seldom or never come into the open country. When the native *Americans* hunt them, they put on the dried heads of this animal with part of the skin of the neck; and when they perceive a Roe-Buck they get near him by creeping along the ground; and when they dare proceed no farther for fear of being discovered, they get behind the bushes, shewing only their heads, and counterfeit the cry of the animal: By this means they get pretty near him, and then they shoot him.

The ROE DEER of *China* is three feet in length, from the top of the head to the tail, and the head is above six inches long, and three broad on the forehead; the ears which are like those of Rabbits, are four inches long, and the tail is above two inches. The muzzle or nose is pointed, and all the upper part of their body is covered with hair, variegated from the roots to the extremities, it being yellow, chefnut coloured, and white. The head and legs are brown, but the belly and the under part of the tail are white. They have twenty-six teeth, that is, they have eight incisors or cutters in the lower jaw, and eight grinders, four on each side; in the upper jaw there is the same number of grinders, besides two dog-teeth, one in each side. Near the navel there is a kind of purse three inches long, that contains musk, and it is two inches broad, rising under the belly about an inch. It is furnished with hair outwardly, and lined on the inside with a skin full of glands, which properly serves to secrete that perfume. This seems to be the same animal as the Musk Goat.

The CUGUACU-ETE and CUGUACU-APARA, are called by some BRASILIAN GOATS, and the latter of these has horns divided into three branches, the lowest of which is very long, and forked at the top. They seem to be the males and females of the same animal; and one pair of their horns may be seen in the *Museum of the Royal Society*.

The quadrupede call the GREENLAND GOAT, has horns an ell in length, which are divided into numerous round branches, beset with hair or down of an ash colour, and is a quarter of an inch in length, and stands upright. He is in size and shape much like a Stag, with long ears, and a short tail. The colour of the hair is of a greyish yellow; and he feeds upon herbs and grafs. They are very common about *Spitzbergen*, and will run away at the sight of a man, but will not take the water. The taste of their flesh is very pleasant, but it is lean, which perhaps is owing to the coldness of the country. It is hard to say for what reason it has gained the name of a Goat, for it has all the properties of the Deer kind.

The CAMELO-PARDALIS is a very uncommon animal, there having not been above one or two seen in *Europe*; at least out of the *Turkish* dominions, for many hundred years. It is called by the natives ZURNAPHA, and by some authors GIRAFFA; but by the *Greeks* Camelo-Pardalis; because as they suppose it is generated between a Camel and a Leopard, for Pardalis is the *Greek* name for a Leopard.

The writers in natural history have been at a loss in what class of animals to place it; however, *Linnaeus* ranks it with that of the Deer kind, but whether the horns fall off every year, or not, like those of the Deer, is very uncertain. It is a very mild gentle animal, and has a head like a Stag, with blunt horns, about six inches long, covered with hair, and without branches. The neck has some resemblance of that of the Camel, but it is much longer, being seven feet in length; though the *Germans* affirm, that that which was seen in their country, had a neck fifteen feet long, adorned with a mane like a Horse. The ears, tongue, and feet, are like those of a Cow; but the legs are very slender, and what is very remarkable, those before, are much longer then those behind; insomuch, that at a distance, you would imagine the animal reared up upon his hind legs. The body is small, covered with white hair, spotted with red, which renders the skin very valuable. It has no fore teeth in the upper jaw, and the tail is long, and bushy at the end, with
hair

hair as long as hogs bristles; though that on the body is slender, soft, and fine. The fore feet are moved both together when he runs, and not one after another like the method of other animals. He is only to be met with in the woods, which makes it very probable, that he feeds on the leaves and buds of trees; for he cannot reach the grass on the ground with its mouth, without straddling very enormously. Some authors have asserted, that he has a tongue two feet in length, and round like an Eel; but perhaps without any good authority. Both sexes have horns, but those of the male are longest. He is eighteen feet in length, from the tail to the top of the head; and when he holds up his head it is sixteen feet from the ground. He is judged to be of the Deer kind, from the hairiness of his horns.



C H A P. VIII.

Of Animals of the HOG kind, which are cloven-footed, but do not ruminatè, or chew the Cud.

THE male of a HOG is called a BOAR, the female a SOW, and their young a PIG. These are very well known, and therefore need no description; however, it may be observed, that they are beset with thick coarse hair, with bristles on their back; the snout is long, and flat at the end, in which the nostrils are placed. The Boar is endowed with large and very sharp tusks, growing upwards from his under jaw, with which he gores his enemy. They may be fattened in a wonderful manner more than any other animal, and the fat is collected between the fleshy pannicle, and the skin, which is quite otherwise in ruminating animals. The Sow has a double row of paps on her belly to the number of twelve, and yet she sometimes brings forth twenty Pigs at a time. They delight in rolling in the mire, upon which account they are reckoned an unclean animal, whose flesh is greatly abhorred by the *Jews* and *Mahometans*.

How-

However, it is generally believed, that they tumble in the dirt to destroy a sort of insect or Lice, which would be otherwise very troublesome. The Sow goes four months with young, and is said to live from fifteen to twenty years. In choosing a Hog, the buttocks ought to be fleshy; the belly large and prominent; the sides long and deep; the snout short and turning a little upwards; and the hair rough, thick set, and strong.

The Sow commonly takes the Boar at eight months old; but there is some difference according to the diversity of the countries, air, and climate in which they are bred; for the warmer the climate the sooner; and the colder the later. One Boar is enough for ten Sows, and he may be fit for the Sow at a year old, or somewhat less; but after six years it will be best to lay him aside. The Boar Pigs are to be castrated while they are young; some say at half a year old, and others at two years of age. It is the common opinion, that if Sows are spayed before they are fatted, they will grow fat the sooner. The flesh of Hogs called pork, is best in hot countries; particularly *Barbadoes*, *Jamaica*, *Carolina*, and the *East Indies*; and in these northern countries, *Westphalia* hams are accounted the best, and in *England*, *Hampshire* bacon.

A young Boar of four feet and an inch long from the snout to the root of the tail, had a head from the snout to the hinder part of the ears, a foot and an inch in length; the circumference above the eyes, was a foot and eleven inches, and the neck was five inches long; but the girth was two feet and a half in the middle. The height from the ground to the top of the withers, was two feet and an inch, and from the tip of the foot to the top of the hinder part, was two feet two inches and a half. The body was two feet ten inches in circumference, taken behind the fore legs; three feet five inches in the middle, and two feet eleven inches before the hinder legs; the weight was a hundred and fifty-three pounds.

The caul of a Hog is folded behind the stomach; but when it is unwrapped, it is large enough to cover half of the lower belly in some subjects; and in others

Pecary.

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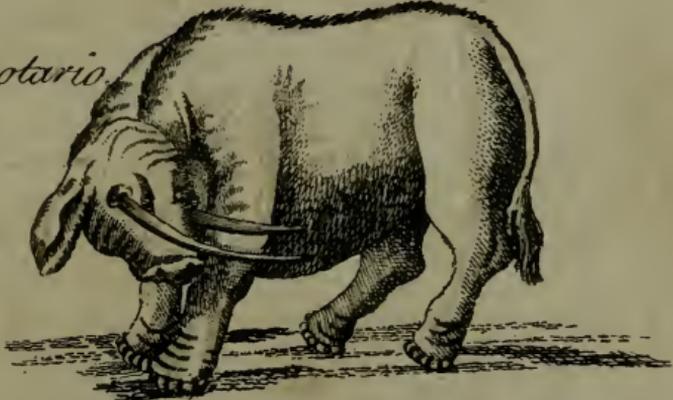
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Wild-Boar.

78



it will reach to the pubes. The duodenum has some small sinuities on the right side; and it has a fold behind the kidney of the same side, from whence it passes to the left. The circumvolutions of the jejunum are in the upper region, and on the right side; but those of the ilium are in the right iliac, and hypogastric region. The place where this gut joins the cœcum, is different in different subjects. The colon extends forward to the place from whence the cœcum proceeds, and forms circumvolutions that are almost oval; they are placed over the small guts, and are united by the cellular web seeming to form a floating mass. After this it passes to the right behind the stomach, then turns back afterwards more inward, and then joins the rectum. The small guts are of the same thickness throughout their extent; and the cœcum is thicker than the colon; for this decreases as it approaches the rectum.

The stomach takes up the fore part of the lower belly, and extends almost the whole breadth from the right to the left. The distance is but very small between the gullet, and the angle formed by the right part of the stomach when it bends upwards; and that part which is to the left of the gullet, is almost as long as that on the right. In most Hogs the liver lies almost as much to the left as to the right, but in some few it is chiefly to the right. It is composed of four lobes, three to the right, and one to the left, either wholly, or in part. The gall bladder is placed in a furrow of the middle lobe, but sometimes it is wanting, and then the gall bladder is within the lobe. The liver of the Boar Pig abovementioned, weighed two pounds and eleven ounces, and was of a livid colour within and without. The spleen of Hogs in general, is about half as broad as long, and the lower part is somewhat more narrow and slender, than the upper. That of this Boar was of a reddish colour, and weighed three ounces and five drachms; the pancreas consisted of three branches, that united near the pylorus; the longest branch extended to the left kidney, the shortest lay along the duodenum, and the third, which was seated between the two former, was
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the thickest at the extremity. The kidneys of Hogs are oblong, and flat, with a large pelvis; and the nervous center of the diaphragm has two branches, which extend backwards; the right lobe of the lungs is divided into four, and the left into two; the heart is placed obliquely, and the shape is somewhat different in different subjects. The tongue is sprinkled with small white grains or specks; and there are two flat glands near a quarter of an inch long, and half a quarter broad. The palate is crossed with very deep furrows, and the thirteen foremost are terminated, or bordered at the top with a roundish fillet. They are all crossed by another furrow that runs lengthways through the middle of the palate.

The fat of a Hog called the lard, is anodyne and emollient, and is in great use to make pomatum; in some places, nurses rub the gums of children with it, that they may breed their teeth more easy. *Etmuller* affirms, that three heads of garlick pounded, with a sufficient quantity of lard, and applied to the soles of the feet, is an excellent remedy against night coughs. It must be done before the fire; and, when in bed, the spine of the back must be rubbed therewith; he assures us, that if this be done three times, the cough will infallible cease.

The WILD BOAR does not vary in its colour like Domestic Hogs, but is always the same; that is, a grizzle or iron grey. The snout is much longer than that of a tame Hog; and the ears are shorter, rounder, and black, of which colour are also the tail and feet. He is covered with hair of two kinds; the one long, and the other short; whereas it is otherwise in a Domestic Hog. It is generally known that hunting the wild Boar, is the diversion of great men in several parts of *Europe*; but we have none of that kind in *England*.

A wild Boar that weighed two hundred and fifty-seven pounds, was five feet eight inches long from the end of the muzzle to the root of the tail measured in a right line; the circumference of the thickest part of the body was four feet two inches. The snout and ears were black, and the colour of the head was a
mixture

mixture of white, yellow, and black in some places, but the throat was reddish. The bristles on the back were three inches and a half long, and the colour was black two inches from the root, but higher they were of a dirty white; and the ends were of a brownish red for the length of half an inch. These bristles lay backwards, and covered each other in such a manner that there was nothing but the colour of the ends seen. The bristles on the sides of the body and belly were three inches long, and they were of the same colour as those on the back; but though they all lay backwards, the whitish colour appeared as well as the brown, because they were thinner, and did not lie so close to each other. The bristles, or hair upon the groin, was of a reddish colour, and those of the belly, the inner surface of the thighs, and of the scrotum, were somewhat tufted and reddish; however the greatest part of them were whitish near the bottom, and reddish near the points. The other parts were variegated with black, white, and red. The general appearance of the head was blackish, and the end of the tail and the lower part of the legs were black. The bristles at the end of the tail of a Wild Sow were seven inches long.

The glans of this Boar was very long, and somewhat cylindrical, except at the end where it was in the shape of a prism, and it terminated in a point, and was crooked, somewhat in the form of a cross. The penis had but one cavernous body, and formed above the testicles four inches from the surface of the prepuce two folds about an inch distance from each other; inasmuch that the penis at this place was folded into three portions; the greatest part was flat, but it grew round and less thick near the glans. The testicles were very large, and the seminal vessels were very long, and placed near the bladder. The inner substance of the testicles was of an ash colour mixed with a pale red. The brain weighed four ounces and four drachms, and the cerebellum five drachms.

The WILD SOW weighed an hundred and forty-one pounds, and was four feet and a half long from the snout to the anus; the circumference of the body

was

was three feet two inches behind the fore legs, and three feet and a half in the middle of the body. The lower end of the vulva was shaped like a pointed beak, and advanced forward. The glans of the clitoris was crooked, and terminated in a point. The coats of the vagina formed several wrinkles lengthways, till within two or three inches of the orifice of the matrix. The capacity of this part of the vagina was much greater than that near the vulva. The bladder was in the shape of a pear, and the orifice of the matrix was only marked with a little border that could scarcely be seen. The horns of the matrix were of a great length, and made circumvolutions like the great guts; but the left horn was a little longer than the right; the outward surface of each testicle or ovary was of a pale flesh colour sprinkled with black specks; and they were nearly in the shape of a kidney.

In the head of a Wild Boar that was a foot four inches and a half long from the fore extremity of the proper bone of the nose to the end of those of the occiput, the tusk on each side the upper jaw extended from within outwards, and from behind forwards, and was crooked at the top. That on the left side was longer than that on the right, and appeared an inch and a half out of the mouth. They had a flat longitudinal surface on the upper side, which was divided according to its length by a furrow; and they were two inches and a half in circumference in the thickest part. The tusk on each side the lower jaw extended from before backwards, and also were crooked outwards; they were both of the same length and proceeded two inches and a half out of the mouth, and the part within it was four inches. They had three longitudinal surfaces, the narrowest of which was on the outside; the circumference of each of these were near three inches in the thickest places. These tusks grow longer as the animal advances in years, and the seven double teeth on each side the upper jaw are placed over six others in the lower jaw. They have all points that enter into each other mutually, there being cavities correspondent thereto. In the lower jaw there are two other teeth, one on each side behind the tusks,
and

and at a pretty good distance from the other grinders ; but these are the least of all.

The flesh of a Wild Boar is in the highest esteem of any of this kind ; and it is more easy of digestion than that of the Domestic Hogs. The fat or lard has the same virtues as that of the common Hog ; but the tusks are alkaline, absorbent, sudorific, and proper to abate the acrimony of the fluids. The dose in fine powder is from a scruple to half a drachm in spitting of blood, the pleurisy, and the quinsy. In the gall bladder of a Wild Boar in the *East Indies* there is sometimes found a stone, which is in higher esteem than bezoar. It is generally of the size of a hazel nut, and it is usually sold at a prodigious price. It is said to resist poison, to cure malignant fevers, and all kinds of infectious diseases. Whether they have these virtues or not it is hard to say, though the contrary is most likely, however they are so scarce and dear that they can come but into few hands, to make proper experiments with them.

The EAST INDIAN HOG is covered with fine soft hair like Lambs wool, but very short ; but that on the back is more like bristles, and coarse. The colour is whitish, and the body is square and fat, with an oblong narrow head, and the snout proper for rooting in the earth. The ears are upright, small, and pointed, and the eyes are small. In the upper jaw there are two tusks, which grow so long at last, that the points reach the bone of the nose. They have such long roots, that they reach almost as far as the eyes. Those in the lower jaw, are as long as the former, and crooked, and seem to be given them for ornament more than for defence ; for they neither bite nor eat with them. The feet are like those of the *European* Hogs, the legs are long and slender, and the tail large, curled, and terminated like an ear of corn. This is described by *Seba*, and seems to be the same as the *Barbyroussa*, for other authors say, that the tusks are like Rams horns, two of which pass through the skin of the snout.

The GUINEA HOG is shaped like ours, and is of a reddish colour. They have long ears which end
in

in a sharp point, and a tail which hangs down to their pasterns. The whole body is covered with short red shining hair; but they have no bristles on the back, but only a longer sort of hair near the tail, and about the neck, and they are very tame.

The BARBYROUSSA a Hog so called, is an *East Indian* animal. It is of the size of a large Dog or Roe-Buck, of a dark brown or grey colour, and the hair is like that of a Greyhound. The head and mouth are like a Hog, with small eyes and ears. The tail curls twice or thrice, and the legs and claws are like those of a Roe-Buck. The circumference of its mouth and jaws, are as large as a Calf's head; and the jaw bones are very strong. On both sides backwards to the throat, there are twelve teeth, besides six teeth in the fore part of the under jaw, and two large ones in the upper, which are covered by the mouth. From the middle part of the undermost jaw bone proceed two large teeth, a foot long each, and about an inch thick, which pierce the mouth; and they are somewhat crooked like those of a Wild Boar. Out of the upper jaw arise two horns or teeth, on each side one, a quarter of a yard long, and they are very smooth, with a hook at the end. *Ray* affirms, that there was one brought into *England*, which was in shape and size like a Stag, with Goats feet, and a snout and tail like a Boar. *Dr. Grew* was of opinion that the teeth abovementioned were horns; but *Mr. Ray* thought they were real teeth, because they were placed in sockets like other teeth, and were of the same consistence. The two fore teeth in the upper jaw, shew that he is no ruminating animal; and he is to be found in the *Island Bouru*, which lies in the *East Indian* sea, and perhaps no where else in the world.

The TAJACU, or PECARY, called by some the MUSK HOG, is much less than our common Hogs; for from the end of the body, where the tail should be, to the top of the head between the ears, it is two feet two inches; and from thence to the extremity eleven inches. The circumference of the body is two feet, of the neck sixteen inches, and of the head in the largest place

place eighteen inches; likewise of the snout twelve inches; for the lower jaw in this Hog is more protuberant, and the head not so tapering as in ours. The skeleton is much like that of the Barbyroussa, only the teeth are not alike, the neck is very short and thick, which arises from the turning upwards of the vertebræ of the neck; because they are kept close to the body by the insertion of the strong ligament that runs from the back into the head; and which is of such great use in prone animals, and adds a great deal of strength to this.

The colour of the body is grizly, and is beset with bristles thicker than those of a common Hog, and smaller than those of a Hedge Hog, tho' they resemble them, or rather, the quills of a Porcupine; for they are variegated with black and white rings. The belly is almost bare, and the short bristles on the sides gradually increase in length as they approach the ridge of the back, where some are five inches long; and on the head between the ears there is a large tuft of bristles that are chiefly black. The ears are about two inches and a half long, and stand upright; and the eyes resemble those of common Hogs, only they are smaller. From the lower corner of the eye to the snout is six inches, and the snout itself is like that of a Hog's, though it is but small. One side of the lower lip is generally smooth, by the rubbing of the tusk of the upper jaw. The feet and claws are perfectly like those of common Hogs; but it has no tail. But what is most peculiar, and distinguishes it from all other animals, is the navel, or rather hole, on the hinder part of the back.

These animals are very common in *South America*, as well as in *New Spain* and *Panama*. They are usually met with in the mountains and woods, and they go together in large herds. They feed upon roots, acorns, and fruits; but they are most fond of poisonous serpents and toads; when they have caught them, they hold them with a great deal of dexterity with their fore feet, and strip off their skin with their teeth from the head to the tail, and then greedily devour them. They are also said to eat the root or bark of a certain tree,

tree, as an antidote against poison; but this seems to be fabulous. It is no hard matter to tame them, and then they will feed upon any thing; though they are naturally very fierce. If any of them are wounded, he presently calls a number of his own kind to his assistance, and will never leave off till he is revenged of the injury, or killed. They are great enemies to Tigers, and there is often found the body of a Tiger and many of these Pecaries slain together. When they happen to see a man they will set fiercely upon him, and his best way will be to get up into a tree, which however they will not soon leave, unless forced by hunger, or are slain. If they were hunted with Dogs they would tear them to pieces; but not always, for in the *Isthmus of Panama* there are dogs that will kill them; besides which they often shoot them with arrows. The flesh is very well tasted, and greatly esteemed by the native *Americans*, though they are seldom or never very fat.

Dr. *Tyson* dissected one of these animals, of which it will not be improper to give a distinct account. After dividing the muscles of the belly, there appeared to be three stomachs of a remarkable structure; the gullet was inserted into the middlemost, which may therefore be called the first ventricle, or stomach; from this, on one side, was a large passage into the second, which pouching out had its two ends winding like a horn. On the other side of the first or middle stomach, was a free open passage into the third, that opened itself into the duodenum. The first stomach was lined within with a thick hard membrane, almost like the inner skin of the gizzard of fowls; but neither of the other two had the like; for the inner surface of the second was smooth and soft, its membrane is thin, and more inclining to the common make of carnivorous animals. The third was somewhat like the former, but thicker, and internally had large plicæ or folds. Dr. *Grew* observes that in the common Hog, against the pylorus, there is a round caruncle as big as the kernel of a small filberd, which serves as a stopple to the pylorus, for preventing, as he thinks, the too sudden and plentiful passage of the aliment out of the stomach; but this is sufficiently

sufficiently provided for in the Pecary by the straitness of the pylorus at this place, and the great ascent it must make before it can get out. This may also serve to account for the several cells, or partitions, that keep in the aliment for its better digestion; for as this animal lives upon fruits, grains, and flesh, the stomachs are so contrived that the pellicle of the first somewhat resembles that of birds which live upon grain; and the two others those of quadrupedes.

The small guts, which in other animals being fastened to the mesentery usually hang down, are here closer gathered to the spine by the shortness of this membrane; and the colon, which in others is more suspended, does here by its more peculiar structure lie loose and fall down; for the duodenum arising from the pylorus with a short turn, that and the other small guts made several convolutions and windings. The mesentery was but very short from the spine, and the circumference seemingly but very small; and yet in this compass it contained twenty-seven feet of these intestines, for they measured so much from the pylorus to the colon. The colon was not fastened to the rim of the mesentery as usual, but arising from the center it made a spiral line, its extremity being loose, and its windings closely united to other membranes. The colon was large in proportion, and was nine feet in length. It had a short pretty wide cœcum, filled with feces, and it was of the same structure with the colon. The meseraic vessels were very extraordinary, for there was a large vein and an artery running a small unequal way from the intestines; and from them arose an infinite number of smaller strait vessels, that proceeded regularly to the guts, and afforded a very pleasant sight.

The spleen was about ten inches long, and almost of the same breadth throughout; in the middle it was an inch and a half broad, of a lead colour, and a little speckled. The liver consisted of four large lobes, of a dark red colour; and it was evidently glandulous, but had never a gall bladder, though it had a biliary duct that proceeded from the liver to the duodenum.

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The pancreas was about five or six inches long, and consisted of several glands.

The testicles were two inches long, about an inch broad in the middle, and larger at the upper than at the lower end; the colour was white, and the structure so close that the vessels which composed them did not so plainly appear as in a common Boar. The vasa deferentia arose near the lower part of the testicles, and are so placed that they may either empty themselves into the seminal vessels or the urethra. The seminal vessels were an inch and a half long, and in some places half, and in others a quarter of an inch broad. They appeared to be somewhat glandulous, for they had no considerable cavity. The glands that lay on each side the urethra were cylindrical, of a whitish yellow colour, an inch and a half long, and three eighths of an inch in diameter; they seem to have no cavity, and they lay along the outside of the urethra, reaching from the erector muscles of the penis to the glandulous vesicles above described. The penis was a long slender body, made up of several muscles, some whereof were very long; the bladder was rounder than in some other animals, and the ureters were inserted at the neck of the bladder.

In the thorax the make of the great artery was very uncommon; for in other animals as it descends along the spine its trunk is almost of an equal bigness, only a little tapering downwards; but in this subject, between the heart and its branchings into the iliac arteries, there were three large aneurisms or tumours; the largest of which was nearest the heart, and, after a small contraction, it emptied itself again into the second; and this, though a little less than the first, was much larger than the third, which was near the division of the great artery into the iliac branches. Two of these swellings were opened, and several cells or hollows were found therein; and the membranes here were quite as thick as where the arteries were not distended.

The aperture of the eye was but small as in the Hog kind, but the nictitans was plainer than is common in quadrupedes; however the muscles were not so distinct as in some brutes; and hence the motion of
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the eyes is neither so quick nor so regular. The pupil was round, the optic nerve was inserted almost in the axis of the eye, and made a small dent or impression on the inside; the choroide membrane was of a pale violet, or brownish colour.

Just on the ridge of the back, over the hinder legs, is seated a glandulous body called the navel; but it is so covered with long bristles, that it cannot be seen except by opening them with the hands. A small space will then appear that is almost bare, only it is beset with fewer, shorter, and finer hairs. In the middle there is a protuberant orifice of the gland, by which it discharges a liquor; and it has lips a little reflected, and protuberant above the surface of the skin; it would readily admit a large probe, which could be turned into several parts of the gland. Upon a gentle pressure with the fingers, a small quantity of whitish yellow juice would appear, though some of it was a little darker; and it had a very pleasant agreeable smell not unlike musk. The gland itself was seated between the skin and the fleshy pannicle; from the middle of that part of the surface which regarded the back, it was bare, and not covered with that muscle, though the edges were enclosed within it.

However this muscle may be assisting by its contractions to press out its liquor, this gland consisted of several other minute glands, but had no considerable cavity; and yet like the salival gland it had several excretory ducts, which terminated in one; and discharged the secreted juice by a common orifice. This had some resemblance to a navel, for which reason it has generally been taken for one; but there is nothing to which it can be more properly compared than to the scent bags, or glands, in other animals. In Pole Cats at the extremity of the rectum there are two bags filled with a thick whitish liquor of a very strong smell; and this is observable in common Cats, in a Lion, Dog, Fox, and some other animals; from whence their peculiar smell proceeds. In some animals these bags are placed in different parts of the body, as in the rumps of birds, particularly in those of the Goose and Duck kind; where we find two that have

three excretory ducts, arising on the top above the surface of the skin, which discharge a fœtid liquor. The rump of Turkeys is not so glandulous, but there is a large cavity; and in the Ostrich it lies higher on the back, where it makes two bunches, and under the skin is a cavity filled with a concreted yellowish juice; which is nearly the place where the gland of the *Mexican* Hog is seated; again the Musk Deer has its bag on the belly near the navel.

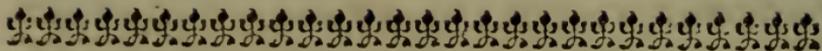
This liquor by most authors is said to have a stinking smell, and particularly *Wafer*; for he affirms, that after killing a Pecary, if the navel is not cut away from the carcass within three or four hours at farthest, it will not only taint all the flesh, so as to render it unfit to be eaten, but it will make it stink intolerably; however, as Dr. *Tyson* observes, the best perfumes have sometimes the rankest smell; for even civet and musk itself when fresh and green, and in large quantities, has a very offensive smell.

The skull seems to be whole without any sutures, and from the nose to the end of the pole are eight inches and a half; at which last place the skull grows very narrow, and then spreads out again in a triangular form, making a large hollow behind where it regards the back, and where the strong muscles and the ligament from the back are inserted; by this means the head is kept so erect, that when alive it seemed to have no neck at all, or at least one that was very short. The passage to the ear is placed near the pole, and in the fore part of the upper jaw there are four teeth, and a little further a large flat tusk, sharp edged, and standing outward; beyond this, on each side, there are six double teeth or grinders. The lower jaw is six inches and a half long, and one and a half broad at the first double tooth, of which there are six on each side. The tusks of this jaw in the described subject were rooted out, as were one or two of the fore teeth, which were about four in all.

There are seven vertebræ in the neck, which are four inches and a half long; and the first, or atlas, has two broad transverse processes, but no spine. The second has a large spine; but the third, fourth, and fifth have

have none; the sixth and seventh had spines that were large and acute; and there are nine vertebræ of the back, the spines of the first, second, and third are above three inches long, but they gradually decrease as they approach the tail. The first vertebra of the ox coccygis is two inches long, and there are about six vertebræ more that run no farther than the extent of the os ischii. There are fourteen ribs on each side, and the sternum juts out about an inch beyond the setting on of the first ribs. The shoulder bone is five inches long, and the thigh bone of the fore leg five inches and a half. The os tibiæ is about the same length; but from the articulation with the thigh bone to the os metatarsi it is but four inches. The bones of the tarsus are five, and of the metatarsus three, which are about two inches long. The bones of the toes are nine, there being two to each claw, and three claws on each fore foot. The thigh bone of the hinder leg is near six inches long; and near its articulation with the os tibiæ, it has a small bone like the knee pan of a man. There are two bones in the leg five inches and a half long; but this part of the fore leg is only a single bone; in a Dog, Monkey, and some other animals there are two bones in the fore leg. The heel bone is almost two inches long, and there are four bones of the instep; there are four toes, each of which have three bones, and the last is covered with a nail.

The WARREE is another sort of *American* wild Hog, which has very large tusks and little ears, and is covered with strong thickset long hair, or bristles, which like a coarse fur, cover all the body. This is inserted on *Waser's* authority, who lived for some time on the *Isthmus of Darien*; but I am apt to think he is mistaken, because no other author takes notice of any such animal, but acknowledge there are wild Hogs of the same breed which were originally brought to *America* by the *Spaniards*.



C H A P. IX.

Of Anamalous QUADRUPEDES with regard to their Hoofs.

I Am not ignorant that all cloven footed animals may properly be said to have four toes ; two before, and two behind on each foot ; but those behind are so small, that they are of little use to the animal either in treading, or walking, unless to hinder the feet from sliding ; so that those animals which may properly be said to be endowed with four toes, have them all placed forward, and not at a distance from each other, nor yet of a less sort.

The animal called TAPIIERETE by *Marcgrave*, and which is to be found in *Brazil*, has a hoof not unlike that of a Rhinoceros, or an Elephant, but then he has only three toes before, and a little one on the heel. In other things he pretty much resembles the above animals ; and the same may be said of the Capy-*Bara* of the same author. 'Tis uncertain whether the musk animal ruminates or not ; however his toes on the hind part of the feet are larger and longer than in other cloven footed animals.

The RHINOCEROS has a body pretty near as large as an Elephant, but he has legs much shorter, and he has a horn on his snout or nose, which sufficiently distinguishes him from all other animals. The head is of a long make, having a hollow between the forehead and the horn ; and the snout seems designed to turn up the earth, in order to find out the roots of plants. It is very pliable, and ends in a point, which it can turn upwards, downwards, or sideways. The nostrils are placed on each side of it, and the lower lip is almost square, and flattish forwards, with the two corners appearing on the sides of a lively flesh colour. The Eyes are small, and placed pretty forward on each side of the head, and it has large ears in proportion, which stand erect

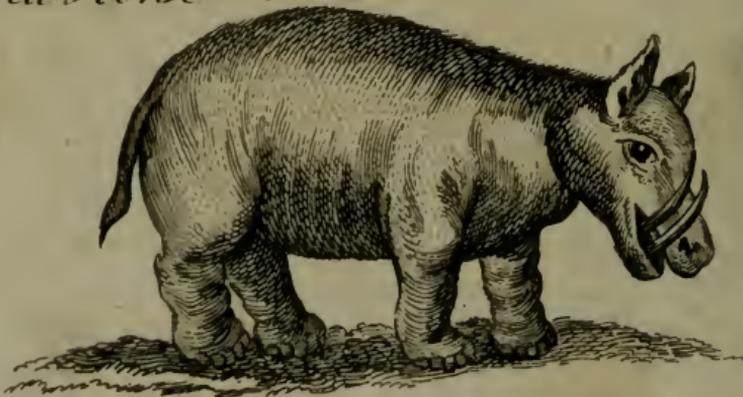
Elephant.
96



Rhinoceros. 90



Sea Horse 94



erect on the top of the head. The whole animal is covered with a thick rough chapped skin of an ash colour, with plaits and folds in all such parts as are necessary to allow the creature motion, falling one over another backwards. But these plaits may be better seen in the figure than described by words. It has no knobs all over its body, as expressed in some figures, except on the hinder quarters which receive its weight when the animal first lies down, and there the knobs on the skin are very large.

The tail has a few black hairs at its end, and there are also a few scattered hairs on the ears; but on the other parts there is none. The back is hollow, and the belly sinks down pretty much. The feet are round behind, and the hoofs are forward, which are divided into three parts on each foot; but they have two little hoofs on the hinder part of the foot, as we see in Cows, Deer, and Sheep.

I have lately seen a Rhinoceros here in *London*, whose horns were very short, and in every thing else agreed with the above description; however some authors of credit affirm, that these horns sometimes grow to the length of three feet. It is uncertain whether the Rhinoceros is a ruminating animal or not; but the negative is most probable.

The horn is different from all other animals we are acquainted with, and is not hollow on the inside but solid. He rolls himself in the dirt like a Hog, and the old ones are so strong they will toss up a large bull, as was seen in the amphitheatre at *Rome*.

The above species of Rhinoceroses are chiefly to be met with in the *East Indies*; but there is another kind with two horns, which are natives of *Africa*, and may be seen in plenty at the *Cape of Good Hope*. The colour of the skin of these is of a dark brown, approaching nearly to black, and is without hair. The skin is all covered with scars and scratches like those of an Elephant, and it is so tough and thick that it is hard to be pierced even with a pointed knife. The snout resembles that of a Hog, but is more pointed at the end. The horn on the nose is of a greyish brown, and is a little crooked, and turns up towards the head. It is

shaped like a plough share, and is of different sizes according to the age of the animal; but never exceeds two feet. He has another on his forehead in a right line with that on the nose, which is of a yellowish colour, and a palm in length when the Rhinoceros is young, and never exceeds six inches when he is old. This second horn hinders the animal from doing all the mischief he otherwise might, because it serves in some measure to break the stroke of the other.

The legs are much shorter in proportion to that of the Elephant, and the eyes are so small that he can see nothing but what is directly before him, for this reason when he pursues his prey he always runs in a right line, overturning whatever lies in his way, for scarce any thing will stop his progress, or make him turn aside. With the horn on his nose he roots up trees, and lifts up the stones which oppose its passage, casting them at a great distance behind him. When he is in a rage he makes furrows in the ground, and throws a great deal of earth over his head. He grunts like a Hog, and may be heard at a great distance when he is in pursuit of his prey.

He very rarely attacks mankind unless he is provoked, or meets with a person with a red garment. When he attacks a man he lays hold of the middle of his body, and throws him over his head with such force that he is almost always killed with the fall; this done he comes and licks him, and his tongue is so rough and hard that it brings off the flesh from the bones. He likewise serves other animals in the same manner after he has killed them. When he is seen running along it is pretty easy to avoid him, because he cannot turn about very readily, so that when he is about eight or ten feet distant, a man needs only go one side and then he will be out of his sight. This Mr. *Kolben* affirms from his own experience, and adds that he has escaped in this manner several times.

This animal does not feed upon grass but upon shrubs, thistles, and roots; however those that are tame will feed upon hay, fruits, pulse, and almost every thing else that is given them, except flesh and fish. One of their keepers has affirmed, that they will eat
sixty

sixty pounds of hay in a day, and twenty of bread, and that they will drink fourteen buckets of water. They are very fond of the smoke of tobacco, and take a great pleasure in having it blown into their nostrils. In those countries where they breed they will devour the boughs of trees though they are never so full of thorns; and sometimes indeed they will draw blood, but that does not cause them to leave off. In *Abyssinia* they not only eat the flesh of these animals, but they use them to work in the same manner as Elephants do in other countries. They are there fond of marshes, and rank grass, which they will eat like Oxen. Some say they are very fond of the water, and will dive like Ducks, and others that they will travel one hundred and fifty miles in a day, which does not seem very probable.

The horn of a female Rhinoceros that was at *Paris* was nine inches long, and the space between the horn and the ears measured fourteen inches; and from the horn to the end of the muzzle was nine inches. The horn was of a whitish colour below, but towards the end was of a blackish brown, or of the same colour with the skin. It was not exactly round, but very thick, hard and crooked, turning towards the back. That of the male Rhinoceros is more long and thick than that of the female, being sometimes two feet long from the root, and about a foot in diameter. It is as hard as iron, and sharper than that of the female. However the horns are not always of the same colour, for they are sometimes black, sometimes ash coloured, and sometimes white; and likewise their size differs according to their age. *Middleton* relates, that when he was at *Bombay*, he saw several of these horns that were longer than those he had seen elsewhere. One of these was composed of three little horns which proceeded from the same root, the longest of which was eighteen inches, the second twelve, and the third eight, but these were brought from other countries.

The flesh of this animal is eaten by the *Dutch* at the *Cape of Good Hope*, and is in high esteem. It has been usually said, that the horn of a Rhinoceros will fall in pieces when poison is poured therein. At the *Cape* they

they have cups made of the horn, which are mounted in gold or silver. When wine is poured therein it will rise, ferment, and seem to boil, but when mixed with poison it cleaves in two; which experiment has been seen by thousands of people. The inhabitants of these parts will not believe those who affirm that a Rhinoceros has but one horn; likewise there are many people in other parts, that cannot be persuaded there is a race of these animals with two.

There is little said by authors of the medicinal virtues of the parts of a Rhinoceros; only that the horn is a great antidote against poison, but this opinion seems to be settled on no solid foundation.

The HIPPOPOTAMUS, or SEA HORSE, by some called a SEA ELEPHANT, is an animal which feeds upon grass on the banks of rivers; but frequently hides himself under water, where he will continue for some time. When he lifts his head out of the water he looks about every where to see if there is no danger, and he can smell a man at a considerable distance. If any thing frightens him he plunges into the water again, and will continue three hours longer without stirring, insomuch that a hunter who waits for him must be very patient till he rises a second time and shews his head. As soon as he begins to appear, the hunter must take his aim at the side of the head, but if he should chance to be seen by this animal he sinks in an instant. When he is killed in the water the blood will discover the place where he lies, and then with a boat, hooks, and cords, he is dragged to the bank. This done, they take off his skin, turn out his bowels, and throw him on a waggon to carry him home. His weight, when full grown, is from 2500 to 3000 pounds.

The Sea Horse for colour and shape resembles a Rhinoceros, only his legs are a little shorter. The head pretty much resembles that of a common Horse; but the mouth is much larger, as well as his nostrils. His ears and eyes are very small, and his legs short, gross, and of the same thickness from the top to the bottom. His Hoof is not cloven like that of an Ox, but is divided into four parts at the extremity, and on each

each of these parts there are small furrows, which turn like those of a screw. The tail is short like that of an Elephant, and has a little short hair thereon; but he has none any where else.

The udder of the females hangs between the hind legs, like that of a Cow, but they are very small in proportion to the bulk of the body. They have been often seen to suckle their young ones of the size of a Sheep. The hide of a Sea Horse is above an inch thick, and is so hard that it scarcely can be penetrated with a musket ball; for which reason the hunters always aim at the head. A Sea Horse has nothing more remarkable than his tusks, which are four in number, that proceed from the lower jaw and rise out of the mouth to a considerable height. They are as thick as an Ox's horn, and about a foot and a half long, weighing ten pounds each. They are extremely white, and always keep of the same colour, whereas ivory is apt to grow yellow. For this reason they are greatly in request among mathematical instrument makers, for scales, sectors, and the like. However he has forty-four teeth in all, that is, eight incisors, four in each jaw, four dog teeth, two on each side, which are all in the shape of cylinders, and thirty-two grinders, of which there are eight above and below in each jaw.

The flesh of this animal is very fine eating either roasted or boiled, and is highly esteemed at the *Cape of Good Hope*, where it is sold for six-pence or seven-pence a pound. The fat is as dear as the lean, being exceedingly wholesome, and it is used in making puddings, instead of butter. The history of this animal has been very imperfect till of late, for formerly they could only be seen at *Cairo* in *Egypt*, and that very seldom. Mr. *Ray* could only give an account of one from *Colonna*, and that was very young; for his teeth were not above six inches long, and they were hid within the mouth. Likewise from the head to the tail he was only thirteen feet long, and the diameter of his body was four feet six inches.

The Hippopotamus delights in rivers where the water is quite sweet, and chuses those parts of them

where there is grafs on the banks, and confequently he is improperly called a Sea Horfe, becaufe he is never met with even in falt water. He does not fleep in the water as fome have affirmed, but always among reeds, bufhes and thickets, that are on the fides of the rivers ; and then he fnores fo loud that he discovers himfelf to the hunters, who then take an opportunity of killing him, which they may eafily do if they can get near him without making any noife ; for he is very quick of hearing, and when he is difturbed immediately jumps head foremoft into the water.

They bring forth their young on the land, where they fuckle them and bring them up, unlefs they are difturbed, and then they all take to the water. Some fuppose that they bring forth four at a time every year ; however this is not very certain. The negroes that build their huts on the fides of rivers, are obliged to guard their fields and gardens night and day, making fires about them to keep off the Sea Horfes and the Elephants, otherwife they would do a great deal of damage among the rice and corn, not only by eating it, but by trampling it with their feet. The *Portuguefe* are allowed to eat the flefh of this animal in lent, to which they give the name of *fish*, though it is very certain nothing can be more unlike it ; but the reason is there being very fond of it, and fo are willing to have it go under that name, that the eating of it may not difturb their confciences.

The ELEPHANT is the largeft quadrupede in the world, being fometimes fifteen feet high, and thick in proportion. The forehead is very high and rifing, and the ears are very large and hang downwards. The eyes are very fmall, and the probofcis or trunk is long, leffening gradually from the head towards the extremity, which is flat, and has two holes or noftrils at the end. It can fhorten or lengthen the trunk at pleafure, it being full of wrinkles or rings indented round it. It can take any thing from the ground with its trunk, by the help of a little pointed griftle, or membrane, that it can twift round it.

The body is round and full, and the back rifes in an arch ; but the whole animal is fhort in proportion to its
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its height. The feet are round at the bottom, and do not seem to spread greatly beyond the bulk of the legs. On each foot there are five flat horny risings, which seem to be the extremities of the toes, though they do not appear outwardly. The tail is like that of a Hog, and the skin is horny, rough, and has many irregular risings, or humps, and it hangs very loose on the body.

This is the description of a very young Elephant seen here in *London*, that had no tusks; and therefore I shall give an account of those that are full grown. They are not all of one sort, for in *Tonquin*, *Siam*, and other parts of the *East Indies*, there are white Elephants, which are in high esteem by the inhabitants of these parts; likewise in the island of *Ceylon* there are some that are spotted, which perhaps are not to be met with in any other country. They all delight to live in the torrid zone, though when they are brought into northern climates they do very well, which perhaps is owing to their being kept in warm stables, and consequently not exposed to the cold air in the fields.

The hide of an Elephant is without hair, and quite full of scratches and scars, which they receive in passing through thick woods and other thorny places. At the end of the tail there is a tuft of hair a foot and a half long, and as thick as Hog's bristles. The female is much less than the male, and the udder is between the fore legs. Their usual food is grass, heath, roots, and the shoots of young shrubs, and bushes while they are tender. However they are very fond of corn when they can get at it, and they do a great deal of mischief in the corn fields, but they spoil a great deal more than they eat.

The teeth or tusks of an Elephant grow to a prodigious size, being frequently eight feet long, and weigh upwards of one hundred and fifty pounds. The mouth, considering the bulk of this creature, is small, and in both jaws there are grinders which are fixed in a solid bone, insomuch that they seem both together to make only one solid body; though they are distinguished from each other by undulated parallel lines, and are eight or nine in number.

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The trunk is six or seven feet in length, and upwards of three in circumference at its origin. It is so strong that he can take up a vast weight thereon, pluck up trees by the roots, and toss a criminal very high in the air. For in several of these eastern countries an Elephant is made use of as an executioner. History informs us, that Elephants were used in war by the ancients; and so they are at this day by several of the *Indian* princes; and when they are well taught they make great havock in the field of battle. They formerly used to place a sort of towers on their backs, which held about six fighting men, who threw darts at the enemy. The natural food of the Elephant was mentioned above; but when he is brought about for a shew, he will eat hay, oats, barley, and all sorts of fruits. Besides, he has so quick a sense of smelling, that he can tell if any one of the company has fruit in his pocket, and will take it out with his trunk. Their way of drinking is to suck up water with their trunks, and then convey it into their mouths. They are said to live to a great age, that is, two or three hundred years, but upon what ground this conjecture is founded is uncertain. However it may safely be affirmed that they live at least one hundred and twenty, or one hundred and thirty years. The manner of their copulation, and the time of bearing their young are only guessed at, and therefore I shall not trouble the reader with such uncertainties.

When the belly of an Elephant was opened, there seemed to be no caul, on account of its uncommon situation; for, instead of being connected to the side of the fore and middle part of the stomach, it was seated on the farther side; for which reason it passed between the guts and the back. It was composed of a sort of double net work, that was very thin and delicate, and was intirely void of fat as well as all the rest of the body. With regard to the guts, as soon as the belly was opened there appeared a portion of them three feet long, which almost covered the other intestines; for the cœcum and rectum were not so big by much. The small guts were eight inches and a half in diameter, and they were all nearly of the same thickness; they

they were thirty-eight feet long, and their coats were very thick. At the place where the ilium entered the colon there was a continuation of the colon, which made a pouch a foot and a half long; this was the cœcum. The colon began near the left kidney, after which it passed to the right, ascended under the false ribs, where it turned back under itself, and descended towards the hypogastrium, which it almost filled, and covered all the rest of the guts. Afterwards it became more slender, and then it enlarged again; but it bended back at the narrowest part, and returned towards the stomach again, and turning over the ilium and passing downwards, it descended directly to the anus, and formed the gut called the rectum. All the cavity of the colon was distinguished into cells, except that portion which first appeared upon the opening of the belly. The great guts taken together were twenty-two feet long; and all the small guts taken together were sixty feet long. The colon and cœcum were each five feet in circumference, and the rectum two and a half. They were all connected to the mesentery, whose membrane was thin and void of glands and fat; but the vessels were distributed as in a man. The stomach was hid by the guts, and the gullet which generally enters the stomach to the left, in this subject was joined to it almost in the middle. The stomach was three feet and a half long, and fourteen inches in diameter were largest. It had a great many folds or leaves on the inside, a twelfth of an inch thick, and an inch and a half broad at the beginning, but they became broader as they advanced towards the point of the stomach. The liver was three feet long, and two and a half broad; it was divided into two lobes almost of an equal size; the right lobe, which was the biggest, was hid in the hypochondrium, to which it was connected by the upper half, and the other lay upon the spine. The left lobe, which did not reach further than the middle of the belly, was furrowed in two places on its lower and hinder part. The convex part of this lobe was connected to the diaphragm by a strong ligament four inches in length; and the whole liver was of a greenish brown without, and ash coloured within; the
 substance

substance was as hard and dry as roasted liver. There is no gall bladder, at least there was none in the two that were opened in *England* and *France* some years ago; but there is a wide hepatic duct that proceeded from the lower part of the lesser lobe, and was inserted into the gut three feet from the pylorus. The vena portæ that proceeded from the same place was an inch and two lines in diameter. From the upper and convex part of the lobe a large branch of the vena cava proceeded, which was inserted into its trunk near the part where it passes through the diaphragm. The spleen was connected to the lower part of the bottom of the stomach, by means of the caul; and it was three feet long, and seven inches in diameter. Its coat was hard and tendinous, and the substance was hard, it being composed of solid fibres that lay close together. The pancreas lay upon, and was strongly connected to that part of the colon next the stomach; it was a foot long, and three inches broad. Its duct joined with the hepatic, and formed a common passage. The kidneys had a thick adipous membrane, but it was void of fat. The ureter in the hollow part of the kidney was divided into several canals, that were large at the end, and made as in mankind. The renal glands, that were placed between the kidneys and the vena cava, were six inches long, and half an inch thick, the substance was solid without any cavity, and the colour was of a pale yellow.

The external orifice of the matrix was placed in the middle of the belly, and two feet distant from the os pubis, near which it is commonly seated in other animals. The clitoris was of the same length, and was two inches in diameter; it had its origin at the lower part of the os pubis, to which it was connected as is common by two branches. It was covered by the skin that inclosed the neck of the matrix, and appeared so plainly outwards that this Elephant was taken for a male before it was dissected. The neck of the matrix was three feet and a half long, and the internal surface was smooth and full of vessels. The internal orifice had a border that advanced towards the fore part of the neck of the matrix, and was about two inches long;

long; beyond this it was stopped as it were by two valves, which appeared to be placed there to prevent the reflux of the urine, and oblige it to pass outwards; for as the neck of the bladder was very short, it being but two inches long, it was inserted near the internal orifice, and at a great distance from the external, by which the urine was to pass out. The body of the matrix was of an oval figure, and was a foot and a half long, and near an inch broad; the internal coat was smooth, and in the cavity there were two holes, which were passages from the cavity of the horns into that of the matrix; they are surrounded by an appendage of the internal membrane, which served in some sense to stop them up, and hinder whatever proceeded from the the horns into the matrix to return back. These horns, instead of separating from each other as is common, joined each other to the length of a foot, though they were divided by a partition; after this they parted into two branches, and the whole length of each horn was two feet eight inches. At the beginning they were an inch and a half thick, half an inch in the middle, and a quarter near the end. The extremities of the horns reaching to the beginning of the fallopian tubes, that were but two inches long; insomuch that they seemed to be a continuation of the horns, only they were bigger at the end. These large ends lay upon the testicles, and were connected by a membrane three feet long; jagged like the horns of a Deer, and furnished with a great number of vessels. The testicles, or ovaries, were small and flat; for they were but an inch and a half in breadth, and a quarter of an inch thick.

The pericardium was connected to the diaphragm as in men, and the heart was round, and measured a foot every way. The cavity of the right ventricle had four thick fleshy columns, and a ligament, like a cord, that went across from one side of the ventricle to the other. The columns of the left ventricle were much less, but more numerous; for which reason it was more unequal than in any other animal. The great artery was three inches in diameter near the heart, and the coats altogether were the sixth part of an inch thick; the lungs had but two lobes. The gullet was
near

near six inches in diameter, though the windpipe was but three; it was two feet long from the larynx to its entrance into the lungs, where it became membranous.

The brain was exceeding small; for with the cerebellum it was but eight inches long and six broad, and they both together weighed but nine pounds. The dura mater was very thick, and separated readily into two membranes. between which the vessels were contained. The optic nerves were but a quarter of an inch in diameter, and there was no appearance of any cavity; the nerves of the fifth pair were an inch in diameter, and sent a great number of branches to the trunk. The spinal marrow was very thick, and the ash coloured part was more substantial than is usually met with in other animals. The globe of the eye was an inch and a half and two lines in diameter, the cornea an inch and a line, and the chrystaline humour was seven lines broad, and five thick, and it was more convex behind than before.

The tongue was a foot and a half long, and was pointed as well as the lower jaw; the epiglottis was small, and was not so firm as usual in other animals; for it was not cartilaginous, for which reason it is commonly said that an Elephant has none at all. The hole of the palate that answered to the trunk was three inches in diameter; the upper part of the tongue had only two coats, and never a reticular membrane. The first was rough, with small soft hollow fibres, and they were thickest and longest towards the root of the tongue; the second coat had also many nervous points that entered into the hollow fibres of the first coat.

The nose was without the bones that are common in other animals, and it was connected to the frontal bones; but instead thereof, immediately under the frontal bone, there is a large hole, which serves instead of nostrils, and which is divided into two only by a cartilage. It was covered with a large cartilage like a vault, which was divided into two thin plates at the lower part, and seemed to be designed to close the passage of the liquor drawn into the trunk, that it might not enter the nose. Besides these two cartilaginous

ginous appendages there was a third, that proceeded from the top of the vault, and, as a partition, divided the great hole into two, forming the two canals of the nostrils. These were covered with a thick membrane full of glandulous grains of the size of peas, that had evidently excretory vessels. At the entrance of each canal towards the external side, there was a large hole that led to a gland of the size of a walnut, and like what are called the almonds. Over the vault of the cartilage on each side there was a furrow, in which lay a strong ligament, that was connected at one end to the frontal bone, and the other was divided into several fibres, that were lost among the fibres of the perpendicular muscles of the trunk.

The organ most particular to this animal is the trunk, which is of a particular structure. It serves for a passage to the air in breathing, and to receive the liquor that it conveys into the mouth by the same end it was received, as has been observed above. It consists of nervous and tendinous membranes, and a muscular flesh; for it has neither bones nor gristles as some authors have affirmed. Along the middle there are two canals, each an inch in diameter in the narrowest part towards the extremities. They are made up of a smooth pretty firm nervous and tendinous membrane; and they grow larger by degrees towards the root of the trunk, to the end that the liquor contained therein may be thrust forward with a greater force by means of the breath; for it is not done by the successive motion of annular muscles, as some have thought; because there are neither muscles nor fleshy fibres that are circular. At the extremity of the upper part towards the root of the trunk, there is a sort of a bag which turns upwards, and afterwards downwards into the two canals of the nostrils. These seem to be made to hinder the impetuosity of the liquor that ascends in the canals when it is drawn up by the nostrils; it seems probable, that when the liquor strikes against these parts, it serves to let the animal know that he has enough, and that he should prevent its ascending higher, for fear of its entering that part of the nose where the organs of smelling are placed. These two canals that run the length

of the trunk are covered with flesh all round; and this again was covered by the ligamentous membrane. The principal actions of the trunk are two, namely, lengthening and shortening; and by this means all the other actions are performed, because they are but different modifications thereof; as for instance, if the trunk is lengthened on one side, and shortened on the other, it must needs bend on the shortened side; besides the fleshy fibres run in all directions, and therefore it may be moved every way by their means.

Some authors have affirmed that the bones of an Elephant are of the same substance with the teeth; but this is not true, for they are like the bones of other animals. Instead of the third bone of the upper jaw in this Elephant, there was a very large bone fourteen inches long and six broad; and the two being joined together, made an oval pit an inch and a half deep, which is the place to which the root of the trunk is connected. In these likewise the great teeth are fixed near the end, where there is a large hole three inches and a half in diameter, which opened into a canal thirteen inches and a half deep, in which the tooth was placed, and went quite to the bottom. That part of the tooth within this canal was likewise hollow, only it had a sort of flesh connected to the thin bottom of the canal, and which served to close it. It entered into the hollow part of the tooth, and on the outside seemed to be somewhat of bony nature. At the lower part of this bone of the lower jaw there were four teeth, two on each side, but of different sizes. The biggest was that before, and was four inches long, an inch and a half broad, and its height on the fore part was only half an inch, though it was an inch and a half behind. The other tooth was two inches long, an inch and a half broad, and two inches and a half high. The parts that meet the other teeth in chewing were flat, strong, and smooth; the bigger teeth seemed to be composed of seven pieces, and the lesser of two.

The lesser jaws were extremely heavy, and they were above three inches thick measured every way; for the bone was round, and not flat as usual, but was much shorter than the upper jaw, and it was two feet two inches long.

long. The chin terminated in a point two inches long, and had three angles, two above, and one below. There were also four teeth in this jaw, and the two longest were placed before. This Elephant was dissected by the members of the *Royal Academy at Paris*, and was very young; they have given us a very long description of all the parts, from which I have only selected those things that seemed to be most peculiar to this animal, and in which it differs from all others.

The only part of an Elephant used in medicine is the tooth, known all over *England* by the name of ivory; however, it has much the same virtues as hartshorn, and may be prepared in the same manner. Some pretend it will cure the jaundice, kill worms, ease pain, strengthen the stomach, and abate the fits of an epilepsy; but without any just foundation.

When they are wild they always go in herds, the largest foremost; and when they are to cross a river, they lift up the young ones with their two tusks, and twist their trunk round the middle. There are different methods of taking wild Elephants, one of which is to dig a deep pit, and covers it with boughs and grass, that an Elephant may fall into it as he goes along. Another is to drive them into a narrow place made so strong with posts and rails, that they cannot get out of it; and then they employ the tame Elephants to bring them to reason. Two of these will get a wild one between them, and beat them with their trunks till they have made him quite tame. If after this he refuses to do as he is bid, they make signs to the tame ones, who immediately correct him and oblige the poor animal to obey.

The SUCUTIRO or SUCOTARIO is a *Chinese* animal, and is of a very odd shape, for it is of the size of a large Ox, with a snout like a Hog, two rough ears, and a thick bushy tail. The eyes are long, and placed upright in the head, quite contrary to those of other beasts; and on the sides of the head next to the eyes, there are two long horns or rather teeth, that are not quite so thick as those of an Elephant. It feeds upon herbage, and is seldom taken.

There were a pair of horns brought to the *Royal*

Society some years ago, that Dr. *Hoek* suspected to belong to this animal. They are both almost straight for a considerable length, and then turn crooked, and run on tapering to a small and pretty sharp point. However a commander of an *East Indian* ship, told Sir *Hans Sloan*, that he had seen such horns in the *East Indies* on a large Buffalo's head; but Sir *Hans* himself, thinks, that they must belong to a very large sort of Bulls or Cows, that are met with in the midland parts of *Africa*; and of which the ancients have given fabulous descriptions. He imagines they are twice as large as our Bulls or Oxen, and that the horns are proportionable to their bulk. The patriarch of *Ethiopia* informs us, that there are very large Oxen in that country, with such exceeding thick and long horns, that one of them would hold a small uter of wine. Add to this, that *Bernier* in his account of the Great Mogul's country affirms, that among several presents brought by the *Ethiopian* ambassadors to the Great Mogul, there was a prodigious large horn full of suet, which he measured and found to be half a foot in diameter at the large end. If the opinion of Sir *Hans* is true, they might not be the horns of the *Sucotario* here spoken of.

TAPIIERETE so called by the inhabitants of *Brasil*, and by the *Portuguese* ANTA, is of the size of a Calf, but of the shape of a Hog; and the head is much like one, but thicker, longer, and terminates in a point on the upper part. It has a proboscis over the mouth, which it can contract or extend at pleasure. The eyes are small, and like those of a Hog, and the ears large and roundish; likewise the legs are much of the same length as a hog, but thicker. The fore feet have four toes, three of which are large, and the other small; but in the hind feet only three. It has no tail, and the skin is hard, and covered with short hair of a darkish colour, variegated with white spots. However in those that have done growing the colour is yellow and without spots. It feeds chiefly in the night, on grass, sugar canes, cabbages and the like. The flesh has a taste like beef, but not very agreeable.

The

The native *Americans* make a sort of helmets of their skins, which cannot be penetrated with an arrow.

CAPY-BARA is a *Brazilian* animal, called by some the WATER HOG; which is of the size of a Pig two years old. The length from the head to the end of the back is two feet, and the girth round the belly a foot and a half. It has no tail, and the feet are like those of a Hog. Those before have four toes, and those behind three, in which it agrees with the former. The head is ten inches long, and as much thick, and the tongue is of a great length and gross, with black eyes, and little roundish ears. The lower jaw is shorter than the upper, and there are two crooked teeth in both, which stick out of the sockets an inch and a half. The rest consist of eight bones, four on each side above and below; and each bone represents three teeth, which are not to be parted from each other; so that in each jaw there are twenty-four teeth, which make forty-eight in the whole. They feed upon grain and fruits; and the flesh is eaten though it is not very pleasant. These two animals agree in several particulars, so that they are probably of the same kind; however they differ in every respect from those on our continent. These animals in some particulars resemble a Sea-Horse.

The hair is whitish, short, and slender, but stiff; and the feet are armed with sharp claws, which help them to get up and down trees, for they are very fond of fruit. They sit upon their buttocks like Monkeys, which is their common posture, and they live as well in the water as on shore; for they generally keep in the water in the day-time, and come on the shore at night, where they do a great deal of mischief among the trees and plantations.

The MUSK ANIMAL is properly neither of the Goat nor Deer kind; for it has no horns, and it is uncertain whether it ruminates or not. However, it wants the fore teeth in the upper jaw in the same manner as in ruminating animals; but it has tusks like those of a Hog. It is three feet six inches in length from the head to the tail, and the head is above half a foot long. The fore part of the head is like that

of a Greyhound; and the ears are three inches long, and erect like those of Rabbits; but the tail is not above two inches. The foot is deeply divided into two toes, and as many heels of equal size. The hair on the head and legs is half an inch long, on the belly an inch and a half; and on the back and buttocks three inches, and proportionably thicker than in any other animal. It is brown and white alternately from the root to the point. On the head and thighs it is brown; but under the belly and tail white; and a little curled, especially on the back and belly; on each side of the lower jaw under the corners of the mouth, there is a tuft of thick hairs, which is short and hard, and about three quarters of an inch long. The bag which contains the musk is three inches long; two broad, and stands out from the belly an inch and a half.

The hair in general of this animal is remarkable for its softness and fine texture; and is extremely proper to defend it from the injuries of the cold. For the same reason that on the back is exceedingly long to protect the marrow of the back bone by keeping out the cold. The tusks that stand out are partly for defence, and partly for feeding; for with these it turns up the earth to gather roots, and strips off the bark of trees. There are twenty-six teeth in all, whereof sixteen are in the lower jaw, and the eight foremost are incisors. In the upper jaw there is an equal number of grinders; and the tusks are an inch and a half from the tip of the mouth, and two inches and a half long, but they turn back into the form of a hook, and terminate in a point, which is not round but flat, and somewhat in the shape of a sickle. It is a fearful animal, and therefore it has long ears, and the sense of hearing is so quick, that it can discover an enemy at a great distance.

As this animal has only a single bag which contains the musk, there must needs be a vast number of them killed every year to supply all *Europe* and *Asia* with that commodity. However, we must not forget, that the dealers in musk, have the art of making the quantity of four or five bags out of one; insomuch, that it
may

*Bactrian
Camel*

110



Arabian Camel

111



Guanaco 114

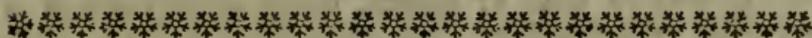


Llama
114



may be greatly doubted whether we have any of it brought pure into *Europe* or not.

Musk is now much more used in medicine than it was formerly, and then the dose was small. But it is now given from ten grains to a scruple in various disorders. It consists entirely of sulphur, and volatile salt, there being little or no earth. It was always recommended against diseases of the heart, and to revive the spirits; but of late years since we have been informed by travellers, that musk was given in *China* and *Tonquin*, against the epilepsy, madness, and all disorders of the nerves; it is become more in use, and given in larger doses. It was first tried with cinnabar against the bite of a mad Dog, and has met with success. Some have found it efficacious in madness, and in diseases analogous thereto, according to the experience they have had; and perhaps it is owing to the dearness of this commodity, that it is not brought into universal use.



C H A P. X.

Of Animals of the CAMEL Kind.

IN *Europe* and *Asia* there are four sorts of Camels; one of which is called the TURKMAN CAMEL, that is much the strongest and largest, and is more woolly or hairy, and of a darker colour than any of the rest. Their common load is eight hundred pounds; but it sometimes carries much more. This animal cannot bear heat, and therefore they never set it to work in *June*, *July*, and *August*.

The ARAB CAMEL is much smaller than the former, of a lighter colour, and not so full of hair, and its burden is about five hundred pounds weight. This can bear heat and thirst much better than the Turkman; nor is there any need that the *Arab* Camel be fed with barley, flour, and straw; for the shrubs that grow in the deserts of *Arabia*, are almost all the food that it requires, which it eats as it goes along. There-
has

has been an instance of their travelling without water for fifteen days; but they drank such a quantity as soon as they came to a pond, that it proved fatal to many of them.

The DROMEDARY is lighter, and of a more handsome make than the former, and instead of the solemn walk to which the others are accustomed, it will travel about one hundred miles in one day.

The Camel with two bunches on its back, is by *Linnæus*, called the BACTRIAN CAMEL, and the only distinction between this and the *Arab* Camel, seems to consist therein; some, but very improperly give the name of a Dromedary to the Bactrian Camel, because it is not so swift a foot as the real Dromedary, which has received its name upon that account.

The Camels of *China* have two bunches covered with long hair, but they are no larger than a common Horse; likewise the neck is shorter and thicker than that of a common Camel. The hair is thick, and as long as that of Goats, being sometimes of a brownish yellow colour, and sometimes reddish with a mixture of black; likewise the legs are not so long or so slender in proportion, as those of the common Camel, for which reason this is much fitter to carry burdens.

The Dromedary is five feet and a half high to the top of the bunch, and four feet and a half from the breast to the tail; and this latter including the hair, is two feet and a half long. The neck also is two feet and a half, and the head twenty-one inches from the hind part to the muzzle. The hair is of a fallow colour inclining to ash, and very soft. Under the belly it is no longer than that of an Ox; but its length is much greater on the head, under the throat, and on the top of the breast, where it is five or six inches; but the longest of all is on the middle of the back, where it is a foot in length. In this place though it is very soft, yet it keeps upright, insomuch, that it makes a great part of the bunch on the back; for when it is kept down by the hand, the back does not seem to rise higher than that of a Hog. Perhaps for this

this reason, some authors have affirmed, that a Dromedary is generated between a Camel and a Hog.

The ARAB CAMEL has hair of a different nature; for it is curled, and generally longer over all the body than the former, though shorter on the bunch, which is vastly more fleshy. They shed their coat every year except the hair on the bunch, which is generally longer than that on the rest of the body. The hair on the tail is different from that on other parts, for it is grey, and very coarse, and exactly resembles that on a Horse's tail.

The head of both these animals is small in proportion to the body; the muzzle is cloven like that of a Hare, and they have very short ears. The Camel has three dog teeth on each side of the upper jaw, and two on each side the lower. The Dromedary has teeth like those of ruminating animals, for it has no dog teeth nor nippers on the upper jaw before. The feet, which are cloven, are only armed with two small nails at the end; for the under part, which is flat, broad, and fleshy, is only covered with a soft, thick, and somewhat callous skin; but it is very fit for sandy countries, such as the deserts of *Asia* and *Africa*. The callosities on the joints of the legs are six in number, namely, two on each fore leg, and one on the upper joint of the hind legs, which is properly speaking the knee. Besides these there is a seventh more large than the former at the bottom of the breast, strongly attached to the breast bone, which has an eminence in this place. It is eight inches long, six broad, and two thick. The stomach is very large, and is divided into four as in other ruminating animals. They are only distinguished from each other by a sort of short necks of a lesser diameter, insomuch that the first stomach, which is exceeding large, is succeeded by another much less; and the third is also less than the first, but much longer; and the fourth is like the second. All the intestines together are one hundred and six feet long in the Camel; and in the Dromedary more short in proportion. The colon is sixty-six feet long, and its capacity is two inches in diameter at the beginning. The pizzle, of which they make strings for

bows, is nineteen inches long, and hooked at the end. The bunches are not formed by the rising of the spine of the back, but consist of white fat almost like suet.

The spleen lies over the left kidney, and is nine inches long, four broad, and half an inch thick. The lungs have only a single lobe on each side, and the heart is nine inches long, seven broad, and pointed at the end.

The structure of the tongue is pretty remarkable, because contrary to all other tongues. One half of it near the root, which is very thick, has a small round space as a center among several eminences that cover this part, and all whose points turn from the center, and appear to be rough when the fingers are drawn towards the center. Among these there are two rows placed in a right line, five in each row, that are like navels, and formed by round folds of a very delicate structure.

The brain, comprehending the cerebellum, is but six inches and a half long, and four broad; and the optic nerve is pierced according to its length with many holes full of blood. The mammillary processes are very large and hollow, having each two ducts; and the pineal gland is of the size of a hazel nut, and composed of three other glands, with a cavity in the middle.

In 1752 there were two of these animals shewn at *Orleans* in *France*, one of which was called a Dromedary, and was fourteen years old. The other was a female Camel of three years of age. The Dromedary was six feet high without the two bunches, and ten feet long. There were four nostrils at the end of the muzzle, two of which were very large and wide; but the two others were much smaller, and served for breathing. The eyes were large and prominent, and the fore part of the head was a little hollowed in the middle. The forehead was broad, and covered with tufted hair resembling wool. The ears were short and round, and the neck long; it was adorned with very long brown hair especially underneath. The knees were large, and the feet were considerably cloven on the upper part, though but very little below, where they were shaped

shaped like a heart. On the breast was a broad callosity, on which this animal leaned when at rest; there were two large bunches on the back, so placed that a man might conveniently sit between them. The buttocks were narrow, and the hind legs very high and slender; the hind feet were cloven, and long like those of an Ox; the tail was short, and had but little hair except at the end. The upper lip was cloven just like that of a Hare, and there were no teeth before in the upper jaw; but there were two large teeth on each side about the middle, of which the hindmost was longest, and was bent back like the tusk of a Boar. It is said they are sometimes obliged to saw these off; farther in the same jaw there was a black stump.

The lower jaw was well furnished with teeth like those of a Horse, and the tongue was likewise like that of the same animal; but the palate was as rough as that of an Ass. The penis was no thicker than a quill, but it was very long, and bent backwards; and consequently the urine was voided the same way. The testicles were placed behind like those of a Boar. The rutting time begins about the fifteenth of *January*, and then they are very large; but at other times they are scarcely to be perceived. This continues two or three months, and then he makes a terrible noise like the bellowing of a Bull; he loses his appetite, becomes extremely lean, and at length all the hair falls off, but this time being over, he soon recovers, and will eat hay, wheat, straw, barley, and oats; but when his stomach is not good he is fondest of thistles. He drinks but seldom; however, when he does it is several quarts at a time. He generally eats twenty or thirty pounds of hay in a day. He takes long strides when he walks, and can travel eighty or ninety miles in a day. He often trots, but gallops seldom or never; he can carry fifteen hundred weight very easily, and much more if he be obliged to it. This animal is by most mistaken for a Dromedary, but is certainly a *Bactrian* Camel.

The female Camel of three years old was not half so tall, though the head was very much like that of the former; all the hair was brownish and longer, especially on the back, where there was a single bunch

that reached from the shoulders almost to the tail. The nostrils were not so wide, but she had double teeth as well above as below. The udder was placed between the hind legs; and the vulva resembled that of a bitch.

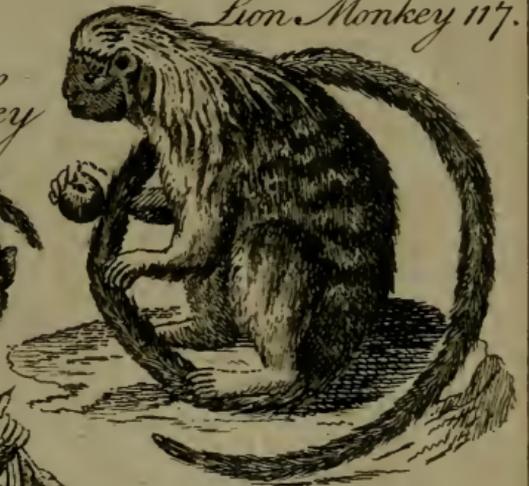
In the year following, at the fair of *St. Germain's*, there was a young Camel seen that was just brought into the world; by which means it came to be known how long they go with young, which is exactly a year; however it lived but three days, this perhaps was owing to the coldness of the climate.

In *Egypt* they make use of Camel's milk in various diseases, and with good success; particularly in the dropsy, jaundice, and obstructions of the lower belly. The fat is emolient and resolvent, and is good to ease the pains of the piles. The gall mixed with an equal part of honey, is an excellent liniment against the quinsy.

There is another sort of Camel in *South America*, called by some writers a CAMEL SHEEP. They are of two sorts, one of which the natives call LLAMAS, and the other VICUNAES, or GUANACOEES. The former is used to carry burthens of fifty or sixty pounds weight, and before the *Spaniards* introduced Horses and Mules they had no other beast of carriage. This animal is very common in *Peru*; but the Vicuna or Guanaco is an inhabitant of the more southern parts, and yields by much the finest wool. Sir *John Narborough* in his voyage to the *South Sea* found a Guanaco that was dead, and yet entire and uncorrupted. He had pretty long wool on his back, and down the sides, of the colour of dried rose leaves, but his belly was covered with white wool. He had somewhat the shape of a Deer, and was as large as a small Colt, with a long neck, and his head, mouth, and ears were like those of a Sheep. His legs were very long, and he was cloven footed like a Deer, with a short bushy tail of a reddish colour. They herd together in companies of ten, thirty, or forty together; but they are so shy that it is a difficult matter to come near enough to shoot them; for when any one attempts it they neigh like young Horses and then run away.

The

Lion Monkey 117.



Little black Monkey 118.



Maucauco 135.

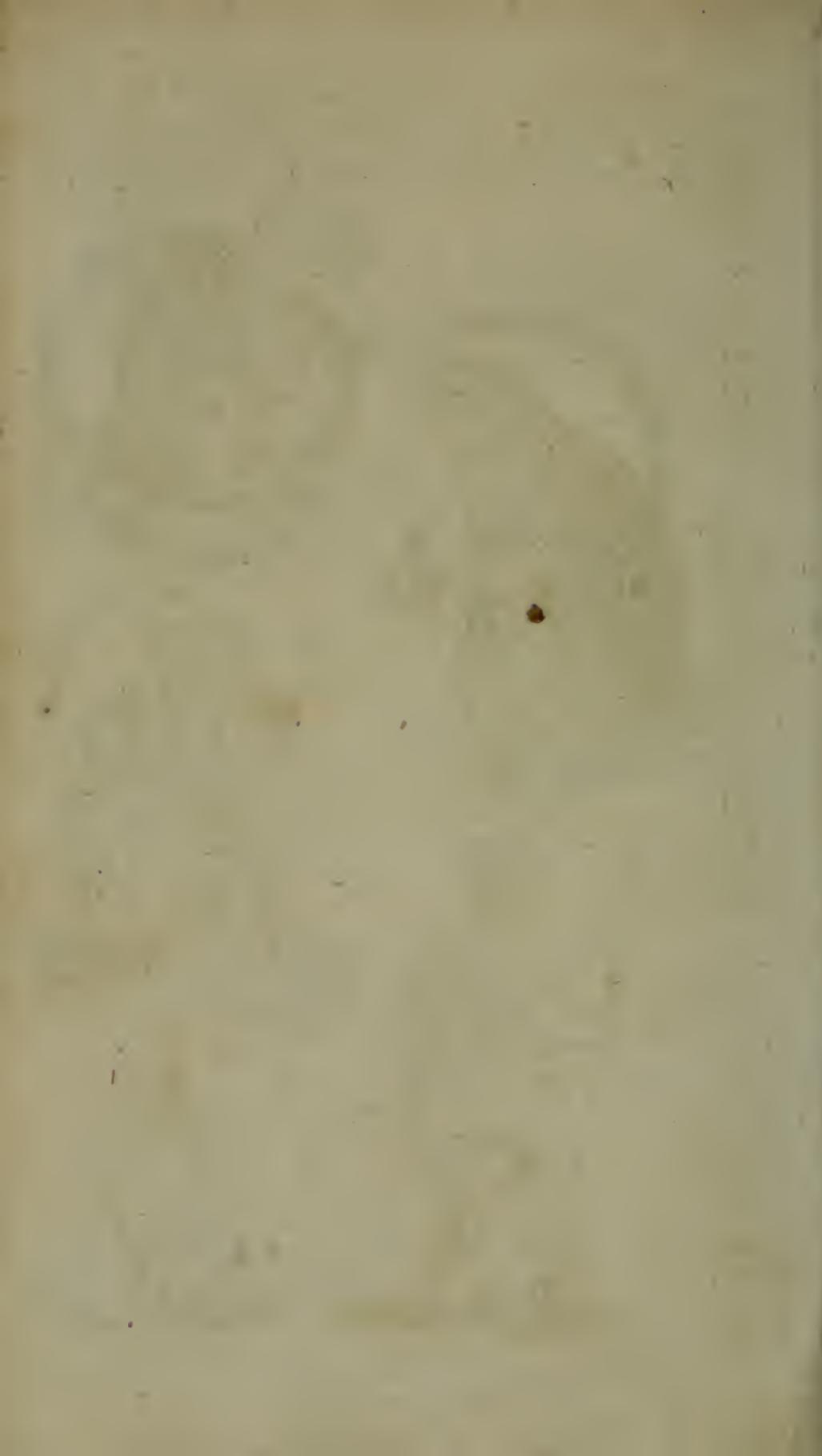


Monkey 115.



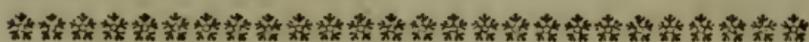
Orang-Outang 126.





The LLAMA is six feet in length from the neck to the tail, and four in height. The head, neck, mouth, cleft of the upper lip, and pizzle, are like those of a Camel. It has no fore teeth in the upper jaw, and it is a ruminating animal without horns. It is cloven footed with sharp toes, and the foot is solid at the bottom. Between the breast and belly there is a sort of bunch, from which some sort of matter often drops. It is a mild gentle creature, but impatient of cold. When it is injured by its driver, it throws a liquor from its mouth, which, as some say, falling upon the naked skin corrodes it, and makes it rise in blisters.

Many writers have no other name for the Guanaco but Pacos, and it has a greater resemblance to a Sheep on account of its having a greater quantity of fine wool above mentioned than a Llama. This wool is so extremely fine and bright that it nearly resembles silk, and it is used to make fine stuffs of several kinds. It is certainly of a different species from the Llama, because it is much more weak and unfit to carry burthens; neither has it any bunch on its breast. Some travellers affirm, that it has more wool on its neck and head only, than one of our Sheep has on its whole body. The flesh is well tasted, sweet, and pleasant, and it is greatly coveted upon that account, as well as for the sake of the wool.



C H A P. XI.

Of APES, MONKEYS, and BABOONS.

AN APE is hairy all over the body, and has some resemblance to a man in the face, nostrils, ears, and teeth. It has also eye-lashes on both the eye-lids; whereas other quadrupedes have none, except on the upper. On the breast it has paps, and the arms are like those of a man, but hairy, and he bends them as well as the feet like a human creature. Besides, it has hands, fingers, and nails like those of a man, but more rough and unpolished. The feet are like larger hands,

and are divided into fingers, or toes, of which the middle finger is the longest.

The APES, properly so called, are without a tail; and those that have tails go under the name of Monkeys, of which there are several kinds. Those described by the members of the *Academy* at *Paris*, were fourteen inches in length from the top of the head to the root of the tail; from the shoulders to the elbows four inches; and from the elbows to the finger's ends six inches. The thigh was four inches and a half long, the leg five, and the foot four from the heel to the end of the longest toe. The thumb was small, slender, and but little distant from the fore finger; whereas the great toe was long, thick, and placed more at a distance from the fore toe, which made the feet of a Monkey look like the hands of a man. On each side the lower jaw there was a pocket, or bag, in which these animals kept some part of their victuals; and one of them was a Baboon, whose face was not flat like the rest, but had a muzzle and nose like a Lap-dog. However he had a tail like the rest, and the hair of each was of the same colour throughout.

With regard to the internal parts, they were not so like those of a man as the outward; particularly the liver was like that of a Dog, and divided into six lobes. The guts in general were shorter in proportion, and the cæcum was very large, but wanted the worm-like process. The kidneys were round and flat, and the right was much lower than the left; but as for the breasts and paps they are much like those of a woman.

These sort of animals, as well with as without tails, are very numerous; but they are not all so accurately described by authors as might be wished. *Condomine*, who travelled through the country of the *Amazons*, saw so many of them, that, as he affirms, it would take up some time to write a catalogue of their names. Some of them are as large as Greyhounds, and some as small as Rats. The hair of these last is long, bright, and generally of a chestnut colour, and sometimes spotted with a sort of yellow. Their tails are twice as long as their bodies, with small square heads; and their ears are short and prominent, like those

those of Dogs and Cats, and not like other Apes and Monkeys, whom they resemble very little; for they have more of the air and look of a little Lion. They are called SAHUINS in the *Brazilian* language, and PINCHES at *Maynas*.

The LITTLE LION MONKEY of Mr. *Edwards*, is something like this, and he takes it to be of the same species. The face is covered with a black skin; the ears are also black, and the face is very thinly beset with short white hairs, which give it a little greyness, being somewhat thicker on the borders of the face, forming a lightish ring all round it. The eyes are black, and the hair on the head is white, long, and spreads over the shoulders like the hair of a man. The shoulders and greatest part of the back are covered with longish, loose, shagged hair, of a brown colour; and the lower part of the back gradually becomes of a light brown or orange. One half of the tail next the body is also covered with longish orange coloured hair, and the remaining half gradually becomes black, continuing so to the tip. The throat is black, and without hair; but the breast, belly, and all the legs and feet, are covered with short white hair. It has five toes on each foot before, and behind, all armed with sharp claws like those of Squirrels. The inside of the paws have a black skin; and the skin is also black every where under the hair. But what is most wonderful in this animal is, that it has a soft whistling note, somewhat resembling the singing of a Canary Bird. It is very brisk and nimble, and has all the tricks of greater Monkeys. When it walks on the ground it has much the appearance of a little Lion. Mr. *Condomine's* Monkey differs from this in having sharp ears like those of Dogs and Cats, and not like other Monkeys. This now described was brought from *New Spain in America*.

Some of them have hair as bright as silver, with a tail of a shining chestnut inclining to black; and its ears, sides of the face, and nose, are of such a lively red that nothing can exceed it. *Lucius* tells us, that it is less than a Squirrel, and of so tender a nature that it cannot bear the cold air; that the face is of a dusky

colour mixed with red, and that the ears are whitish with a mixture of red likewise. That the hairs on the body has a mixture of white and black, which runs from the back to the belly like rays; that the tail is long, with a mixture of white and black alternately, and that the hair on the belly is intirely black. The legs are short, and covered with white hair tintured with red, and the feet are divided into five toes, and have white nails thereon. Hence it appears there is some variation in this beautiful little animal.

The LITTLE BLACK MONKEY is one of the least kind yet known, and its bite, through the smallness of its size, hurts no more than the pinch of a Sparrow's bill. The eyes are of a hazel colour, the face of a dark flesh, and the nose hardly rises at all. The upper lip is slit like that of a Hare; and the teeth are very small, nearly like the human. The ears are large in proportion, of a squarish figure, and of a blackish flesh colour, very thinly beset with short hairs. The hair on the head is formed like a peak on the forehead, but the face has little or no hair thereon. The head, the whole body, and tail are covered with soft black hair, a little rough and shaggy; but the hair on the lower part of the back seems to stand erect, and has a golden mixture. The tail is twice as long as the body, and the paws, both before and behind, are covered with short, sleek, orange coloured hair. It has five toes on each foot, and its nails or claws are like those of Squirrels, though not so long. The fore paws are not so like those of a man as in some Monkeys, though it can hold any thing with a single hand. This animal was brought from the *West Indies*.

There is a sort of BABOON at the *Cape of Good Hope*, with a head resembling that of a Dog, with very ugly and frightful features. However the fore part of the body much resembles that of a man; but the teeth are large and sharp. The fore feet are very like hands; and those behind resemble mens. Their whole body is covered with hair, except the thighs, which are quite bare, and full of scratches. They are very lascivious animals, and the *Hottentots* imagine they can speak if they have a mind, and that they refuse to do it because they will

will not work. The breasts of the females are long, and hang down below their navels.

When they are in great distress, that is, when they are hunted by Dogs, or are beaten for any fault, they sigh, groan, and weep, like human creatures in a fright, or that are in great pain. They are very fond of grapes, apples, and all sorts of fruit in general that grow in the gardens. When they get into a vineyard where the grapes are ripe, they fill themselves so immoderately with them, that they may be easily taken. Their fingers are armed with nails and claws that render them formidable to Dogs, which for that reason cannot easily take them. When they perceive any passenger in the fields that is obliged to dine in the open air, he must be very attentive, otherwise they will certainly carry off some of his victuals. If they succeed they make so many grimaces, and put themselves into such ridiculous postures, that a man must be very melancholy indeed to forbear laughing at them.

These animals are under some sort of discipline, and go about what they undertake with such skill, cunning, and foresight, that are very wonderful. As for instance when they rob an orchard, a garden, or a vineyard. They go upon these expeditions in large companies, and part of them enter the inclosure while one is set to watch; and the rest stand without the fence, and form a sort of a line, which runs from the place they are pillaging to that of their rendezvous. Every thing being thus disposed, the Baboons within the orchard, throw the fruit to those that are without as fast as they gather it; or if the hedge or wall be high, to those that sit thereon, who deliver them to those without; and so on all along the line, which usually terminates in some mountain. They catch the fruit as readily as the most skilful player can a ball. While this is doing they keep a deep silence, and perform their work extremely quick. When the centinel perceives any one coming he sets up a great cry, and at this signal the whole company disappear in an instant. The *Dutch* at the *Cape* sometimes take the young ones of these Baboons, and feed them with Goat's or Sheep's milk. When they are tamed and grown up,

they watch the house as carefully as the best Dog in *Europe*.

The GUEREBÁ, so called by the inhabitants of *Brazil*, is of the size of a Fox, with an erect countenance, and shining black eyes. The ears are short and roundish, and the tail long and naked towards the end, with which it lays hold of the boughs of trees, and the like. The hair is every where, except on the feet and legs which are brown, of a black shining colour, which lies very smooth on his body. Under the chin and throat there is a beard like that of a Goat, which is roundish at the bottom. There are a great number of these in the woods, where they make a horrible noise, which may be heard at a great distance. Sometimes only one sets up a cry, and there is a great company standing round him, as if it were to hear a sermon.

Marcgrave assures us, that he has often seen them meet before and after noon, when one of the least of them sits upon an eminence, and begins to sing with a loud voice, after which he makes a signal with his hand, and all the rest do the same, till at another signal they leave off, and he that begun makes an end of the tune. When they pass between the boughs of trees, they carry their young on their back, who lay hold of their dams behind with their legs and feet. It is a fierce animal, and cannot easily be tamed. There are other large black Monkeys of this kind, with a long shaggy beard, which will ravish black women when they find them alone; and of this there are several examples.

CAGUI is so called by the *Brazilians*, but by the inhabitants of *Congo*, PONGI, and is of two sorts, the greater and the less. The greater is a large animal with hair of an ash colour mixed with a little black. The face is roundish, and somewhat resembles that of a Lion, as well as the mouth. The ears are round, black, and without hair; and the eyes are likewise black as well as the mouth. The tail is a foot and four inches long, covered with reddish hair.

The LESSER CAGUI is a tender little animal with the face of a Lion. The body is about six inches long, and the tail ten. The head is scarce as large as
a small

a small apple, and the mouth is little with very sharp teeth. The ears are roundish, encompassed with white hair which seems to have been finely combed. The tail is surrounded with white and dusky rings; and it has a very shrill voice, is very swift in leaping, and cannot bear cold.

This animal has been found to weigh from four ounces and a half to six and a quarter, and has little or no hair except on the face, where it is of a dark flesh colour, except on the forehead, where it is white. The eyes are of a reddish hazel colour, with black pupils, and the shape of the face resembles that of other Monkeys. The paws, unless on the insides, are covered with short hair, and it has five toes on each foot like those of a Squirrel with pointed claws, except on the two great toes, or thumbs on the hinder feet, which have flat nails.

They feed upon greens, fruit, biscuits, insects, snails, and small fish; and formerly at *Lisbon* there were a male and a female, which were brought to breed. The young ones were very ugly at first, with little or no fur, and they would stick or cling close to the breast of the dam. When they grew a little bigger they would hang on her back or shoulders till she was tired of them, and then she would rub them off against the wall, upon this the male would immediately take care of them, and suffer them to hang on his back for a while to ease the female. This seems to be of the same kind as the Saguin, or Sagouin, above mentioned.

The CAY is a BRASILLIAN MONKEY, and is very small, but of a black colour. It lives constantly in the woods, and particularly upon a tree which bears large cods full of a fruit like beans, on which it feeds. In the rainy season they herd together in large companies, and then it is a pleasure to hear their noise, and to see the gambols they make. It bears but one young one at a time, which as soon as it comes into the world embraces the neck of the dam; and if pursued by hunters they leap in this manner clinging together from bough to bough till they get out of their reach. The Savages have no other way of taking them but by knocking them down with blunt arrows,
and

and then they can soon tame them, and afterwards sell them to merchants. However this is not done without some difficulty, for when they are old they will bite a man's fingers, and often make their teeth meet quite through them, insomuch that they are sometimes obliged to kill them before they will let go their hold.

The AQUQUI is a kind of *Brazilian* Monkey much larger than the other sorts. The hair is black, and he has a long beard on his chin, which is so well shaped that it seems to be dressed by a barber. It often gets upon trees, where it makes a loud noise which may be heard a great way off.

CAITAIA is another *Brazilian* Monkey with long hair of a yellowish white colour. The head is roundish, the nose little and flat, and the tail held like an arch. It smells of musk, and ought to be treated very gently, for otherwise it sets up a loud cry, being easily provoked to anger. This seems to be the same animal that *Clusius* describes as being brought from *Fernambuco* in *Brazil*; for he says the body is large, with long shaggy hair of a flesh colour, and that he smells very pleasantly of musk. There is another of this kind, but of a more yellowish colour, which has also the smell of musk.

The HAY is of the size of a Spaniel Dog with a face nearly like that of a man, and the belly hangs down like a Sow with Pig. The hair is grey, the tail very short, and the legs covered with hair like a Bear, with very long claws. It is very wild in the woods, but when taken is very easily tamed.

The ANGOLA MONKEY is called MACQUACO by the inhabitants of *Congo*, and the hair of his body is like that of a Wolf. The nose is cloven, and the head is like that of a Bear, but his buttocks on which he sits are bare. He holds his tail always bent like a bow; his body from the head to the tail is about a foot long, as well as the tail, and his head is six inches in length. The legs are all of a length being ten inches each, and the hands are three inches and a half long, but the feet five. The girth of the body is one foot nine inches, and the teeth are exceeding white.

white. The penis is like that of a man, and his cry is hah, hah. He plays a great many odd tricks, for which reason he is in high esteem.

The GUINEA BEARDED MONKEY is called by the inhabitants of *Congo* EXQUIMA. The hair is brown, except on his back, which is of an iron colour with white spots. The belly is white, as well as the lower part of his chin; and the beard is extremely white, and above two inches long, looking as if it was carefully combed. He is very nimble in leaping about, and is very fond of fruit, especially that called caco.

There is another GUINEA MONKEY of the same size with the former, with black hair over almost all the body except the belly, which is of a bluish ash colour. The lower half of the tail is of a reddish yellow, and the mouth is blue. On both cheeks there is great plenty of long hair of a yellowish white like the beard of a Goat, which reaches to both ears; and the legs and feet are black. It plays and cries like the former. There is another *Guinea* Monkey with a mixture of grey, brown, and yellow hair; and the back is of the same colour as that of a Hare. The four Monkeys described by the *Academy* at *Paris*, were of the same size, and differed only in the colour of the hair. The first was red, with a greenish cast; but darker on the back, and lighter on the breast and belly. The second was also of a greenish red on the back, but the breast, belly, and legs were tinged with an ash colour. The third was white on the belly, breast, shoulders, and inner part of the thighs, as also on the buttocks; but the back, from the shoulder bones to the tail, was of a dark red, the outer surface of the thighs and shoulders was black, as well as the top of the head, and they were all spotted with red and white. Under the chin there was a beard which ended in a point about an inch long, and the hair on the back was of the same length, but about the neck an inch and a half surrounding it like a collar. Above the eyes was a white stripe, in which was a row of black hairs like an eye-brow, and the eye was of a reddish yellow colour, with a large pupil. The head was round, the face flat like that of a man, with a flat short nose.

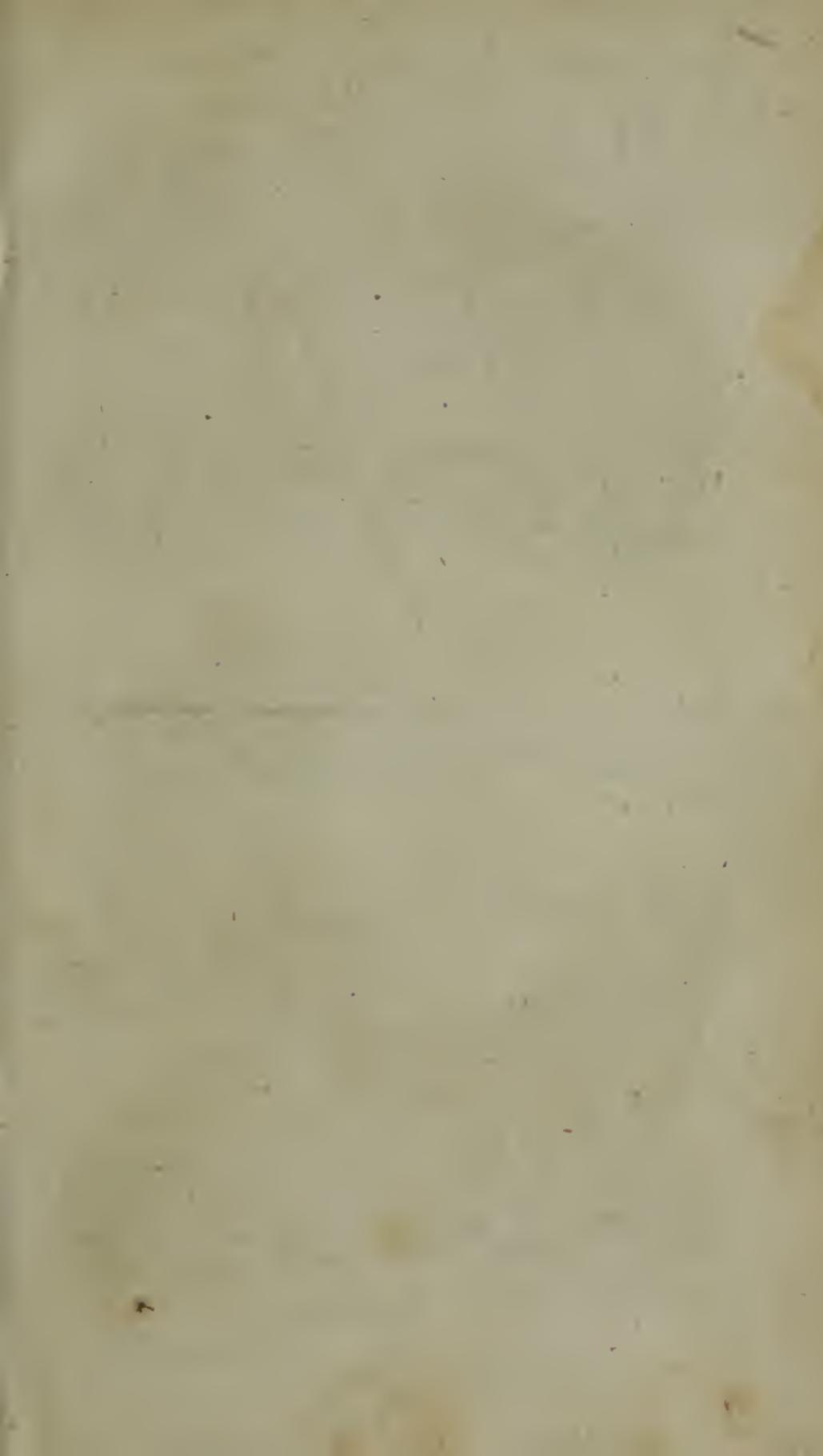
These

These were all males, but the fourth was a female, with a long muzzle like a Baboon. The breast and belly were covered with a mixture of red and ash coloured hair, and the shoulders and legs of a dark chestnut colour. The back was red intermixed with chestnut, and sometimes the one, and sometimes the other colour prevailed, in the same manner as we see in a Cat. These two last kinds are called SAPAJOUS by the *French*.

The INDIAN MONKEY called BUGEE, is of the size of a Beaver, and has a head and hair like that animal; but the tail and feet are different. It is not very common in the *East Indies*.

In the island of *Ceylon* there are several sorts of Monkeys; some as large as Spaniel Dogs, with grey hair, a black face, and large white beards reaching from one ear to the other, insomuch that at a distance they might be taken for old men, when it was the fashion to wear beards. There is another sort of the same size, but different in colour; for their body and face are white, though their beards are long like the former, neither of these are very mischievous, for they keep in the woods, and live upon the leaves and buds of trees. These are called WANDEROUES by the inhabitants. There is still a great number of another sort, which herd together in companies, and make great destruction of the corn which grows in the woods; insomuch that they are obliged to keep men to watch in the night time, who endeavour to drive them away. But it often happens that while they are driven away on one side, they march round, and get among the corn on the other, and eat and carry off what they can. These Monkeys have no beards, but they have a white face, and long hair on their heads, which parts and hangs down like a man's. They are called RILLOWS, and they are eaten by the inhabitants as well as the other kinds.

The PAPIO is of the Baboon kind with a head like a Dog, and hair resembling a Fox. Their cry is so shrill and loud that they may be heard at a very great distance, for they keep together in companies. The feet and legs are like those of a man, and in colour they



St. Jago Monkey

131



132



Mongooz

124

Ceylon Monkey



133



Black Maucauco

120



Sanglin, or Cagus minor.

they are like a Bear. They are an harmless sort of an animal, and are much delighted with musick. There was one of these Baboons carried about for a shew in *Germany* two hundred years ago, said to be brought from the *East Indies*. It was fond of apples, pears, and all sorts of fruit, as well as bread, and it was brought to drink wine, of which it was afterwards very desirous. The tail was very short, and the feet were divided into fingers in the same manner as a man's hand. It was always very chearful and brisk, except a woman was in company, for which reason it was judged to be a lascivious animal.

The BEARDED MONKEY of *Clusius* is thought to be the same as the Exquima of *Marcgrave*, or at least of the same species. He is much larger than common Monkeys, and the back is covered with black shaggy hair mixed with brown; but on the belly it is longer, and of a whitish colour; the beard is nine inches long, of a grizley colour, and ending in a point. The ears are not large, and the nostrils are flat, with a long thick tail, and long shaggy hair at the end like that of a Lion, which is very uncommon in these sort of creatures. The feet are divided into five fingers which he uses like hands, and the nails are like those of a human creature.

The second BEARDED MONKEY of *Clusius* is a more elegant animal than the former, and is covered over all the body with neat smooth hair. The breast and the fore part of the belly is white, and it has a white beard on its chin of a hand's breadth long, which ends in a sharp point. The tail has no tuft of hair at the end, but resembles that of a common Monkey.

The MONKEY without a BEARD of *Clusius*, has brown and yellow hair of a moderate length; but the throat and all the breast is beset with white shaggy hair, and the tail is as smooth as if the hair had been pulled up from it by the roots. However at the very end there is a tuft of long shaggy hair like that just mentioned above. The second MONKEY without a BEARD of *Clusius* has a larger body, and the muzzle is entirely brown, with white shaggy hair on the
head

head, and on the neck there is a mane like that on a Lion. However in shape he is much like the former.

On the *Isthmus of Darien* there are large droves of Monkeys, most of them black, but there are some white; and likewise some have beards, and others have none. They are of a very waggish kind, and play a thousand tricks as passengers march along, leaping from bough to bough with the young ones hanging at their backs. Sometimes they will make faces, chatter, and piss upon men's heads when they have an opportunity. Sometimes, when the trees are too far asunder, they will hang down by one another's tails like a chain, and swing in this manner till the lowermost catches hold of the bough of another tree, and draws the rest up after him.

The most remarkable animal of this kind is the ORANG OUTANG, so called by the *Indians*, which signifies the MAN OF THE WOOD; but by the *Africans* he is named QUOIAS MORROU, and is about the length of a boy three years old, and of the thickness of one of six. He is of a square make, very strong, and exceeding nimble. The joints are well knit, and the muscles so large that he is able to perform whatever he attempts. The fore part of his body is quite naked, but behind he is covered with black hair. He is like a man in the face, but he is flat nosed, and his countenance is wrinkled like that of a toothless old woman.

The ears are exactly like a man's, as well as the upper part of the body, before which in females it is adorned with two large breasts. On the belly there is a deep navel; and all the joints bear an exact resemblance to those of a man, insomuch that one egg cannot be more like unto another. The fingers, thumbs, and toes are an exact representation of those of a human creature, and he has calves in the same manner. This decent construction of his members is the reason that he generally walks on his hind feet, and he will take up and carry a large weight very readily.

When tamed he will take a tankard by the handle in one hand, and put the other to the bottom of it; and when he has done drinking he will wipe his mouth as carefully as any person whatever. When he lies down

128



Gerbua

Female Chimpanzee.

126



The Man of The Woods?



sleep, he will lay his head upon the bolster, and cover himself with the bed cloaths with as much dexterity as if he had been used to it all his life time.

It is confidently asserted, that in the island of *Borneo* these animals will attack an armed man, not to mention defenceless women, whom they will sometimes carry into the woods and ravish. For this reason the *Indian* girls always studiously avoid all by-places, where these Satyrs may possibly lie concealed. I call them Satyrs, because it is very likely that those mentioned by the ancient poets and historians were nothing but Apes of this kind; and probably the accounts they have given us of them had their first rise from these animals. *Pliny* says expressly, that a Satyr is a quadrupede which inhabits the mountains of *India*; that he is of a human shape, with Goat's feet, and is covered with shaggy hair; that their manners are quite different from those of mankind, and that they delight in the inmost recesses of the woods, and fly from the sight of men. *St. Jerom* tells us that they were men with flat noses, with horns on their foreheads, and the feet of Goats. The poets declare that they were lascivious, shameless, horned animals; partly of a human shape, and partly of that of a Goat.

However they were mistaken in saying that they had horns on their heads with Goat's feet, nor are they hairy all over, but only on the head, shoulders, and back; for the other parts are quite void of hair. This then is certain, that either there never were such creatures as Satyrs in the world. or that this is the animal from whence their descriptions were taken.

Dr. Tyson has given us another account of an animal of this kind, or rather the same, for he likewise calls him Orang-Outang. He supposes they are the Pigmies of the ancients, which are so much like mankind that they have from thence obtained the name of Wild Men, or Men of the Woods. They are of the same stature that Pigmies were said to be; and are a kind of Apes. This that the doctor gives an account of was brought from *Angola* in *Africa*, but was taken a great deal higher up the country. It was a male, and there was another that was a female shewn publicly

lickly in *London* not many years ago. They called it a CHIMPANZEE, though I know not for what reason, for she was likewise brought from *Angola*.

Dr. *Tyson* observes, that those that knew the male on board the ship, were mightly delighted with him; for he would come and embrace them with the greatest tenderness, opening their bosoms and clasping his hands about them; and though there were Monkeys aboard, yet he would never associate with them; but would always avoid their company. He was very hairy behind from the head downwards, and the hair was so thick, that the skin could hardly be seen through it; but in all parts before there was so little hair, that the skin was almost naked. After this creature was taken, and they had used him to wear cloaths, he would put them on himself, or at least, if he could not manage any part of his dress, he would take it in his hand to some of the company to help him to put it on. It laid down in bed in the same manner as the former.

The hair of this Pigmy was coal black, and resembled more the hair of a man than that of brutes; and it was somewhat longer about the pubes, and on the upper lip and chin, where it was greyish and like a beard.

The face, hands, and soles of the feet were without hair, and so was most part of the forehead; but down the sides of the face it was very hairy, and the hairs were about an inch and a half long. The face was more like that of a man than a Monkey; for the forehead was larger and more round, and the upper and lower jaw were not so prominent, but rather flat; however, the nose was flattish, and on the outside of each nostril there was a little slit turning upwards, as in Monkeys. The ears were exactly like those of a man in all respects; and the teeth had more resemblance with those of a human creature, than of an Ape or Monkey.

The bending of the arms and legs were just the same as in a man; but the hand was a little different, in that the palm was much longer, and the thumb less, though its nails were more broad and flat than in the Monkey kind. The toes were as long as the fingers,

fingers, and the middlemost was longest; likewise the great toe was at a distance from the other toes like a thumb; so that this creature might be rather called a four handed than a four footed animal, since they make use of the hands and feet exactly in the same manner.

The Chimpanzee abovementioned is now in the *British Museum*, and was a young one, being thus described by Mr. *Edwards*. It was about two feet and a half high when it died, and was first soaked in spirits of wine and then dried. Its shape resembled most others of the Monkey kind, and its hands and feet the same. It differed from the generality in having no tail, or callous skin behind to sit on, as most Monkeys have. The head was also rounder, and more human-like, than those of its kind. The forehead was high and rising, the nose flat, and the teeth much resembled those of men. The hair from the neck inclined upwards round to the forehead, and hung down a little over the forehead and sides of the face, which was without hair. The ears were also naked, and much of the human make. It had two nipples situated as in a man; and the face, and naked parts of the paws were of a swarthy flesh colour. The body and limbs were covered with a loose shaggy reddish brown hair, thicker on the hinder parts, and thinner before, and the hair from the hand to the elbow inclined towards the elbow.

When Mr. *Edwards* described the former, he had in his hands a male of the same kind, and they were both alike in every respect, except what distinguishes the Sexes.

Captain *Beeckman* in his voyage to *Bornio* in 1718, has given the figure and description of one near of kin to this, which he calls ORAN-OOTAN, which he says, in the language of that island, signifies a Man of the Woods. He affirms, that it has no hair but on those parts where it grows on human bodies; and if so, it is nearer the human species than any of those before described.

La Croix informs us, that on the coast of *Sierra Leona*, there are several islands, where there is a kind of a
Monkey

Monkey called BARIS; which are taken when very young, and made so tame, that they will perform most of the work of a slave. They generally walk upright, and are taught to pound *Indian* corn in a mortar; to fetch water in a jar; and to turn the spit; besides performing a vast variety of tricks to divert their owners. This seems to be of the same kind as the Orang-Outang.

Lewis le Compte in his *Memoirs of the present State of China*, informs us, that in the straits of *Malacca*, he saw Monkeys or Apes four feet high, that seemed to walk naturally on their hind feet. Their faces were shaped like those of the *Hottentots* at the *Cape of Good Hope*; but their bodies were covered over with a sort of wool, which was in some white, others black, and in others again grey. They made a noise like a young child, and their passions appeared very lively in their faces. They seem'd to be of a very tender disposition, and would embrace and kiss those that they were fond of. They were extremely nimble, and it was pleasant to see how they would run up and down the ropes of a ship; and they would swing upon a cord as naturally as the rope dancers do, after they have been a long while trained up thereto.

Pere Cabaffon brought up one of these animals, that was so fond of him, that he would never willingly be out of his company; for which reason when he went to church, he always shut him up in a room. However he once happened to get out, followed the father to church, and got upon the sounding board, where he lay very still till his master began to preach; then he got to the edge and imitated all the actions and postures of the preacher, which set the congregation a laughing. The preacher not knowing the reason of this, reproved the audience for their mirth, which however they did not leave off; this put him in a passion, and consequently his motions were more violent; these being imitated by the Monkey, caused them to laugh louder than before; till at length one was kind enough to inform him of the occasion, and then he could not help laughing himself.

The

The PIG-TAILED MONKEY from the island of *Sumatra* in the *East Indies*, was brought over from thence in 1752, and according to Mr. *Edwards*, is of the size of a common house Cat. The head was not so round as some of the Monkey kind, and the face had little or no hair upon it. The colour of the face was swarthy, or sun burnt, and the ears were shaped much like those of a man. The eyes were of a hazel colour, with black pupils; but it had no white that appeared outwardly. The nose was pretty flat, and the mouth when closed, shewed no external lips. The parts above and below the mouth were thinly beset with short black hairs, and the teeth were like those of a man. The head was covered with brown hair of a lightish colour, except over the eyes, and from the forehead along the crown, where it was much darker. The whole body was also covered with brown hair, darker on the back, and lighter on the sides, where it was exceeding thin, or rather was entirely without. The hair was also thin towards the paws; and there was a dark list of hair from the forehead down the neck along the ridge of the back, and upper side of its tail to the end. The tail was little and short, contrary to what is common in the Monkey kind, and he usually carried it almost upright. Under his tail were two callous round pieces of flesh on which he sat when he slept. His paws resembled human hands, and had flat nails. They differed in the thumbs from the human hands, in being shorter, and less in proportion; but those on the hinder paws were larger.

This is an uncommon kind of a Monkey, and perhaps the first that was ever brought to *England* of this sort, except a female that was shewn in *Bartholomew* fair; for this was a male, and was taken to compare with the other. They seemed highly pleased with each others company, though it was the first time of their meeting.

The St. JAGO MONKEY is often called the GREEN MONKEY; and is of the size of a small Domestic Cat. It was brought from *St. Jago* one of the *Cape de Verd* islands in *Africa*; and its head is as round as that of a man. The face is without hair, and the colour

is like the paler *African* negroes. The eyes are hazel with black pupils, shewing no white, and the nose is flat. It will often grin and shew its white teeth. The ears in situation and shape nearly resemble those of mankind; and on the sides of the face there is pretty long light coloured or dusky white hairs, which fall backwards over the ears and partly cover them; above the eyes are a few long black hairs in the place of eyebrows, and the top of the head, upper side of the neck, back, and outside of the limbs, is of a yellowish green colour; the ends of the hairs being green, and the roots of a dark ash colour, make a mixture, in which the green is predominant; the under side of the body, and the under side of the limbs are covered with white or silver coloured hair, shorter and thinner than that on the back, all the paws are shaped like human hands, with flat nails.

The MONGOOZ is an animal brought from *Madagascar*, and many of the smaller islands between that and the *East Indies*.

It is of the size of a small Cat, and has a head shaped liked a Fox, with black eyes, and orange coloured circles round the pupil. The hair about the eyes is black, and tends downwards in a point towards the nose, which is also black; but there is a space between the eyes and the nose entirely white, which is continued to the sides of the face as far as the ears. The upper part of the head, neck, back, tail and limbs, is of a dark brownish ash colour, and the hair is somewhat woolly. The under side of the body is white, and the paws are like human hands, with flat nails, except a sharp pointed claw on the second toe of the hinder feet. The tail is long, and the hair is pretty thick and soft. Its actions are like those of a Monkey, and it is certainly of the Monkey kind. It feeds on fruits, herbs, and almost every thing else, not excepting live Fish. There are several sorts of these animals which differ only in colour.

The MAUCAUCO or MAKI is an animal about the size of a middle sized Cat; but the body and limbs are of a slenderer and longer make, and it has a very long tail, at least, double the length of its body.

It

It has a long snout, and the head greatly resembles that of a Fox. The iris of the eyes are of a bright hazel, and the face and ears are white; but the nose for a good depth is black, and each eye is surrounded with a broad black space. About the nose, and on the sides of the head and eye-brows, there are long stiffish hairs like the whiskers of Cats. The head on its crown and hinder parts is covered with dark ash coloured hair, longer than that on the face; but the back and sides are of a redder ash colour, and not so dark as the head. The outsides of the legs are of a light ash, but not red as on the back. The upper sides of the paws are whitish, and the bare skin on their insides is black. The fore paws or hands are like those of men, and have a distinct thumb, and flat nails. The hinder paws are remarkable for having the thumb or great toe very broad. All the under side, and the inside are covered with white hair; and the hair on the whole body is very soft and delicate to the touch, standing almost upright like velvet. It has two small nipples high on the breast, and placed as in the Monkey kind. The tail is long, covered with fur, and marked alternately with broad rings of black and white. When it sleeps it brings its nose to its belly, draws its paws close in a sitting posture, and brings its tail over its head. When it plays, it uses a sort of galloping, with its tail raised over its back. This uncommon animal was brought from the island of *Madagascar*, and is a very innocent harmless creature. Mr. *Edwards* takes this to be a species distinct from Monkeys, and one of them has wool, soft and curled like that of a Lamb, with several properties of a Squirrel, and holding back its bushy tail.

The BLACK MAUCAUCO or MAKI is an animal of the size of a house Cat, and is a very sociable, gentle, harmless creature; though it has all the cunning and mischievousness of the Monkey kind; and it is a native of *Madagascar*. The head is shaped like that of a Fox, having a sharp snout; and the eyes are of an orange colour, with black pupils. The ears are rounded at the tips, and are pretty much hid by the hair

hair that grows on their borders. The same long hair is continued on the sides of the head and face, above and below the ears, which makes it have the appearance of a shagged ruff round the face. It has six scooping teeth in the fore part of the lower jaw; but there are none to answer them on the upper side; for there is only a cavity to receive them. It has four dog teeth, two above and two below, and the backward teeth are very jagged. The fur on the body and limbs is pretty long, thick and soft, standing almost upright on the skin. The hands are shaped like those of men, with flat nails, and the feet are like Monkeys, except the great toe which is much larger, and on the next to it is a sharp claw. The hinder legs are longer than the fore legs, and the tail is longer than the whole body, and nearly of an equal thickness from one end to the other. All the fur, with the naked parts of the nose, and inside of the paws, are of a deep black. It feeds upon vegetables, and when tamed will eat cakes and bread and butter. It eats sitting upright, holding its food in its fore paws, or hands.

Another MAKI, or MAUCAUCO, is an animal akin to a Monkey, and partakes somewhat of a Squirrel. The length of the body from the top of the head to the root of the tail is about eleven inches; and from the top of the head to the tip of the nose three inches. The tail is a foot and four inches and a half long, and the muzzle or snout is long and pointed. The ears are short, and almost hid under the hair, and the whole body is covered with soft woolly hair, which is brown, except on the nose, breast, and belly, where it is of a dirty white, and it has a bluish cast on the upper part of the back.

The BROWN MAKI, or MAUCAUCO, with a white nose, breast, and feet, is of the same size as the former, and the ears are likewise hid under the hair; the muzzle and snout is long and pointed, and the whole body is covered with soft woolly hair, brown on every part except the breast, feet, and belly, which are of a dirty white. This is likewise a native of *Madagascar*.

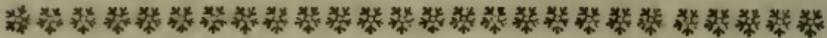
The

The BROWN MAKI, or MAUKAUCO, with a mixture of red, a black face, and fallow coloured feet, from the top of the head to the root of the tail is fourteen inches long, and from the top of the head to the end of the snout is three inches and a quarter; the tail is a foot and five inches long. The snout is long and pointed, and the eyes are of a yellowish red; the ears are almost an inch long, and about an inch broad. The whole body is covered with soft woolly hair, brown on the top of the body, and the external part of the legs; but underneath of a dirty yellowish white, as well as the lower part of the legs. The face and snout are black, and the fore feet of a fallow colour; but the hair on the back has a mixture of red. This is also met with at *Madagascar*.

The ASH-COLOURED MAKI, or MAUCAUCO, with a tail encircled with black and white rings alternately. The length of the body from the top of the head to the root of the tail is about a foot, and from the top of the head to the tip of the snout three inches; but that of the tail is a foot and a half. The snout is whitish and pointed, and the ears are near an inch long, as much broad, and covered with white hair. The whole body is covered with soft long woolly hair, which on the top, and on the fore feet, as also on the external part, of the legs is red at the roots, and grey at the ends; that under the body, the hind feet, and the inner part of the legs are white, and the tail is covered with white and black rings. This also is an animal of *Madagascar*.

In general the Makies are a sort of very beautiful Monkeys, or rather akin to those animals. They have four incisive teeth in the upper jaw, and six in the lower, and the toes are furnished with nails. Some make this a new species of quadrupedes, whose teeth of the incisive kind in the upper jaw stand by pairs, and those in the lower are very narrow, close to each other, and advance obliquely forward. They have twelve dog teeth, namely, three on each side of both jaws, that are broad, flat, and terminate in a point. There are four grinders on each side the upper jaw, and three on each side the lower, so that in all they have thirty-

six teeth. The nails are broad, flat, and terminate in a blunt point, except on the great toe of the hinder feet, were it is narrow and long; they make use of their fore feet like hands.



C H A P. XII.

Of M A N K I N D.

LINNÆUS is the first naturalist that we know of who has classed Mankind with Monkeys, under the title of ANTHROPOMORPHA. He divides them into four parts or colours; thus he calls the *Europeans* white, the *Americans* reddish, the *Asiatics* tawny or olive coloured, and the *Africans* black; but these distinctions are far from being satisfactory, therefore we shall give a more particular account of the various nations in the world, at least in general; for to treat of them all distinctly would take up more room than we can allow; to which we shall prefix a sketch of the anatomy of the human body.

The body of a Man is divided into the trunk and branches, or extremities. The trunk is composed of three cavities, or venters; the first is the head, the middle the breast, and the lowermost called the lower belly. The extremities are distinguished into the upper and lower; the upper comprehend the arms and hands; and the lower the thighs, legs, and feet. The parts that cover the body are called teguments, which in general are the skin and the fat. Under the ten muscles of the abdomen there is the peritonæum that contains a great part of the viscera of the lower belly. The epiploon, commonly called the caul, is like a bag, and generally contains a great deal of fat; it is connected to the stomach, the duodenum, the spleen, and it seems to lie loose upon the guts, and commonly reaches below the navel.

The ventricle, or stomach, is in shape somewhat like a bagpipe, and lies cross the upper part of the lower belly; but a little more to the left than the right. The two orifices are the upper, which joins to the gullet, and the lower called the pylorus; these are raised
higher

higher than the body of the stomach. It is composed of four coats, of which the outermost is membranous, the second musculous, the third nervous; and the fourth is made up of short fibres, which stand perpendicular upon those of the former; for which reason it is called by some the velvet coat; it is full of plaits and wrinkles, but principally about the pylorus. The tube that reaches from the stomach to the anus comprehends all the intestine, or guts; some of which are small, as the duodenum, the jejunum, and the ilium; and the rest large, as the cœcum, or blind gut, the colon, and the rectum. All these together form a tube which is six times the length of the body to which it belongs. They are all connected, except the duodenum, to a membranous body called the mesentery, which consists of two membranes, or laminæ, between which there is a cellular web, and several conglobate glands. The blind gut is a sort of bag, on the outside of which there is a worm-like appendage. Along the colon there are three ligamentous bands, which being a little shorter than the two internal coats, cause it to have several folds.

The anus terminates the rectum, or strait gut, and has a circular muscle designed to close it, and is called the sphincter; and two others that help to evacuate the excrements, by relaxing the sphincter. The small guts are placed in the middle and before; and the great guts take up the sides as well as the upper and lower parts of the lower belly. Besides the connivent valves there is another more considerable, called the valve of the colon; this suffers the excrements to pass from the small guts into the great, but hinders them from returning back. The pancreas is seated behind the bottom of the stomach towards the first vertebra of the loins, and is in shape like a Dog's tongue. It is about ten inches long, two or three broad, and one thick, and is of a yellowish colour inclining to red.

The liver is a conglomerate gland of a large size, of a reddish brown colour, and of a pretty firm consistence. It takes up not only a great part of the right hypochondrium; but also some of the fore part of the middle hypogastick region; it sometimes advances into the left hy-

pocondrium; but this happens chiefly to children newly born. The liver generally lies close to the fore part of the bastard ribs for the space of two fingers breadth, more or less, according as the diaphragm, to which it is connected, and whose motion it follows, is more depressed on the side of the belly, or more raised on that of the breast; as also according as the stomach and guts are more or less full. The lower is usually divided into two lobes, one on the right and the other on the left; the first is called the great lobe, the second the small; which last covers a good part of the stomach. The liver is convex and smooth on the upper surface; but it is concave and unequal in the lower. There are several cavities on the concave side; the first of which is the cleft of the liver that divides the lobes; and the second is on the fore part of the great lobe, wherein the gall bladder is lodged. The liver is connected to the neighbouring parts, but chiefly to the diaphragm, by four ligaments, which are the suspensory, the coronary, and the two lateral. However none of the ligaments, properly speaking, serve to suspend the liver; but only to keep it in its place; for the liver is principally sustained by the fullness of the stomach and intestines, as these are by the muscles of the abdomen. Hence it is observed, that when the liver is abandoned to its own weight by the emptiness of the above mentioned organs, it so draws these parts as to produce a painful sensation.

The liver serves to separate the bile or gall from the mass of blood; this is brought to the liver by the hepatic artery and the vena portæ which consists of the reunion of the veins that chiefly come from the viscera of the lower belly. The vena portæ performs the function of an artery and vein for it brings the blood to the liver; after it has deposited the bile it carries back the same blood, and even that of the hepatic artery into the vena cava. The bile is separated from the mass of blood throughout all the substance of the liver. and is carried out of this viscus by small excretory vessels, called the biliary pores. Several of these ducts uniting together form much larger, which terminate in the hepatic duct which proceeds to be united to another that comes

comes from the gall bladder, and forms a common duct, called the biliary duct; this carries the bile into the duodenum, near to the place where the pancreatic duct empties itself therein.

The gall bladder is a little membranous bag in the shape of a pear, whose size never exceeds that of a small pullets egg. This bladder touches the colon, to which it communicates the colour of the fluid that it contains. On the internal surface of the gall bladder there are several cavities like those of a honey-comb, that are made by the folds of the velvet coat. There are sometimes stones found in the gall bladder, formed by a gross bile; for they have both the colour and taste, and readily kindle when exposed to the fire. These occasion troublesome disorders, unless they are forced into the duodenum, from whence they have been sometimes evacuated by stool.

The spleen is a viscus of a soft consistence, of a bluish colour inclining to red, and is seated obliquely in the left hypochondrium under the diaphragm, between the bastard ribs and the stomach, immediately above the left kidney. The shape of the spleen is of a longish oval, it being about seven or eight inches long, and four or five broad. That part next the ribs is convex, and that next the stomach concave. This last surface is divided into two, by a furrow that runs throughout its length; it is by this that the vessels proper to the spleen penetrate its substance.

The kidneys are two, that is on each side one, seated in the region, and along the vertebræ of the loins. Each kidney is generally about five or six fingers breadth long, three broad, and one thick. The shape is like that of a kidney bean; but the left is generally placed higher than the right. The kidneys have three kinds of substances; namely, the glandular, or cortical; the vascular, which is in the middle; and the innermost, which is membranous. The cortical part is designed to filtre the urine from the mass of blood brought thither by the arteries. These arteries are called the emulgent, and there are generally two belonging to each kidney. The atrabiliary capsulæ, called by some the renal glands, are covered by the

external coat of the same kidney, and is called the adipous membrane, because it is generally loaden with fat. Their colour is yellow, which is more or less deep in different subjects.

The ureter is a membranous tube or pipe, that receives the urine as it is separated in the valves or bason of the kidneys, through which it passes into the bladder. They are each of the thickness of a goose quill, and are inserted into the bladder, creeping as it were through its coats in such a manner, that though there is a free passage for the urine into the bladder, it cannot return back the same way.

The bladder is a kind of membranous bag, placed between the strait gut and the os pubis, over which it is raised when full. It is placed without the bag of the peritonæum, though it is connected to it by its hinder and upper part; hence it appears that the fore part of the bladder may be opened to extract a stone, without giving room for any gut to come out through the wound. The bladder has three coats, the outermost of which has fleshy or muscular fibres, the middlemost is nervous, and the innermost is somewhat shaggy, almost like that of the guts. The ureters have the same number of coats. The neck of the bladder has a duct at the end called the urethra, through which the urine is made; its extremity is surrounded with fleshy fibres, that form a muscle called the sphincter of the bladder. This muscle closes the neck of the bladder, and hinders the urine from passing out involuntarily. The length, direction, and capacity of the urethra, are very different in Men and Women; for in the former it is ten or twelve inches long, and by its two bendings forms a figure like a roman S; whereas in Women it is hardly two inches long, and the passage is wider in Women than Men. On the upper part of the bottom of the bladder there is a ligamentous cord, called the urachus, that terminates at the navel, it is accompanied by the two umbilical arteries, whose particular use regards the fœtus.

As to the organs of generation in Man, the testicles are two glandulous bodies, generally placed without the body in a bag called the scrotum. Their shape is
oval,

oval, only they are a little flattened on the sides. They are covered with several membranes, which are distinguished by authors into the common and proper. The scrotum is covered on the inside by a fleshy membrane called the dartos, which serves to contract it. The coat that immediately covers the testicles is called the albuginous, and seems to be prolonged to enclose the epididymes, otherwise called the parastatæ. These are oblong bodies placed on the upper edge of each testicle, and are in shape like a Caterpillar. From hence the deferent duct proceeds that ascends along the spermatic vessels, after which it reaches the hinder and lower part of the bladder; and it glides through the space between the two seminal vessels that are placed there, and into which these ducts discharge themselves. The seminal vessels are membranous and cellular, and about three fingers breadth long; but they are only an inch broad. The shape is like that of a flattened pear. The two slender ducts of these vessels are called ejaculators; they are pretty slender, and are inserted into the urethra near the neck of the bladder, after they have passed through the glandulous bodies called the prostate; they have ten or twelve excretory ducts, that open into the urethra round an oval tubercle seated at the beginning of the passage, to which they have given the name of veru-montanum. There is a ligament that connects the penis to the symphysis of the os pubis, and it is called the suspensory ligament. The skin that covers the penis is folded at the extremity, and the fold is called the prepuce; this is connected to the lower part of the glans by a ligament called the bridle. The proper parts of the penis are the cavernous bodies, the urethra and the glans.

The parts of generation proper to Women, are the labia, the vulva, the nymphæ, the clitoris, the urinary passage, the vagina, the matrix with its vessels and ligaments, the fallopian tubes, and the ovaries.

The matrix is the most considerable of all, and is placed in the hypogastrium, between the bladder and strait gut. The shape is like that of a flattened pear, and the broadest part is called the bottom, and the narrower the neck; this advances a little into the va-

gina, and forms a kind of a muzzle like that of a tench ; it is pierced with an aperture called the internal orifice of the matrix. This is connected to the fallopian tubes, the ovaries, and the iliac regions, by means of two broad ligaments ; as also to the region of the pubis, called by one the round ligaments. The tubes are open at their extremities, and are folded and fringed round the circumference ; the length of the tubes are about seven or eight fingers breadth, and they are connected throughout the breadth to the broad ligaments ; and by the middle to the ovaries. The ovaries are two small white oval bodies, a little flattish, seated on each side the matrix, to which they are connected not only by the broad ligament, but also by a kind of round ligament. The substance consists of a spongy web, and several small vesicles full of a clear fluid, to which some have given the name of eggs.

The second cavity of the trunk is called the thorax, or breast, and is broader at the lower part where the diaphragm is placed than the upper. The contained parts are chiefly the heart and the lungs. The heart is comprehended by the pericardium, placed between the two leaves of the mediastinum ; it is a hollow muscle, which is accounted the principal organ of the circulation of the blood. It is seated obliquely in the middle of the fore part of the breast, in such a manner that the base is uppermost, and answers to the middle of the breast ; but the point inclines a little to the left side. At the base of the heart there is a great deal of fat, and four vessels, two of which answer to the cavities within the heart called the ventricles ; these are distinguished into the right and left, though they might be more properly called the foremost and hindermost. The four vessels just mentioned, are two arteries, and two veins, their being a vein and artery to each ventricle ; but the veins do not open immediately into the ventricles, for they communicate with those cavities by means of two others called the auricles ; one of which answers to the right, and the other to the left ventricle. The vein which answers to the right auricle, is called the vena cava, and it discharges the blood thereinto from all parts of the body. The
artery

artery which receives the blood from the right ventricle to distribute it into the lungs, is called the pulmonary artery, and the pulmonary vein is that which brings back this blood into the auricle. The artery that receives the blood from the left ventricle, to distribute it to all parts of the body, is called the aorta or great artery.

The auricles placed at the base of the heart are two hollow muscles, as well as the ventricles. The capacity of the right auricle and ventricle are much larger than those on the left; but the sides of the right ventricle are not so thick as those of the left. At the orifice of the right ventricle, there are three membranes called tricuspidal valves; and two at the orifice of the left ventricle, named mitral valves, because they are somewhat like a mitre turned upside down. There are also some in the orifices of the ventricles, that answer to the pulmonary and great arteries; which, however, differ from the others by their shape, and by their connections; these are called sigmoide valves, because their shape is nearly like that of a half moon.

We may observe in general, that the blood passes from the heart into all parts of the body by the arteries; and that a great part of the blood returns through the heart by the veins; this is called the circulation of the blood. The lungs are two spongy bodies, separated from each other by the mediastinum and the heart, which are placed between them. Each lung is divided into lobes, of which the right has generally three, and the left only two. These lobes are subdivided into a great number of small ones, and being viewed behind they nearly resemble an Ox's foot. The colour is of a fine red in infants; but this changes by degrees to a whitish ash colour; and in old people it is bluish, and sometimes livid. The lungs are covered with a membrane, which is a continuation of the pleura.

The *aspera arteria* is a pipe which begins at the bottom of the mouth, and descending along the middle and fore part of the neck, proceeds to be distributed into the lungs by a great number of ramifications. The uppermost cartilage of the larynx is called the epiglottis, on account of its situation over the

glottis. The aspera arteria, or windpipe, being arrived at the fourth vertebra of the back, is divided into two branches called the bronchia.

The diaphragm is a musculous partition, that separates the breast from the lower belly; and is seated obliquely in such a manner that the fore part is higher than the hinder; it forms a kind of a vault, whose convexity is towards the lungs. It has three considerable apertures, namely, one that is round in the aponeurotic part for the passage of the vena cava; another oval in the fleshy part for the gullet; and a third that gives passage to the lower great artery and the thoracic duct.

The head contains the brain, the cerebellum, and the medulla oblongata with the vessels that are distributed therein. The brain is covered with two membranes, called the dura and pia mater. It has two substances, namely, the ash coloured or cortical, and the medullary, or white substance. On the surface of the cortical substance there are several furrows in several directions, like those made by the small guts. In drawing the two hemispheres of the brain a little aside, a white body may be seen, which is the medullary substance, known by the name of the callous bodies. The ventricles are two cavities in the substance of the brain; and there are the septum lucidum, the vault with three pillars, the choroide plexus, the channelled body, the beds of the optic nerves, the eminences called the nates and testes, the pineal gland, and other such like parts which may be distinguished at first sight.

The cerebellum is seated under the hinder lobes of the brain, from which it is separated by a partition. This also consists of two substances, the cortical and the medullary. The cerebellum being opened according to its length, a white substance may be seen representing a sort of a tree on each side. The medulla oblongata is seated under the cerebellum, and along its lower part there are five eminences, as well as the origin of ten pair of nerves. The most considerable of these eminences is called annular; the second and third are named pyramidal; and the two
last

last the olivary. The medulla oblongata and the medulla spinalis give origin to several nerves, which are reckoned by pairs; there are ten belonging to the medulla oblongata, and thirty to the spinal marrow, which is only a continuation of the former.

The skeleton of a Man is divided into three parts, the head, the trunk, and the extremities; the head comprehends the skull and the face. The skull is a bony, roundish, and somewhat oval box, formed by eight bones, which are the frontal, the occipital, the two parietal, the two temporal, the sphenoid, and the ethmoid. These bones are harder on the surface than in the middle; for which reason they are distinguished into two surfaces or tables, the external, and the internal, besides the middle spongy substance. The face is formed by the assemblage of several pieces, contained under the two principal called jaws, of which one is the upper, and the other the lower. The upper jaw is immovable, and is composed of thirteen bones, the chief of which are the maxillary, and properly constitute the upper jaw. In this there are sixteen teeth, namely, four incisors, two dog or eye teeth, and ten grinders. The lower jaw consists of a single bone, which likewise contain sixteen teeth that have the same names as before.

The trunk may be divided into three parts, the spine, the thorax or breast, and the basin. The spine is a bony column, composed of twenty-four vertebræ; which are distinguished into the cervical, the dorsal, and the lumbar; besides the os sacrum, at the extremity of which there is a bone called the coccyx. The thorax, or breast, is formed of twenty-four ribs, that is, twelve on each side; of which the seven upper are called the true ribs, and the five lower the false, or bastard ribs. Besides there is the sternum, which is generally composed of two pieces; not to mention the dorsal vertebræ. The basin is composed of two great bones, named the innominata, or the hip bones, which join together before, and are connected behind to the os sacrum.

The extremities of the skeleton are four in number, two upper, and two lower. Each upper extremity is
divided

divided into the shoulder, the upper part of the arm, the lower part of the arm, and the hand. The shoulder consists of two pieces, called the collar bone, and the shoulder bone. The upper part of the arm consists only of one bone, named the humerus. The lower part of the arm consists of two bones, termed the radius, and the ulna. The hand is distinguished into three parts, namely, the carpus, which is composed of eight bones; the metacarpus, which has four, and the fingers, which are five in number, each of which is formed by three bones, named the phalanges.

The lower extremities are divided into three, the thigh, the leg, and the foot; the thigh has only one bone, termed the femur, and the leg two, the tibia, and the fibula. The foot is divided into three parts in the same manner as the hand, *viz.* the tarsus, the metatarsus, and the toes. The tarsus consists of seven bones, the astragalus, the bone of the heel, the navicular bone, the cuboide, and the three wedge-like bones. The metatarsus has five pieces, and the great toe consists of two; but all the rest have three. Thus we may reckon fifty-four bones belonging to the head, fifty-four in the trunk, and one hundred and twenty-four in the extremities; and consequently there are two hundred and thirty-two in all.

When an infant is just born its common size is twenty-one inches long, and the breast, measured longways on the sternum, is about three inches. The head is large in proportion to the rest of the body, but continually decreases with regard to the other parts, till it is full grown. In these parts of the world infants are never washed except in warm liquors; yet there are whole nations, some of which inhabit cold climates, that plunge their children into cold water as soon as they come into the world, without doing them any harm. It is said that the *Laplanders* lay their Children upon the snow till their breath is almost gone, and then they dip them in a hot bath, because they are persuaded it renders them strong. Perhaps for some such reason many are for dipping children over head and ears when they are baptised, and they maint. in it is an old healthy custom. The *Americans* that inhabit
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the *Isthmus of Darien*, make no difficulty of plunging into cold water when they are in a sweat to cool themselves; likewise the mothers, with their children, bath themselves in cold water immediately after they are brought to bed. This is certain they never receive any damage from this custom; whereas, on the contrary, many Women suffer greatly in these parts from too delicate a regimen. It is usual here for Children as soon as they are born to be swaddled up and kept as warm as possible; whereas the *Siamese*, the *Japanese*, the *Negroes*, and the native *Americans*, keep their Children naked, and only lay them on cotton beds, or tye them to boards covered with skins. However, this is certain, the method of managing Children among us renders them too tender, and unable to bear the injuries of the weather; and it were to be wished a different method was brought into use, that there might be a medium between the two extremes; for this is certain, that those who are at liberty to move all parts of their bodies with ease, will become much stronger than those that are so tied up as to be scarce able to stir. Besides, the want of exercise may prevent the growth of their limbs, and render them crooked; and it is very certain, that in those countries where they are not loaded with swaddling clouts, there is not a distorted nor deformed person among them, that is with regard to the shape of their bodies.

It may not be improper here to give an account of the several sorts of people that are in the world, and how unlike they are in several particulars. We shall begin with the **LAPLANDERS**, who are all under a middle size, there being few that arrive to the height of five feet, and some pretend there are few above four; but this is a mistake. They have broad flat faces, flat noses, pointed chins, with large heads, gummy red eyes, and cheeks that fall inwards; their mouths are wide, their lips large, their voice shrill, their beards rough and staring, and their hair is short and strait, and generally black. They have a broad breast, a flat belly, and a tawny skin. Some affirm, that the Women are as ugly as the Men; but *Outbier* affirms the contrary, for he informs us, that some of them
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have a pretty good complexion, and others such a fresh colour that one would take them to be painted; but then this was in the more southern parts of the country.

The Women of *Greenland* are also of a very short stature, but their bodies are pretty well proportioned; their breasts are so soft and so long that they suckle their infants over their shoulders. Their nipples are as black as a coal, and the colour of their skin is of a deep olive. They resemble the *Laplanders* with regard to their ugliness, the smallness of their size, and the colour of their hair and eyes; they have also the same inclinations, the same manners, and are equally clownish, superstitious, and foolish. These last always stoop as they walk, and never live long out of their own country. They are great cowards, and therefore they are never employed as soldiers; but they are very robust, and will run very swiftly; their arms are so strong that they will string a bow which other men cannot bend; and they will climb trees and rocks very readily. They are all very hasty, revengeful, and cruel; and even the Women themselves will fly in the face of a Man when they think they are affronted.

These people are so idle, that those who live in a part of the country where the soil is good, will not take any pains in its cultivation; nor yet will they go a hunting till they are obliged thereto by hunger; however, they are not thievish like other barbarous nations, for which reason their huts are never shut up; besides, they are civil to strangers, and charitable to those that want. Their huts are built with poles from twelve to fifteen feet high, which they fix circularly in the ground, about twelve feet in diameter; these poles meet at the top, and consequently the hut is in the shape of a cone. They are covered in part with pieces of old cloth and the skins of Rain Deer; and the top is always open, and serves for a chimney; for they make a fire in the middle of the hut. Here they pass the winter very poorly clothed, and have very often no other bed but the snow. Some of these wretches came to *Purainan*, where there were *French* astronomers who came to measure a degree of the earth. The
court

court belonging to the house was quite full of them, with their sledges and merchandize, that is Cod and other dried fish, and the skins of Rain Deer. The weather was excessive cold, and yet they had a Child among them not above a year old. When they had a piece of money given them they bought brandy with it of the master of the house, and then they skipped about the court like bacchanals.

They employ Rain Deer for travelling in those places where Horses are of little or no use; and a day's journey is generally seventy-five miles when the track is beaten. These animals also serve for other uses, for they eat their flesh, drink their milk, and make garments of their skins.

The ESKIMAUX are a people that live in the north part of *America*, in a country called *Labrador*; but whether they reside constantly there or not is uncertain. They are the only people in the vast continent of *America* that differ from the rest of the original inhabitants. They make excursions as far as the sea coasts of *Newfoundland*; and they have been seen near *Nelson's* river, that falls into the west side of *Hudson's* bay. They deserve the name of savages better than any people yet known; for they eat raw flesh, and have a thick beard that covers their faces up to their eyes, insomuch, that their features can hardly be perceived. Their hair is generally black and rugged; their eyes little and wild, and their whole external appearance frightful and ugly. Their character and their manners are quite agreeable to their hideous appearance; for they are wild, savage, fierce, distrustful, and always ready to do mischief to strangers, and therefore they ought always to be upon their guard when they come near them. There is little or no communication between them and any other people; for which reason there is little or nothing known of their capacity, except their skill to do mischief. They will go in the night to attempt to cut the cables of the ships that lie at anchor, in hopes of making it a wreck, that they may have the advantage of the goods they can carry off; besides when the ship's company is weak they will attack them in open day.

It was never possible to civilize any of them; nor is there any treating with them but at a distance; for they will not come near the *Europeans*, nor eat any thing that comes from them. In short, they are so extremely cautious in every thing, that it shews they are distrustful to the highest degree.

Their size is rather tall than otherwise, and they have a pretty good shape; but their large beards and plenty of hair, the whiteness of their skin, their always going cloathed, and their having no resemblance to their next neighbours, leave no room to doubt, that they proceed from a different stock than the rest of the *Americans*. Their language has no resemblance to any that we know; and they are so well cloathed that there is nothing to be seen but their faces and fingers ends. Their inner garment is a sort of a shirt, made of bladders, or the guts of Fishes, cut in long narrow pieces and sewed together; over this they have a loose coat made of the skin of some wild beast or bird. They cover their heads with a sort of capuchin or hood, insomuch, that there is nothing but the hair to be seen that comes from under it before, and hides their foreheads. The shirt reaches no farther than the hips; but the coat falls down behind as far as the thighs, and before a little below their girdles. That of the Women descends as low as the mid-leg, and is fastened to their bodies with a girdle; from which hang down a great many small bones by way of ornament. The mens breeches are skins, with the hair inwards, whose outside is covered with those of small animals. They have sandals on their feet, over which they have boots; and the fur of both is inwards; then another pair of sandals, and another pair of boots. Their only weapons are arrows, which are pointed with the teeth of a Sea Cow, or with iron when they can get it. In the summer time they are always abroad in the open air night and day; but in the winter they lodge in holes made in the earth, where they tumble all together.

The SAMOIDES are another northern people that inhabit the sea coast of *Siberia*, where the frost and snow are as in *Laplund*. They have very little
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understanding, and in some things resemble Wolves and Dogs, for they will feed on all manner of dead carcasses; such as Horses, Asses, Dogs and Cats; as well as Whales, Sea Cows, Sea Calves and the like, that are forced on shore by the ice. They never dress their flesh, but eat it all raw; and notwithstanding they live in a country that abounds with wild game, Fish and flesh, they are too lazy to endeavour to catch any of those animals; however, they have a sort of governors among them to whom they pay tribute, who are answerable for it to the *Russian* government.

They are a shocking disagreeable ill-looking people, who dress much in the same manner as the *Laplanders*; for they wear skins with the hairy side outermost. Their stature is short and squat, with broad shoulders, flat faces, and broad noses, great blubber hanging lips, and frightful eyes like those of a Lynx. Their skins are brown, their hair rugged, and generally as black as pitch; though here and there one has it red or of a light colour. They travel in sledges like the *Laplanders*; but they are of a different make. These sledges are drawn by Deer that have horns like a Roe-Buck, and crooked hanging necks like a Camel. In winter they are as white as snow, but in summer they are grey. Some call these Rain-Deer; but if the Description of them given by travellers be exact, they differ from them in several particulars; however, it is certain they like them, feed upon moss under the snow; as also on that they meet with in the woods.

Their huts are like those of the *Laplanders*, and are covered with birch bark, leaving only a hole at the top for the passage of the smoke; for like the *Laplanders* they make their fires in the middle of their huts. These both Men and Women lye round in the night time without a rag of cloaths; but they lay their Children in a sort of boxes instead of cradles; and they put soft shavings at the bottoms. The Men have several wives like other barbarous nations; and in their marriages they have no regard to the nearness of blood. At their merry making they attempt to sing; but they make such an uncouth noise, that they seem

seem to imitate the cry of different sorts of beasts. However, they have a sort of priests, who are nothing else but jugglers; and they play such tricks, that some ignorant travellers have taken them for conjurors. They seem to worship the sun and moon; because they bend their bodies to them at night and morning. They have also a sort of idols in somewhat of a human shape, which they hang on trees, and seem to have some respect for.

It is very remarkable that all the NATIVE AMERICANS are nearly alike, except the *Eskimaux*; for they have all coarse black hair, and are without beards, nor yet have they any hair on any part of their bodies; some have pretended that old Women have been employed to pluck the beards and other hair up by the roots; but this I know to be a fable from my own experience; which is confirmed by all the later and more sensible travellers. Besides, it is well known, that when hair is plucked off it will grow again; therefore it would be wonderful no hair should ever be seen; not even on the bodies of those that have been brought to *England*.

The *Americans* in all the *European* plantations are very well known, and yet it might be doubted, whether those in the southermost parts of *America* are like the other inhabitants or not; especially as some sailors have represented those near the straits of *Magellan* as giants; that is nine or ten feet high. However, we have been undeceived in this particular by Sir *John Narborough*, who informs us, that both Men and Women are of a middle stature, and well proportioned, with roundish faces, and low foreheads. Their eyes are black, and their noses of a middle size; their teeth are very white and close set; but their ears are small. Their hair is black, harsh and shaggy, and both Men and Women wear it of the same length. They are full breasted, and their complexion is of an olive tawny or rather red. They grease their bodies, and their faces are dawbed with spots down their cheeks that are both white and black, without any method. They have small heads, and short fingers; and they are active and nimble in all their motions; their

their cloaths are made up with pieces of the skins of Seals, Guanacoes and Otters sewed together; and they are in the form of carpets, about five feet square. They wrap them about their bodies as *Scotchmen* do their plaids; and they have also caps made of the skins of Fowls, with the feathers on. Instead of shoes, they have pieces of skin tied on their feet. They are a very hardy people, and seldom wear their garment when they are stirring about; but were quite naked from head to foot when he saw them, which was at a time when the hills were covered with snow. They have no hair on their bodies or faces, nor any thing to cover their private parts; only some of the Women had a piece of skin before them. The garments of both sexes are the same, except that the Women had bracelets of shells about their necks, which the Men have not. The Men are of a larger size than the Women, and their faces are more full. The speech of the Men is very harsh, and when they talk there is a rattling in their throat; but that of the Women is shriller and lower. They live upon what they get, and they are under no government; neither have they the least sign of religion. The Men have always bows that are ready strung, which are about an ell long, and their arrows about eighteen inches; these are headed at one end with flint, and at the other there are two feathers tied on with the twisted gut of a beast. They have very large mongrel Dogs of several colours, besides which they have no domestic animal.

After this, it will not be amiss to say somewhat of the *Americans* near the *European* plantations, and we shall begin with those of *Peru*; which we shall give you conformable to the account of *Monfieur Bouguer*, who went into *South America* to measure a degree of the earth. The *Indians*, he should have said *Americans* of *Peru* that live in woods, form a kind of little republick, under the directions of a *Spanish* priest; and have a governor with his officers of their own nation. They want vivacity, and are addicted to idleness; but they live in great harmony with each other, without the least distrust. The doors of their huts are always open, though they have cotton, calabashes,

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and a sort of aloes of which they make thread; besides a few commodities that they trade with. They go almost naked, and paint their bodies and faces with red stripes. They are of all trades; for they build their own houses, make their own canoes, and weave their own cloth. They live upon the fruits of the earth, hunting and fishing; by which they always get sufficient to maintain their families. There are other *Peruvians* called Warriors, who are not brought under subjection; but they seem to have the same manners and customs.

The colour of the *Americans* is that of red copper, which is more or less dark in proportion to their being more or less exposed to the weather. They have no beard, nor hair on the breasts, nor any other part of their bodies; but they have long, coarse, straight black hair on their heads.

The *Americans* near *Virginia*, according to those who have lived among them, are of a middle stature; and are straight and well proportioned, with the finest limbs in the world; nor is there a dwarf or misshapen person among them. Their colour is chestnut or rather of red copper, rendered darker by their greasing themselves, and being exposed to the weather. They have black eyes, and their hair is coal black, which the Men cut into several shapes; both Men and Women always grease it, which causes it to shine. The better sort wear a sort of coronet on their heads, four or five inches broad, and open at the top. It is composed of a sort of beads; but sometimes they wear a wreath of dyed furs; they have also bracelets on their necks and arms; but the common people go bare headed, only they stick large shining feathers in their hair. Their cloaths are a large mantle, carelessly wrapped round their bodies, and sometimes girt close with a girdle. The common sort only tie a string round their middles, and pass a piece of cloth or skin between their thighs, which they turn over the string at each end. Their shoes when they wear any, are made of an entire piece of Buckskin. The dress of the Women differs little from that of the Men, only the better sort have more beads and bracelets. They com-

commonly go naked as far as their navel downwards, and upwards to the middle of the thigh; their breasts are round and small, and never hang down, as those of the black Women do on the coast of *Guinea*.

Instead of keeping their Children warm, they dip them over head and ears in cold water, and afterwards tye them to a board, covered with somewhat that is soft; and there is a hole therein, through which they evacuate their excrements. They keep them several months in this posture, till the limbs begin to grow strong; then they suffer the Child to crawl about as well as it can. The Child is generally laid flat on its back; but sometimes they hang it up by a string.

Lawson informs us, that the *Americans* of *North Carolina* are a well shaped clean made people, of different statures like the *Europeans*; but most are rather tall than otherwise. They are very strait, and their limbs are exceedingly well made; but as for their legs and feet they are the handsomest in the world. Their eyes are black or of a dark hazel, and the white is marbled with red streaks. Their colour is tawny, which becomes so by dawbing themselves with Bears grease, for otherwise it is reddish. They are never bald, which may perhaps be owing to their greasing their hair. When they intend to be fine, they mix red paint with the bears grease, which is sold at a great price one among another. He never saw a dwarf among them, nor but one that was hump backed; but the teeth of both sexes are yellow, which is owing to their smoaking tobacco. They have no beard nor hair under their armpits, nor yet on any other part of their bodies. They let their nails grow very long, and laugh at the *Europeans* for paring theirs. The bark they make their huts with, is generally that of the cypress-tree, or red or white cedar. They set poles in the ground as thick as the small of a Man's leg, with the barks stripped off, about two yards asunder in a circular form; for their huts are always round; then they bring the tops together, and bind them with the bark of trees. The Womens dress in very severe weather, is a hairy watch coat like a plaid to keep out the cold; but at other times they have
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only an apron, half a yard deep. The dress of the Men is the same as in *Virginia*, and the management of the Children is the same.

On the *Isthmus of Darien* the *Americans* are generally between five and six feet high, according to *Waser*; and they are strait, clean limbed, big boned, full breasted, and well shaped. They are very nimble and active; but the Women are short and thick, and not so lively as the Men; however, those that are young are very plump, well shaped, and have a brisk eye; but when they grow old they are very ordinary, and have hanging breasts. Both sexes are round visaged, with short bottle noses, and large sparkling eyes. Their teeth are white and even, their lips are thin, and their mouth moderately large; but in general their features are pretty handsome. Both sexes have strait, long, black, lank, coarse and strong hair, which generally hangs down to the middle of the back, only the Women tie theirs together just behind the head.

Their natural complexion is a copper colour, or orange tawny, and the eye-brows are naturally as black as jet. They anoint themselves all over with oil, to render their skins smooth, sleek, and supple; and it preserves their skins from being parched, as it otherwise would be in this hot climate. Both Men and Women paint their bodies, and sometimes sucking Children with the figures of Men, beasts, birds, trees, and the like. The women are the painters, and their chief colours are red, yellow, and blue, which are very bright. Some print these figures in the skin after they are drawn, by pricking them with a sharp thorn till the blood gushes out; then they rub in the colour they design, after which it never comes out. They wear no cloaths, only the Women have a clout, that is tied before and behind by a thread round their middles; sometimes these hang down before as far as their knees, if they can get one large enough. The Men go quite naked, without so much as a clout; but they have ornaments on their faces, which is a piece of silver plate hanging over their mouths; but the principal Men have theirs of gold. It is in the shape of a half moon, that pinches the bridle of the nose with its points.

points. The Women have rings in the gristles of their noses, which hang over their mouths; but these in both sexes are chiefly worn on some publick occasion; and they always take them off at meals. Besides these, both Men, Women, and Children, wear strings, or chains of teeth, shells, beads, and the like, which hang down from the neck upon the breast. She must be a poor Woman who has not fifteen or twenty pounds weight of these strings; but they do not wear them when they are in their houses.

The Women take care of the plantations, and the Men build the houses or huts, and go a hunting; both play their parts with great alacrity. When a Woman is brought to bed, another takes her and the Child on her back, and carries them down to the river and washes them therein. The Child for the first month is tied upon a board, as in *Virginia* and *Carolina*. The Men have several wives, which are generally dispersed in different parts, so that they always find one when they go a hunting.

We shall close the description of the *Americans* with some account of the CALIFORNIANS, which are the least known to the *Europeans* of any in that part of the world. Those of *Puerto Seguro* in that country that were seen by the captains, *Rogers* and *Cook*; they had long black hair, and dark skins, made so by dawbing them with grease; for according to some accounts they would otherwise be reddish. They all go naked, only the Women have a sort of petticoats, made of silk grass, or skins, that reach half way down their thighs. They are far from being handsome, and yet the Men are stait and well limbed, and they live upon fishing and hunting. Their arms are bows and arrows, with which they will shoot a small bird flying; the bows are about six feet long, with strings made of silk grass, and the arrows are a jointed cane, with four long feathers, about a foot from the notch for the string; but at the other end is a pointed tapering rugged flint; the whole length of the arrow is four feet and a half. Their huts are made of the boughs of trees and reeds, built like a bower, wherein they lie and sleep, and there is a fire made directly before them.

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According to the Jesuits account, the inland country is very populous, especially northwards; and though there is scarce a village that does not consist of twenty, thirty, forty or fifty families, they never build any houses; for they get under the shade of trees in the day time; and in the night they secure themselves from the inclemencies of the air, by a sort of roof made of the leaves and boughs of trees, which agrees with what was said above. During the winter they withdraw into caves, where several of them lie together much in the same manner as wild beasts. The Men go quite naked, only they wrap or tie round their heads a piece of linnen, or a kind of network. They wear about their necks, and sometimes on their hands by way of ornament, various figures in mother of pearl, intermixed with small round fruits like beads. Their weapons are bows and arrows, or javelins, which they carry always in their hands for hunting, or defending themselves against their enemies; for wars are frequent among them. The dress of the Women is somewhat more modest than that of the Men, for they wear from the waist to the knee, a sort of apron made with reeds plaited like matts. They cover their shoulders with skins of beasts, and have network on their heads like the Men. They have also necklaces of mother of pearl, intermixed with stones or kernels of fruit and sea shells, which hang down to their waist.

The common employment both of the Men and Women is spinning, and the thread is made of the blades of grass, instead of flax or hemp; they have also a sort of cotton. They make their cups, plates, dishes, basons, pans, and baskets with the blades of this grass; but they take a great deal of care to keep them from burning when they dress their victuals. They are a very lively people, and are fond of joking; but they do not seem to have any form of government; nor yet do they shew any sign of religion.

The BLACKS or NEGROES of *Africa*, are now dispersed all over *England*, and therefore their complexion, features, and shapes are very well known; but their chief distinction from all other Blacks is their woolly heads, not to mention their flat noses and
thick

thick lips. They had not much religion among them before the *Mahometans*, and *Wild Arabs* penetrated into the northern parts, near the rivers *Senegal* and *Gambia*; in consequence of which there are some few of the *Mahometan* religion. Likewise the *Portuguese* have got possession of some of the southern countries, particularly *Angola* and *Congo*, where they have introduced a sort of christianity. But in all the intermediate parts, the natives are pagans, or as they are called in the *East Indies*, gentows. Near *Senegal* their houses have neither doors nor windows, except a hole like the mouth of an oven; inasmuch, that no one can enter therein without creeping upon all four. Their houses or huts are built with straw and leaves, not excepting the king's. They are made in the shape of a dome, about four feet in diameter, and the upper part consists of straw, but the under is worked with palm leaves. This dome is supported by five or six forks, and the wall is made with straw and palm leaves artfully twisted together. It seems to be very strange, but it is true, that they have constantly fire in their huts with a great deal of smoke, which they are always very well pleased with. Their beds are made with sticks, twice as thick as a Man's thumb and two inches asunder; these are joined together with cords in the same manner as a hurdle. They are supported with forks, and they lie thereon without any bedcloaths, except a mat laid over the sticks. The Men seem to be extremely idle, for the Women carry on all the trade, and they are always very free with the sailors.

The *HOTTENTOTS* at the *Cape of Good Hope* seem to be a distinct people from all others in any part of the world. Seamen, who have only touched there, have given very imperfect and different accounts of them; therefore we shall take our description from *Peter Kolben*, who went thither on purpose to make discoveries. These people have been taken notice of by all for their nastiness, and the intolerable smell that always attends it; they never comb their hair; but they rub it every day with a large quantity of grease and foot mixed together; that is the Men, as for the Women

theirs is never seen unless by chance. In both sexes it is woolly, short and black as jet. The Men have not much beard, there being only a little, at the end of the chin curled like wool, besides mustachoes, which are curled in the same manner. They have broad flat noses; and their lips are thick, especially the upper. Some have said they were of very low stature, but this is a mistake, for they are from five to six feet high; but the Women are smaller in proportion than in other places; however, both sexes are upright, and of a middle size with regard to thickness. Their teeth are as white as ivory, and their cheeks have somewhat of a colour in them, but they dawb them so much that it is intirely hid. The Men have big broad feet; but those of the Women are small and delicate. They never cut the nails of their fingers or toes, which is somewhat of a wonder because the *Europeans* have been so long among them. There are no crooked people among them, though they take less care of their Children than we do in *Europe*. The Women eight days after they are brought to bed, carry their Children on there backs without given themselves much trouble about them. As soon as they are able to crawl about on their hands and feet they leave them to themselves, and they learn to walk without any teaching.

The colour of the skin is black, but *Kolben* says they are not born so; which indeed may be true, because that of other Negroes is lighter just after they come into the world, than when they are a few days older. *Kolben* says the *Hottentots* become black ten or twelve days after they are born, except on the palms of there hands, and the soals of their feet, which always remain whitish; but, he affirms, they are not of a jet black, but rather of dark olive colour. The *Hottentot* Women have somewhat remarkable, which distinguishes them from all others of the same sex in the world; at least as far as we know. This is a natural excrescence like a flap which has its root over the os pubis, and descending lower, seems designed by nature to cover their private parts. Over this they place a piece of a sheep skin, and yet it is so long that it reaches below it. The sailors that visit the *Cape of Good Hope* are

are always very desirous of examining this particularity, which any of them may do for the price of a pipe of tobacco. *Kolben* observes, that this is neither looked upon by Men or Women as contrary to nature; but this is no wonder, because it belongs to their whole nation. In the Summer time the Men have nothing upon their heads to defend them from the scorching heat of the sun, nor indeed have they much occasion; for they have such a load of fat and foot mixed with their hair, that it is a greater defence than any cap can be. However, in cold rainy weather they are obliged to wear a cap, which is made of the skin of a lamb, or a cat, and fits close to their heads. Their face, and all the fore parts of their bodies are constantly naked, in all seasons of the year; only from their neck there hangs a bag, in which they carry a knife, if they have one, and their pipe and tobacco. At present, these bags are generally made of old gloves, which they purchase of the *Europeans*. When a *Hottentot* has killed any wild beast, he takes the bladder, blows it up, ties it to his hair and wears it as a trophy as long as he lives. They cover their shoulders with a sheeps skin, or that of a wild beast, and it hangs down as far as the thighs like a cloak. This they call a *krosse*, and it is never out of use, for it serves as a coverlid by night, and as a garment by day. When it is hot they throw it quite open, and when it rains they bring the sides of it together; but in the winter they turn the woolly side inmost. When they die they are wrapped up and buried in this skin; but when it is almost worn out it serves to cover their huts, which they call *kraals*; that is, when there are several of them together. The chiefs of a nation, the captain of *kraals*, and the rich, wear the skins of Tigers, or wild Cats.

The *Hottentots* wear three large ivory rings on their left arms, which serve to parry off a blow when they are in a fight. These are made of Elephants teeth which they find in the woods; or which they take when they happen to kill an Elephant. The Women always wear caps, which differ from the Mens in being wider, and terminating in a point. Their shoulders are covered with two skins, and they have always a bag

hanging from their necks, wherein they are always somewhat to eat, as well as a pipe and tobacco. They never cover their breasts, and never prevent any Man from touching them, because they have no notion that it is immodest. There is some sort of emulation among the Women with regard to dress; for some will fringe their krosses, and endeavour to excel the ordinary sort in their dress; the beauty of their skins and the provisions in their bags, are the principal parts of their luxury; and if they have any thing valuable in their bags they are always sure to leave them open.

The Girls, till they are twelve years of age, wear rushes about their legs; but afterwards they are changed to slips of sheep skin an inch in breadth. Some Women have a hundred of these on each leg, so artfully tyed and interwoven, that it is hard to find out the ends; and they become in time as hard as wood. It has been generally said by voyagers that these rings about their legs were the guts of animals; but this is a trifling mistake. They serve to keep the legs from being pricked by thorns, as they are every day out in the fields, and are obliged to go among bushes and briars; sometimes indeed they satisfy their hunger, when they have nothing else to eat.

These people were always very fond of toys from the very first appearance of the *Europeans*, particularly small looking glasses, glass beads, brass buttons, and plates of that metal. Since their intercourse with the *Dutch* they have added pendants, and copper and brass necklaces; insomuch, that there is scarce a Man or Woman to be seen without some of these. In the days of ceremony the Men powder their bodies and heads with buchu; but what that is we are not told; and their Women cover all their faces with it; for they are not less fond of painting than the *European* Women; and when they can get nothing else a little red chalk is sufficient. With this they rub their eyes, noses, cheeks, and chin. Many have doubted whether the *Hottentots* had any religion or not; and it is no wonder, because they are unwilling to declare any thing relating to their opinions and religious ceremonies;

nies ; nor can they be brought to confess, whether they have any such or not. For this reason *Kolben* was a long time at the *Cape* before he could make any discoveries of this kind. He is of opinion, they believe in one God that created the world, and that he has incomprehensible perfections ; they likewise affirm, he does harm to none, and that he dwells a great way beyond the moon. They think he never visits the earth, because, say they, how should he condescend to come among us, since the moon who is a lower deity never does us that favour. They pay him no manner of worship, and yet they adore the moon, which they look upon to be a visible image of the invisible God ; they think she can produce rain and fair weather ; for which reason they assemble in the field at the new and full moon, let the weather be what it will. They play a thousand antic tricks, making grimaces, and send forth terrible cries. They throw themselves upon the ground, then get up, suddenly strike the earth with one of their feet, crying out like madmen ; then they turn their faces towards the moon, and among other things say I salute you, you are welcome, grant us fodder for our cattle, and milk in abundance. Thus they spend the whole night, never resting but at intervals when they are almost spent. When they have done, they retire to their several homes with great cheerfulness and satisfaction.

They likewise adore a certain insect thought to be peculiar to this country. This animal is of the size of a Child's little finger, with a green back, a belly speckled with white and red, two wings, and two horns or feelers. Whenever they set their eyes upon it they discover the greatest token of veneration ; and are in as great transports as if the Lord of the universe was come among them. They sing and dance round it troop after troop, while it stays, in the highest raptures. They throw towards it the powder of an herb called *buchu* ; and at the same time they cover the whole area of the *kraal*, the tops of their huts, and every thing without doors with the same powder. They kill two fat Sheep as a thank offering for this

high honour. They think it brings prosperity to all the inhabitants, pardon for their faults, and wisdom to live better for the time to come.

If this insect happens to alight upon a *Hottentot*, he is looked upon as a saint, and a favourite of God; and they respect him as such. The fattest Ox belonging to the kraal is immediately killed for a thank offering; and they present the entrails well cleansed from the fat to this pretended holy Man. The Men eat the rest of the meat, and the Women the broth; but if the insect light upon a Woman, she is saluted with the same ceremonies, and the Women eat the meat, and the Men the broth.

There is another custom which is met with in no other country in the world, and that is to deprive all the males of one testicle; this operation is generally performed at eight or nine years of age. They first besmear the patient all over with fat, from the entrails of a Sheep just killed, then they lay him with his back on the ground; his hands are tyed together as well as his feet, and they are kept down by his friends. Then they make an orifice with a common knife, squeeze out the testicle, cut it off, and tye up the vessels in a trice. Then they take a little ball made up of Sheeps fat, and the powder of herbs, which they cram into the scrotum to fill up the vacancy, after which, the wound is sewed up. This done he is suffered to rise, and is anointed with fat over again, after which the operator makes furrows with his long nails in the fat in different places, and this done, pisses all over him. The *Hottentots* can give no reason for this custom; for they only say their ancestors did so before them.

They have a cruel custom upon the birth of twins, and that is to expose one of them, or make it away one how or another, unless they are both boys. If they are girls, the worst featured of the two is buried alive, or exposed on the bough of a tree, or among bushes. If the twins are a boy and a girl, then the last is condemned. However, this custom is not always strictly observed, for they will sometimes bring up both.

The

The nuptial ceremony is very ridiculous ; therefore we must not omit taking notice of it. When this is performed, the Men squat themselves on the ground in a circle, and the bridegroom in the middle. The Women do the same at some distance from the Men, with the bride in the center. Then the master of the ceremonies enters the Mens circle, and coming up to the bridegroom pisses upon him a little, and he rubs it in with his long nails. This done he goes to the Woman and pisses a little upon her ; so backwards and forwards by turns for some time, till he has exhausted his stock ; after which he wishes them much joy and the like, and so the ceremony is concluded ; only there is a feast with the flesh of Oxen, which is both boiled and roasted ; and at this time Men and Women all eat together, which they do not at any other. They have several other barbarous customs ; but these are sufficient to characterize the nation of the *Hottentots*.

The *Tartarian* nations border on one side on the *Chinese*, and on the other on the *Russians*, with whom they are mixed, and consequently cannot be so well distinguished from each other, as in the middle parts of *Siberia* between both. The *Chinese* have broad faces, small eyes, flat noses, and but very little beard. The *Japanese* differ so little from them, that they are thought to have the same original ; only they are more yellowish or tawny. They have much the same manners, dispositions, and customs ; and they are both desirous that their Women should have little feet ; and particularly in *China* they keep them so small by binding them up when they are infants ; that when they are full grown they cannot walk without tottering.

The *Siberian Tartars* near the river *Kama*, are not much different from the other *Tartars* with regard to their shape ; only they seem to have larger heads. Their religion consists in making offerings once a year ; when they go in crowds to the woods, kill one of each kind of quadrupedes ; flea off the skins, hang the carcases on a tree, and afterwards pray to them ; then they eat the flesh together, and return home ; but

they prefer that of Horses and Tigers to any other. They confess they also worship the sun, moon, and stars; but affirm, they know nothing of a devil, because they have never seen one. They bury their dead with their best apparel and ornaments, and cry over them in a dismal manner. They have as many wives as they can keep, and when any one of them is pregnant, she lives separate from her husband in a hut built for that purpose. Their huts are made four square, and there is a hole in the roof to let out the smoke. They have no chairs, but there is a broad bench round the room, about an ell high, and two ells broad, on which they sit cross-legged, and sleep at night.

Near the river *Oby* they keep a great number of Dogs which they make use of to draw their sledges in the winter. These are of a middle size, with sharp noses, and upright ears, and have some resemblance to Wolves; they are very serviceable in hunting. The **OSTIACKS** are of a middle stature, and most of them have red or yellowish hair, their faces and noses are disagreeable, broad, and in general they are weak, and unfit for hard labour. Their weapons are bows and arrows, with which they shoot wild beasts; and their garments are made of fish skins. Their shoes, stockings, and breeches are all of a piece, and their coat reaches but a little below their waists; but it has a hood, which they pull over their head when it rains. The Women's garments are almost like the Men's, and are open before on the breast. Their huts are built with barks of trees, slightly sewed together; and in one of those belonging to the chief there was found four wives, the finest of which was adorned with glass beads about her neck and middle; as also in her hair, which hung down on both sides in two rows; she had also pendants in her ears, made of coral tied on with strings. They are all fond of brandy and tobacco, and they have no other furniture but cradles and chests, made of the bark of trees sewed together. They have neither temples nor priests, and their boats are made of the barks of trees, with small ribs of wood; they are about two or three fathoms long, and an ell broad.

Farther

Farther to the east, *Siberia* is inhabited by the NISO-VIAN TUNGUSIANS, who are tall and strong, with long black hair; they have broad faces, but their noses are not so flat, nor their eyes so small as those of the *Calmucs*. Both Men and Women go naked in the summer, only they have a leathern girdle, which they wear about their waists, with an appendage to hide their private parts. The Women adorn their hair with coral and iron figures; and both sexes have pots hanging on their left arms full of old smoking wood, which preserves them from the biting of the gnats that are here in vast numbers. Their winter habit is a garment of Does skins bordered with those of a Dog. Instead of caps they wear the skin of a Roe Buck, with the horns placed upright on the crown of their heads, especially when they go out a Buck hunting; for by this means they better deceive the game. They have no priests but jugglers, and in their huts they have carved wooden images about half an ell long, with the representation of human faces. Their boats are made of birch bark sewed together, which however will hold seven or eight people. Their huts are not unlike those of the *Laplanders*.

Near the lake *Baikal* the BURATTIANS dwell, who are a pagan people that live in low huts made of wood joined together and covered with earth; and in the roof their is a hole to let out the smoke, for the fire is made in the middle of the room. They have a particular kind of Beeves among them without horns; but their bodies are covered with long hair, and their tails are bushy like a Fox. These people live upon hunting, for they know nothing of cultivating the ground; not even so much as to make a garden. Both Men and Women are robust, large, and according as beauty goes here, have handsome faces; for they are a little like the *Chinese Tartars*. In the winter, both sexes wear long coats of Sheep skins, with a girdle round their waists tipped with iron. They never wash themselves, and therefore they are always so nasty that it gives them a very odd appearance. They have little or no religion, unless worshipping dead Sheep and

Bucks may be so called. This country abounds in Musk Deer, which are hunted for the sake of the musk.

The TUNGUSIANS near the river *Schelka* and *Amur* live in huts composed of wooden poles joined together, in such a manner that they can remove their dwellings when they please. When a hut is put together they cover it with hair and rubbish, except the smoke hole at the top. The fire is in the middle of their huts in the same manner as has been so often mentioned, and they sit round it upon turves. Both Men and Women are broad faced, and very strong, and they both ride on horseback, not excepting young girls, armed with bows and arrows. Their common drink is water, only the better sort drink bohea tea; they boil it in Mare's milk and water, to which they add a little lard or butter; they also draw off a spirit from Mare's milk, which they call *zunnen*, or *arak*. In spring and autumn they go a hunting, and they lay up the flesh of the quadrupedes they kill for their summer and winter provision. They eat the roots of yellow lillies instead of bread, after they are dried and reduced to powder. They are all heathens, but what their particular opinions are is not very well known.

Farther to the south east, near *China*, there is a clan of TARGAZINIANS, who pay tribute to the emperor of *China*; but they have a chief of their own, and are all heathens. They are of a middle stature, but are broad faced; and in the summer they wear garments consisting of blue callico and tanned leather. They live in huts made of bamboos, or reeds, and depend upon the tillage of the land for their livelihood. They have Horses, Camels, Cows, and broad tailed Sheep; but they chiefly ride upon Oxen. Some of their huts are fixed upon carts, and may be drawn to what place they please.

The INDIANS in the *Mogul's* empire, and the other people in the two peninsula's of the *East-Indies*, resemble the *Europeans* in shape, size, and features; but they differ in colour. Those in the *Mogul's* dominions are of an olive complexion, and the Women are extremely neat and clean, for they bathe very often; but their legs
and

and thighs are very long and their waists short, in which circumstance they differ from the *European Women*. The inhabitants of the peninsula's are nearly black with frait hair, and those in the island of *Ceylon* are not unlike them, only they have large hanging ears, and their colour is not so deep. Their hair is as black as jet, and both Men and Women go almost naked. The inhabitants of the southern parts of *Persia* are very tawny, and none but the better sort wear any garments though they are of the mahometan religion. In the northern parts of *Persia* they are almost always mending their breed by purchasing wives or concubines out of *Circassia* and *Georgia*. However, in that kingdom there are a great many beautiful Women of all colours, that are brought by the merchants from different countries; for it would not turn to account to bring those that are ugly.

The ARABS are the most unmixed of any people, because they have little or no intercourse with their neighbours. Those that inhabit the desarts are a set of robbers, and chiefly live by pillaging the caravans. They mark their skins with a blue colour, by pricking them with needles; and perhaps the negroes of *Africa* have taken this practice from them. The handsomest Women in *Asia* are the *Circassians* and the *Georgians*; for which reason the *Turks*, as well as the *Persians*, have great numbers brought every year from thence, and with these they fill their seraglios; however, in their own country they are much addicted to painting. Their garments are like those of the *Persian Women*, and their veils, wherewith they only cover the top and back part of their heads. They are very fond of strangers; but they are not to be trusted, for they will poison a Man when they think they have any reason to be jealous. The Men have very bad qualities, for they rob and plunder each other, not scrupling to take away their wives and children, which they sell as slaves to the *Turks*. They pretend to be a sort of christians, and yet they are guilty of all kinds of vices, not excepting incest; for they make no scruple of marrying their aunts and nieces, and they have two or three wives at a time, with as many concubines

as they please. They have little or no jealousy, for if they find a gallant with their wives, they only oblige him to pay a Pig, which is eaten by the husband, wife, and gallant. They excuse their having so great a number of Women by saying that their Children are their riches; for the more they have the more money they get for them. They sell the Girls, from thirteen to eighteen years of age, for twenty crowns, the Women for twelve, and the Children for three or four.

The TURKS, who buy a great number of slaves, are a people composed of several nations, as *Armenians*, *Georgians*, and *Egyptians*; even not excepting the *Europeans*, particularly in the time of the crusades. It is not therefore possible now to know the natural inhabitants of *Natolia*, *Syria*, and the rest of *Turky*. All that can be said is, that the *Turks* in general are pretty well made; and that the Women are generally handsome, and without blemish; they are very fair, because they go out very little, and when they do are always veiled. *Belon* informs us, that the wife of a peasant in *Asia* has a colour as fresh as a rose, and they have skins so delicate, white, and smooth, that it feels like velvet. The *Turkish* Women bathe very often, and do every thing in their power to preserve their beauty; though some pretend the *Persian* Women are nicer and cleaner than they.

The inhabitants of the northern parts of *Greece* are very white; but those in the islands and southern provinces are brown; however, generally speaking, the *Greek* Women are more handsome and lively than the *Turkish*, because they have the advantage of being more at liberty. The *Greeks*, the *Neopolitans*, the *Sicilians*, the *Corficans*, the *Sardinians*, and the *Spaniards*, being seated nearly in the same parallel, have much the same complexions; and they are all more tawny than the *English*, *French*, *Germans*, *Polanders*, *Moldavians*, *Circassians*, and other inhabitants of the north of *Europe*, as far as *Lapland*, where we begin to find another sort of Men. Men with black hair are not extremely common in *England*, *Flanders*, *Holland*, and the northern parts of *Germany*, and there are none in *Denmark*, *Sweden*, and *Poland*.

We can say but little of the people belonging to the countries not fully discovered, of which there are a great number; and there are doubtless some that have never been seen at all, particularly towards the southern pole, not to mention those that lie between the known parts of *America* and *Asia*. We are told by *Dampier*, that the *North Hollanders* have the most unpleasant looks, and the most disagreeable features that ever he saw, though he had met with a great variety of savages. He adds, that though the *Hottentots* are a most nasty people, yet for wealth they are gentlemen to these; for they have no houses, garments, Sheep, poultry, fruits of the earth, nor Ostriches eggs, as they have; and setting aside their human shape, they differ little from brutes. They are tall, strait bodied, and thin, with small long limbs. They have great heads, round foreheads, and great brows. Their eye-lids are always half closed, to keep the flies out of their eyes, which are here exceeding troublesome; so that being from their infancy annoyed with these insects, they never open their eyes like other people. They have great bottle noses, full lips, and wide mouths. And Men and Women, old and young, want their two fore teeth of their upper jaw. They have no beards, have long visages, black short curled hair like that of the negroes, not long and lank like the *Indians* that are nearest them. The colour of their skins is all over coal black, and they have no cloaths except a piece of the rind of a tree tied like a girdle round their waist, with a handful of long grass thrust under it to hide their nakedness. They have no houses, but lie in the open air; and they herd in companies twenty or thirty Men, Women, and Children together. They seem to have no sort of food except small fish, which they take every tide. He likewise saw on the shore the shells of Cockles, Muscles, and Perriwinkles; but of these they have but few. He did not perceive they had any sort of worship; but they had a sort of weapons to defend their fisheries against their enemies if they have any; some of them had wooden swords, and others a sort of lances; they seem to have no iron, or any other metal. As to their language, they speak an unintelligible jargon

jargon through the throat. This was but a small island, but the inhabitants of the main seemed to be exactly the same sort of people.

The ancient writers abound with fables of various kinds relating to the different inhabitants of the world; the stories of the battles between the Pigmies and the Cranes is pretty well known, and therefore need not be insisted upon. Some have affirmed there were Men with Dog's heads; others with but one eye, as the Cyclops; and others again that there were people that had but one leg; but this was so large, that when they lay down it served to shade their bodies from the sun. Some of the *Ethiopians* were said to have had four eyes; and that many of the *Lybians* had no heads, but their mouth and their eyes were in their breasts. It was pretended that in the oriental parts of the world, there were whole nations without noses, and others had such large under lips that they covered all their faces; but it would be endless to repeat all the extravagancies of this kind.

However, the notion of giants is somewhat more serious; for we are told in *Genesis*, that the sons of God came in unto the daughters of Men, and begat giants that were famous in their generation. Some have thought these were actually of a prodigious size; and others that they were audacious, wicked and impious. Many of the *Jewish* rabbies, and fathers of the christian church, have thought that the angels had conversation with the beautiful women, from whence a race of giants proceeded; however, it is now the general opinion they were only extraordinary Men in other respects. But what shall we say to *Og* king of *Basan*, whose bed was nine cubits long and four broad; and to *Goliath*, who was six cubits high and a span. But be this as it will, there are expressions in the scriptures which must be taken metaphorically; as when it is said in *Amos*, that I, that is the lord, destroyed the *Amorite* before them, whose height was like that of cedars, and he was as strong as the oaks. This is according to the report of the *Israclites*, who, when they went to search out the *Land of Promise*, affirmed that they had met with giants, in comparison of whom they were

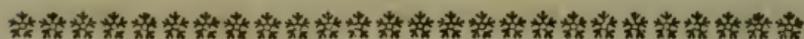
were but as *Grafshoppers*. In the life of *Sertorius*, written by *Plutarch*, it is said that in *Africa* they had found the body of the giant *Antæus*, which was sixty cubits long; but this is without the least shadow of truth; and perhaps fables of this sort may be owing to the meeting with the bones of Elephants, and other monstrous quadrupedes, that they thought belonged to Men.

Some have been so silly as to believe that the stature of Men has decreased ever since *Adam*; and in the *Academy of Belles Lettres*, for the year 1718, *Henrion* tells us, that *Adam* was one hundred twenty-three feet nine inches high, and *Eve* one hundred eighteen feet nine inches and three quarters, that *Noah* was twenty feet shorter than *Adam*, and that *Abraham* was no more than twenty-seven. *Moses* was reduced to thirteen feet, *Hercules* to ten, *Alexander the Great* to six, and *Julius Cæsar* to five. But this opinion is so absurd that it needs no confutation; for we are certain, that at least for three thousand years past, Men have been of much the same height.

However, it cannot be denied that Men of extraordinary stature have appeared in all ages; but whether they have reached the height of ten feet, as some have pretended, we can neither affirm nor deny. *Josephus* in particular informs us, that there was a *Jewish* giant ten feet and a half high, who was sent as a present to the emperor *Tiberius*. It is very certain there are many travellers and sailors, who have given us false accounts of particular nations; for instance *Magellan*, who affirms in the streights of that name there were Men of an enormous size, as was hinted at above; which story is now well known to be false.

The smallness of dwarfs has been carried to the same excess; thus we are told that the poet *Philetas* was so little and light, that he was forced to put lead into his shoes for fear of being carried away by the wind. *Suetonius* reports that *Augustus Cæsar* had a dwarf that was but two feet high; that he weighed but twenty-seven pounds, and yet had a voice extremely loud.

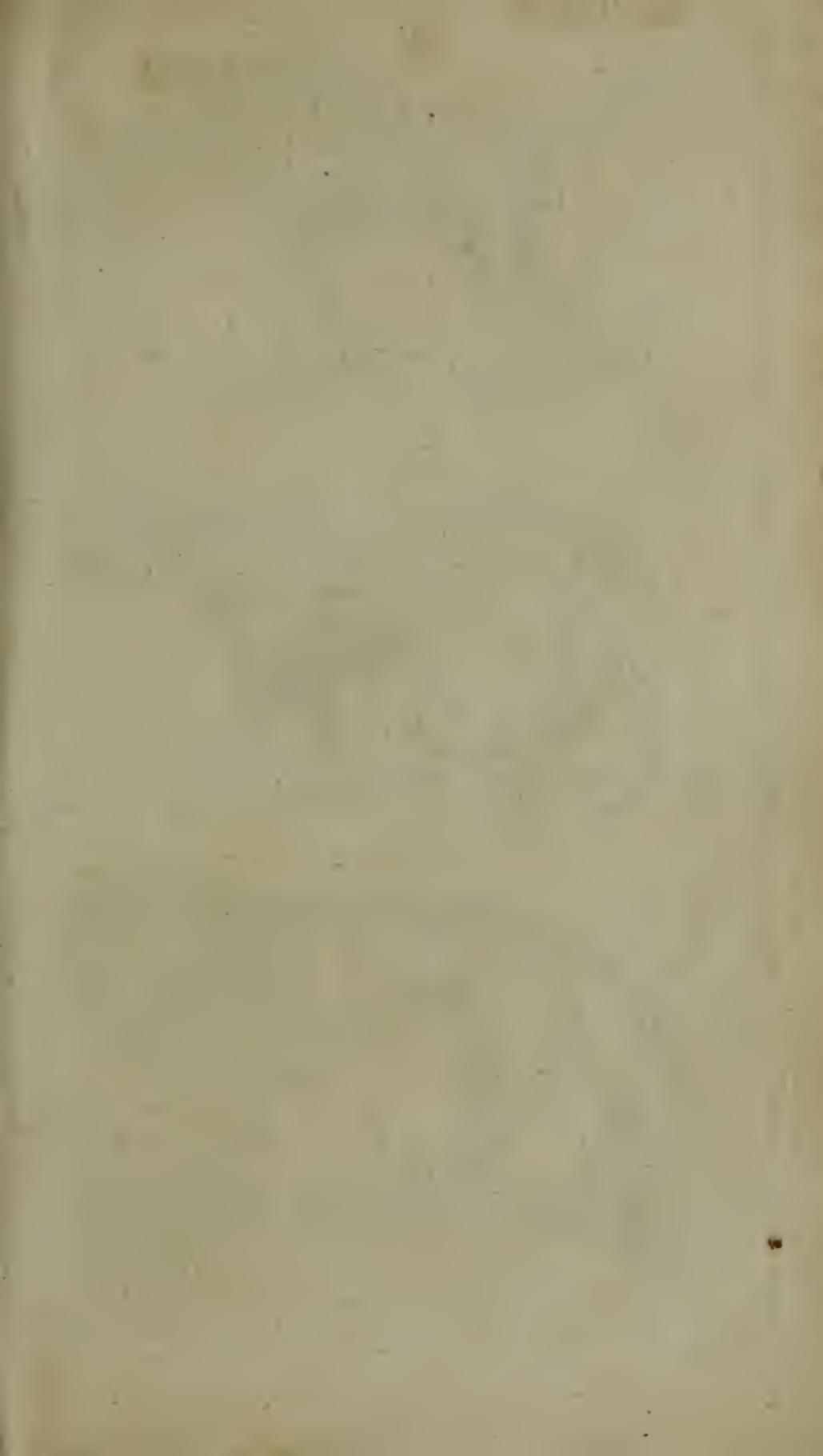
As to the length of Men's lives there are also various opinions ; not to mention the antediluvian patriarchs, the *Egyptian* kings, and the like ; nor the method of solving them by accounting months for years. *Epigenus* affirmed, that the life of Man never was extended beyond one hundred and eleven years, but *Berosus* limits it to an hundred and seventeen ; yet *Pliny* assures us, there were a great number in *Italy* that had exceeded both these periods. There were three men at *Parma*, that were an hundred and twenty ; one at *Bressello*, that was an hundred twenty-five ; and a Woman at *Faenza*, that was an hundred thirty-two. However, we need not have quoted authorities for this, because in our time there have been Men who have lived much longer. It is well known that *Thomas Parr*, a *Shropshire* Man, lived an hundred and fifty-two years ; and *Henry Jenkins*, a *Yorkshire* Man, an hundred sixty-nine. There was one in the north of *Scotland* who married when he was above an hundred, and went a fishing in his boat when he was an hundred and forty years old.



C H A P. XIII.

Of Animals of the CAT Kind.

THE principal of this sort is the LION, whose head is very large, which is chiefly owing to the extraordinary thickness of the flesh that covers it, and the largeness of the bones of the jaws. The breast likewise appears to be very broad, because it is covered with long thick hair ; but in reality it is as narrow and contracted as that of the generality of Horses and Dogs. For the same reason the tail seems to be of an equal thickness from one end to the other, on account of the inequality of the hair with which it is encompassed ; it being more short near the beginning where the flesh and bones are large, and increases in proportion to the lessening of the tail. The hair about the neck and breast is not different from that on
the



Hyena 185



Tiger 179



Lions.



the rest of the body, unless in length; nor is it pointed like that of many other animals.

He has fourteen teeth in each jaw, and in the upper jaw there are six grinders, three on each side. Of the eight remaining there are three nippers on each side, and one dog-tooth. The nippers, or incisors, have two more pointed and longer than the rest, and are not of a shape at all proper for cutting; and therefore they may rather be accounted dog-teeth. Between the large incisors, and the dog-teeth, there are empty spaces to receive the dog-teeth of the lower jaw. The six fore teeth of the lower jaw are all of the same size, and much alike in shape. The dog-teeth of this jaw are an inch and a half long, and there is likewise an empty space between the dog-teeth and the grinders to receive the dog-teeth of the upper jaw. The grinders of both jaws are of a very different shape; for those in the upper jaw next the dog-teeth are small, blunt, and flat at the ends, as grinders generally are. The two last on each side are large and flat, with three points, which form a kind of flower-de-luce. The last of the grinders below is the largest, and has but two points; but the two others have three, which grow less as they approach the dog-teeth. The grinders are so placed, that when the mouth is shut they do not meet each other any more than the dog teeth; for the teeth of one jaw slide on the sides of the other, in the same manner as the blades of a pair of scissors. This structure of the Lion's teeth is common to most of the animals that feed upon flesh.

The neck is very strong, as most naturalists have observed, which is owing to the apophyses of the vertebræ of the neck being tied together with strong hard ligaments, that have the appearance of bones; hence ancient authors that have treated of these animals have mistaken the whole for a single bone.

The tongue is rough, and beset with prickles as hard as Cat's claws, which are hollow in the lower part, and bend back towards the throat. Hence it seems probable, that a Lion, Tiger, or Leopard, cannot lick the hands of a man without tearing off the skin; though several writers have asserted the contrary.

These

These prickles at the base have small round eminences, which are a portion of the papillæ of the tongue.

The eyes are bright and shining, even after death; and they are so clear that the choroide membrane may be seen through the pupil, and appears to be gilt. The conjunctive is black throughout, except towards its extremity near the edge of the cornea, where it forms a white circle. The structure of the paws, teeth, eyes, and tongue, are the same as in a Cat, and also the inward parts of these two animals nearly resemble each other, according to the observation of the members of the *Royal Academy* at *Paris*.

One of the Lions which they dissected, though very young, was seven feet and a half in length from the nose to the beginning of the tail, and four feet and a half in height from the top of the back to the ground.

When a Lion was opened, the gullet did not appear so wide as to swallow the limbs of other animals whole as some authors have pretended; for it was but an inch and a half in diameter. The stomach was eighteen inches long, and six broad, and on the upper and fore part there were two unequal bunches. The whole length of the guts was only twenty-five feet; of which the colon was eighteen inches; the blind gut was three inches long. The pancreas was like that of Cats and Dogs; and the large glands of the mesentry were like those of the same animals. The liver was divided into eight lobes, as in Cats, and was of a dark brownish red colour. The hollow part under the gall bladder abounded with bile, as well as all those that were next it; for which reason it was thought to have occasioned his death. The gall bladder was seven inches long, and one and a half broad. The spleen was a foot long, two inches broad, and half an inch thick; but it was not so black as the liver. The kidneys were almost round, and were three inches and a half long, and two and a half broad; as also of the same thickness. One of them weighed seven ounces and two drachms.

The urethra was not crooked, but entirely strait from the bladder to the extremity of the penis. It was eleven inches long in all; of which three inches
and

and a half only proceeded out of the body ; for this reason the Lion throws out his urine backward, and does not lift up his leg as a Dog.

When the thorax was opened, the mediastinum appeared to have many large vessels, and the membranes of which it was composed were pierced like a net ; but they were united towards the diaphragm, and to the right of the point of the heart there was a large cavity. The same thing is observable in Cats.

The lungs had six lobes on the right side, and three on the left, and all the annular cartilages of the wind pipe were an entire circle, except two or three below the larynx. They were four inches in circumference. The heart was dry and without water in the pericardium ; it was six inches long, four broad at the base, and terminated in a sharp point. The ventricles were so large, that the right, which descended as far as the point, caused the thickness of the flesh that covered it to be but a sixth of an inch thick ; but towards the base it was little more than half an inch ; likewise the septum was not so much. The auricles of the heart were so small, that the right, which was biggest, was but half an inch in diameter. The brain was but two inches broad any way, and it was inclosed in a skull half an inch thick in the thinnest place, and near an inch on the forehead. The top was raised like the crest of a helmet, because the temporal muscles had their origin there. The pineal gland was transparent, and was but a line long, and two thirds of a line broad at the base. The globe of the eye was an inch and one third in diameter, and the cornea was the third of a line thick in the middle, but on the circumference half a line. The iris was of a whitish yellow colour ; but the cover of the choroide, called by the *French* the tapis, was of a yellow gold colour. The chrystaline humour was very flat, and its greatest convexity, contrary to what is common, was on the fore part. Some authors have been of opinion that the smallness of the brain is a sign of a want of wit and judgment ; but from this account it appears that it is rather an indication of a cruel disposition.

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The LIONESS differs from the Lion in having no long hair about the neck; but the muzzle is longer, the head more flat, and the claws not so large. She is three feet high to the top of the back; and five feet long from the nose to the beginning of the tail, which is two feet and a half in length. The length of the guts of a Lion is twenty-five feet, and that of a Lioness twenty-two feet and four inches. The liver is divided into five lobes, and the substance resembles that of Cats and Tigers, being more full of grains and glands than in other animals. The heart is very large in proportion to the size of the animal, whence appears the falsity of the common opinion, namely, that a large heart is a sign of a fearful animal.

There are great numbers of Lions to be found in *Asia* and *Africa*, but there are none in *America* whatever has been said to the contrary. There is indeed an animal which they call a Lion, but he is neither of the shape, colour, nor size of that creature. He rather seems to partake of the nature of a Wolf, according to the most accurate accounts of the most sensible men that have been in those parts. Besides he is of so fearful a nature that he will run away from a man, and dares not face him whenever he sees one.

All the members of a Lion in general express the strength of his body, and he has a very majestic gait, with a noble air, and a large mane. He has lively sparkling eyes, with dreadful paws, and his steady pace cannot but excite the attention of the beholder; plainly shewing that he is the king of quadrupedes. The bones are not solid as some have pretended, for there is marrow in them, though not so much in proportion as in many other animals.

When he meets with his prey and takes it, he never begins to devour it till it is quite dead. At the *Cape of Good Hope* in 1707, a Lion carried off an Ox of a moderate size over a wall of a considerable height, which is one instance of its prodigious strength.

When a Lion is in anger, or oppressed by hunger, he erects his mane, and beats his sides with his tail.

On

On these occasions if he meets with any man it is certain death. Sometimes he hides himself behind bushes, so that a passenger can see nothing of him but the motion of his tail, when he is too near to escape from him. But when there is no motion of his mane or tail he will often let a man pass by him quietly.

When a Horse or an Ox are aware of a Lion, they run away as fast as ever they can; and if the Horse has a man on his back, he endeavours to throw him off, that he may fly the swifter. Likewise when a horseman discovers a Lion, his best way is to alight as soon as he can; because he is generally contented with a Horse, and will let the man escape.

The TIGER for fierceness and size approaches nearest the nature of a Lion than any other creature of the Cat kind; he being like a Lions in body, face, and mouth. The neck is short, and the skin full of spots; but not round like a Leopard's, nor yet of several colours. Their eyes are shining, their teeth sharp, their feet like those of a Cat, the Claws crooked, and their tails long; but not tufted at the end like that of a Lion, but smooth like a Cat's.

There are none of these animals in *Europe*, for they are bred in *Asia*, *Africa*, and *America*; but they are of different colours and kinds. Particularly there is one in the *East Indies* that is fallow coloured on the back, grey on the sides, and white underneath the belly. It is adorned with black stripes, the largest of which is an inch broad. Some of them are disposed in the form of a girdle, and almost surround the whole body. However they are generally short, very irregular, and run along slanting; from which a smaller sort proceed, which look like appendages to the greater.

One of this sort that was measured after he was dead, had a head fourteen inches in length, and nine in thickness. The tail was two feet and a half long, and decreased gradually to its end, where it was very slender. It was encompassed with rings of the same colour as the rest of the body, but not so lively. The body, from the nose to the beginning of the tail, was four feet nine inches in length; his height, from the
extremity

extremity of one of the fore paws to the top of the back was three feet; and the fore leg, measured directly under the shoulder, was above two feet and a half in circumference; the rest of the body being large in proportion. The two sides of the forehead formed a considerable cavity in the middle, which runs from above downwards like a channel. The bottom was covered with a long narrow stripe, from whence several others proceeded of the same colour, and ascended obliquely towards the forehead, and then turned downwards like a screw. From the top to the trunk of the body, proceeded to the right and left several other small black stripes, which after dividing and parting from each other, then reunited in a single point on the middle of the forehead; insomuch, that by the help of a warm imagination they might be taken for the likeness of flower de luces, supposing that they had three rows of leaves. The fore crooked teeth in the mouth were extremely thick and long, and the claws were in proportion. The mouth was very large, and the neck exceeding short. It had whiskers like a Cat, of a bigness proportionable to the body. These sort of Tigers are most common in *China*.

Captain *Hamilton* informs us, that in the *Sundab Rajah's* dominions in the *East Indies* there are three sorts of Tigers in the *Carwar* woods, and that the smallest of these are the fiercest. This is not above two feet high when he walks, and is very cunning, delighting in human flesh. The second kind is about three feet high, and hunts Deer and wild Hogs, besides a little creature called *PISSI*. This is shaped like a Deer in the body, but its head is like a Hog; and as a Boar has two long tusks growing upward from the nether jaw. It has also two long small sharp teeth, which grow downward from the upward jaw, and reach down as low as the under part of the lower jaw. It is a very harmless fearful creature, and feeds on grass and herbs, and is hardly so big as a full grown Cat. The flesh is almost black, and it has the taste of that of a Hare.

The Tiger of the largest size is above three feet and a half high, and they are not so rapacious as the other kinds. They do not seem to be greedy of human flesh,

flesh, and are sooner frightened. A poor peasant in this country had a Buffalo that had fallen into a bog, and while he went to his neighbours for assistance to get him out, there came a large tiger that saved them the trouble; for he drew him out by his own dexterity and strength, and when he had done threw him over his shoulder, as a Fox does a Goose, and was carrying him away with the feet upward to his den. However, as soon as he saw the people he let it fall and ran away; but he had killed the Buffalo, and sucked his blood. Here it may be observed that a small Buffalo weighs above 500 pounds, and there are some that weigh upwards of 1200. The *East Indian* Tiger is full of streaks, but those in the Tower of *London* which were brought from the *South Sea*, are spotted like a Leopard, though they have not so many spots, nor are they so beautiful.

The TIGER of AMERICA is a very fierce animal, and is more mischievous than any other of this kind in that part of the world, not excepting their pretended Lion, which is a harmless creature in comparison with this. It is said there are several sorts of them, and that they are generally strong and beautiful; but I can only meet with the description of one, which is of a fallow colour, and perhaps this is the only sort; for we are not to trust to the stories picked up by travellers only from hearsay. The savages are very dextrous in encountering with these animals with a spontoon, or half pike, their usual weapon on a journey. The Tiger is supposed to be the only animal in these parts that dares engage with a crocodile. Those that have seen a battle between them think it a curious fight. The Crocodile raises his head above water to seize the Tiger when he comes to the river side to drink, as he does Cows, Horses, Mules, and other animals on the like occasion. When this happens, the Tiger plunges his claws into the eyes of the Crocodile, the only part where he can hurt him on account of the hardness of his scales, and the latter diving under water, drags the Tiger along with him, who will sooner die than let go his hold. It is well for the inhabitants that these Tigers are very scarce, for if it were otherwise

wife most of the useful animals would soon be destroyed. Those few that there are chiefly inhabit the woods of the mountainous parts, insomuch that they are seldom heard or seen near any of the plantations.

There is one of these animals now in *England*, and perhaps is the first that ever was seen here. It is of a fallow colour, has a great resemblance to a Cat, for it is neither so strong made, nor so large as a common Tiger. The tail is very long and ends in a point; the ears are shorter, and the muzzle longer in proportion than those of a Cat. However, it is certainly a very robust animal, and seems capable of doing a great deal of mischief.

The TIGERS of *Africa* are much larger than a Leopard, and are full of yellow spots encompassed with black hair, and are pretty round, or rather in the shape of a horse-shoe. Those that have eaten the flesh of a Tiger affirm, that it is white, tender, and well tasted. It is very remarkable that a Tiger will never feed upon the flesh of an animal he finds dead in the fields, for he always will be the butcher himself; and when he meets with several of them together he is contented with sucking the blood, of which he is very fond; and never will give over till he has killed them all.

A PANTHER, or LEOPARD is like a Tiger in all respects except the size, for he is much less, and the spots are entirely round. They are bred in many parts of *Asia* and *Africa*, and they prey upon all sorts of animals they can vanquish like the Tiger. They have a long body, bright shining eyes, a great mouth, strong white teeth, round ears, and spots of several colours. Those that have seen them affirm, that they approach somewhat nearer the shape of a Lion than a Tiger, but this perhaps may be only fancy, since travellers worthy of credit affirm, there is no difference between them except in the size and skins.

We are told by almost all authors that a Panther can never be tamed, and yet Captain *Hamilton* affirms, that near *Tatta* in *India*, he is made use of in hunting Deer, Antelopes, Hares, and Foxes, which plainly shews they are not so ungovernable as has been pretended. But it is the common method of most travellers to pick up what-

whatever has been said by any writer and make it their own, for which reason a multitude of errors are constantly propagated and taken for truth. And here it will not be improper to mention another animal, made use of in hunting by the *Indians*; because it is hard to know to what class of quadrupedes he properly belongs. They give him the name of SHOEGGOSE, and he is about the size of a Fox, with long ears like a Hare, and a face like a Cat. The back and sides are grey, and the belly and breast are white. When it is taken out to hunt, a horseman takes him behind him hoodwinked. The Deer and Antelopes being pretty familiar, they will not stir till the Horse is come pretty near them; and then he who carries the Shoegoose takes off his hood, and shews the game, which he springs after very swiftly and soon overtakes. He then leaps upon their backs, and getting forward to their shoulders scratches their eyes out, and then they become an easy prey to the hunters. But the Leopard or Panther is not so nimble, for he cannot run down the game but after a long chase.

The PANTHER of *America* is about the height of a very large Greyhound, and is of a reddish colour, with very strong limbs. His tail is exceeding long, and his eyes are large, fierce, lively, and of a greyish colour. His prey is Hogs, Deer, or any other creature he can master. No animal is so nice and clean in his food as this, for when he has got his prey, and has filled his belly, he lays up the remainder carefully, covering it with leaves; but if any other creature comes near it to touch it he will eat no more of it. He purrs like a Cat, and makes a noise like a Man-in-the-woods when he is likely to be killed; which is generally in a tree, for the least cur will make him get into one, and then the hunters shoot him. When he is only wounded he becomes very fierce and dangerous, and will fly upon the Dogs that come near him. The planters find him to be the greatest enemy of any in these parts. Some people venture to eat his flesh, and affirm it is very delicate food. His skin is of great use to the savages in winter time, for they make themselves mantles with it, though it is not greatly esteemed for the fur;

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however,

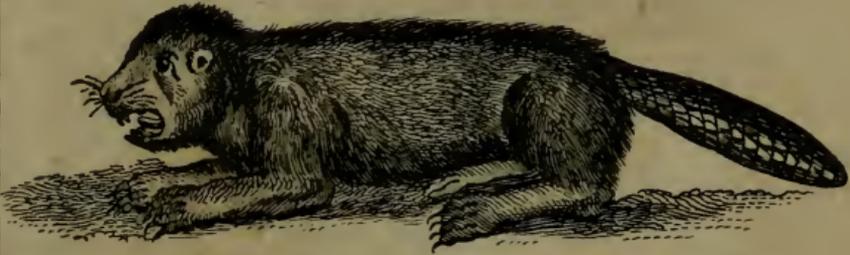
however, when the skin is dressed it makes very fine shoes for women, and gloves for men.

The LYNX, called in *Latin* LUPUS CERVA-RIUS, which in *English* is a WOLF-HART, has been supposed to be of the shape of a Wolf, and the colour of a Hart. Others have thought that it was engendered between a Wolf and a Leopard, which is a great mistake; for he is nothing like a Wolf, and that in which he resembles a Leopard and a Hart is so common to many other animals, that it is very probable he has the name of *Lupus Cervarius*, because he pursues the Harts in the same manner as a Wolf does a Sheep.

The muzzle of a Lynx is not long and pointed like a Wolf, but blunt and short like a Cat, and the length of his head is about seven inches, his neck four, and his body twenty-four inches without including the tail, which is eight in length. His height, from the extremity of the fore feet to the top of the back is twenty inches, and from the bottom of his hind feet to the upper part of his buttocks twenty-three. He has five claws on the fore feet, and four on those behind. Each toe is armed with long crooked sharp claws, which are sometimes concealed like those of a Cat.

The back is of a reddish colour spotted with black, and the belly and the inside of the thighs are of a grey ash colour, spotted likewise with black, but in a different manner; for the spots on the belly are larger, not quite so black, and more distant from each other than those on the back, legs, and paws, whose outsides are reddish. However, all the hair is of three different colours; for the root is of a greyish brown, the middle red, or of an ash colour, and the ends white. But this whiteness at the ends takes up so small a part of the hair, that it is no hindrance from seeing the principal colour, which is that in the middle; and it only makes the surface of the body appear as if it was silvered over. However, the hair of which the spots consist has no white at the ends, and at the roots it is not quite so black as the other part. The dog-teeth, which are four in number, are two thirds of an inch long

Beaver 297



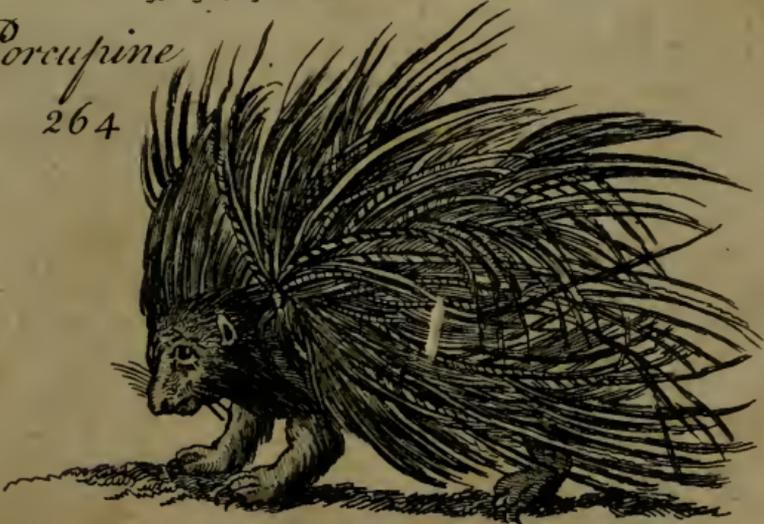
Jackall
236



Lynx 184



Porcupine
264



long in the upper jaw ; but the two in the lower jaw are but half an inch. Between the dog-teeth in each jaw there are four incisors ; and those above are longer than those below. He has ten grinders, four in the upper, and six in the lower jaw. The tongue is four inches and a half long, and one and a half broad. It is covered with prickles in the same manner as in a Lion, and from the end of the tongue to the middle they are very hard and sharp, and turned towards the root. From thence to the root of the tongue they are turned the contrary way, and are more blunt and less hard.

The ears resemble those of a Cat, and on the top of each there is very small tuft of black hair, by which this animal may be distinguished from all others. The stomach is like that of a Cat, and contains nothing singular, any more than the rest of the entrails. This creature in *England* is generally called the OUNCE, and it is to be met with in *Italy* and *Germany* ; but those in *Asia* are of a much more beautiful colour. That described by Dr. *Charlton* is chiefly found in *Persia*, and is either the very same, or is extremely like the Lynx, but it has no black spots.

The HYÆNA is an animal not well known to the *Greeks* and *Latins*. It resembles a Wolf in many particulars, but it is more crafty, voracious, and cruel, and is particularly noted for opening graves and taking out dead bodies. It is nearly of the size of a Wolf, but more hairy, and it has bristles on its neck, back, and head like a Hog. Authors have given a different account of their colours, for some would have them to be the same colour as a Wolf, others of a Bear, others of a gold colour, and others again affirm, that they are variegated with blue stripes. However, it is certain there is a great resemblance between the Wolf and Hyæna, as well in size and voracity, as in the craftiness, with which they take their prey. The Wolf attacks Goats and Sheep, but the Hyæna, Dogs and mankind. Some pretend that the Hyæna can counterfeit the voice of men, and will call them out and devour them ; but this is a fable.

Briffon would have the Hyæna to be of a particular species, and says he is only met with in *Africa*; he is of the size and shape of a Wolf, with short ears, and the whole body is covered with long dark coloured or blackish hair. He has six incisive teeth in each jaw, four toes with nails on the fore feet, and five behind. *Linnæus* would have him to be of the Dog kind, and calls him, *Canis pilis ceruicis erectis longioribus*, that is, the Dog with long erect hair on the neck.

The LYNX of *Brazil*, called by the *Portuguese* ONZA, and by the Natives JAGUARA, has a head, whiskers, ears, feet, and toes like a Cat. The claws are shaped like a half moon, and are extremely sharp; the eyes are grey, and shine like fire in the night, and the tail is long like that of a Cat, in which it differs from the Lynx. The whole body is covered with short yellowish hair, and has a great number of black spots elegantly disposed. It is a very cruel animal, and will attack both man and beast; however, it is afraid of fire, for which reason the natives, who often lie in the woods, kindle fires about them to keep this animal at a distance.

The JAGUARETA is an animal of *Brazil*, and is likewise called ONZA, or OUNCE, by the *Portuguese*. It is of the size of a Calf a year old, and is of the same shape with the former, but is much more cruel. It is covered with short shining hair, and is of a blackish brown colour, mixed with deep black spots of various shapes.

The CUGUACUARANA is another animal of *Brazil*, and is called a TIGER by the *Portuguese*. It is of the same size and shape as the Jaguar, but the colour of its hair is of a reddish yellow, but darker on the back; under the chin it is a little whitish, as also on the lower part of the belly. The hair is short as in the Jaguareta.

The CÁTUS-PARDUS, or CAT-A-MOUNTAIN is an *American* animal, and is two feet and a half in length from the nose to the root of the tail; and a foot and a half high, with a tail eight inches in length. He is extremely like a Cat except in the tail, which is much shorter in proportion to the rest of the body.

body. Likewise the hair or fur is like that of a Cat, and of a reddish colour, only the belly and inside of the fore legs have more of the white; and under the throat and lower jaw it is entirely white. The whole skin is beautified with black spots of different figures; for they are long on the back, and round on the belly and paws. On the ears there are black stripes, which run across, but in other respects they entirely resemble those of a Cat. The whiskers are more short in proportion than those of a Cat; and there is no long hair on the eye-brows and cheeks as we see in Cats; the guts seem to be all of an equal thickness, being two thirds of an inch in diameter; and even the rectum and colon, are only one third of an inch thicker than the rest. The stomach is very large, and in the sinuosity, between the upper and lower orifice, there is a membrane loaded with fat, which joins them together.

The CARCAJOU mentioned in a former chapter, is a sort of a Cat, whose tail is so long that it wraps several times round its body, which is of a reddish brown colour. He is an enemy to the Moose Deer, and when he can overtake one he leaps upon his neck, which he encircles with his long tail, and then opens the jugular vein. The Deer has no other way to escape from him than by leaping into the water. Generally this animal, who has no quick smell, takes three Foxes along with him, which soon find out the Moose Deer, and harrafs him in such a manner, that they force him to the place where the Carcajou waits for him; and after the prey is killed, the Foxes come in for their share, as *Pere Charle-voix* affirms. The Carcajou sometimes lies in wait on the branch of a tree, till the Moose Deer comes within his reach, and then he leaps upon him, and kills him as before.

There is another animal called the CARCAJOU, which is of a blackish colour. The head is longer in proportion to the size, and the tail very short. It has also short legs, insomuch, that it creeps upon the snow rather than walks, and is the slowest of all voracious animals. However, it is a fierce cunning creature; he will sit upon trees to watch the motion of the Deer,

and when one comes within his reach, he jumps down upon them, fastening on the shoulders, which he tears in an extraordinary manner, and the Deer soon falls down with loss of blood.

Sarrafin, a surgeon at *Quebeck*, has anatomised several of these animals, and affirms one of them weighed thirty-two pounds. From the end of the nose to the first joint of the neck it was two feet long, and five inches in diameter where the ears were fixed, which were erect, short, and rounded at the end. The breast and belly, which were of an equal girth, were a foot and two inches in diameter, and yet the legs, together with the feet, were but nine inches long. Each foot had five toes above an inch long, armed with strong, sharp, crooked nails.

The WILD CAT of *Louisiana* in *America* resembles a Marmout in shape more than a Cat, of which it has nothing but the nimbleness. It is but nine or ten inches high, and eighteen long; and the head is like that of a Fox, with long toes, and small claws. It lives upon fruit, and has hair like that of a Fox, only it is more grey. The flesh is good to eat, and those that are tame are so familiar and full of play, that they will make the most serious people laugh.

There is another CAT in *North America*, which is quite different from those in *Europe*, being larger, more nimble, and fierce; but his tail is not above four inches long. He makes a very odd cry in the woods, especially in the night time, and is spotted like a Leopard. He runs up a tree very dextrously, and is a great destroyer of young Hogs. He generally takes his prey by surprize, leaping upon it from the branches of trees. In this manner he will take a Deer; for when he has got upon his back, he bites the shoulders, which terrifies the Deer, and makes him run so fast that at last he falls down for want of strength, and becomes a prey to the enemy. The skins are made use of to line muffs, and sometimes coats in cold climates.

At the *Cape of Good Hope* there are several sorts of WILD CATS, one of which is only a little larger than that of the Domestic kind. Another is blue, but they are

are very scarce ; however, the fur retains the blue colour after the skin is dressed.

The RED WILD CATS are so called, because they have a deep red stripe, or list, which runs from the neck to the root of the tail. It is pretended that the skin of this animal has a great virtue in easing the gout, when it is laid upon the grieved part ; for which reason it is in high esteem at the *Cape*.

Another kind is called the CAT OF THE WOOD, or the TIGER CAT, because he usually frequents woods and groves, and is spotted very nearly like a Tiger. It is the largest of this kind in these parts, and the skin is covered with excellent fur, which is used as well for warmth as ornament, and they are of great value. There is likewise another called a Civet Cat ; but this will be treated of hereafter.

The DOMESTIC CAT is a creature very well known, and therefore needs no description. However, it may be observed that the pupil of the eye is not round as in men, but oblong, that he may pursue the mice more readily, which run directly up the sides of walls as Mr. *Boyle* conjectures. Likewise it is worth notice that a Cat has not so many teeth as a Dog ; for the latter have forty, whereas a Cat has only twenty eight. Besides these kinds of Cats already mentioned, there is a *Syrian* Cat called the CYPRUS CAT, of which we know little or nothing, except that his skin is full of spots.

In a Cat that was dissected, the peritonœum was very thin, but pretty fat beneath the sword-like cartilage ; the caul was fat, and connected to the right lobe of the liver, the spleen, the stomach, and to the duodenum, and it was in the shape of a bag. The strait gut was tied to the root of the tail by a ligament, and the blind gut was an inch long. All the rest of the guts were uniform ; and the internal coat of the stomach was wrinkled according to the length of the stomach or ventricle. The liver was divided into six lobes, and between the two on the right the gall bladder was seated. It had two branches, one of which proceeded from the liver to the duodenum ; the other, which proceeded from the gall bladder itself, pierced the

the diaphragm, and was inserted in the left auricle of the heart. The vena portæ forms two ramifications, namely the mesenteric, which goes to the mesentery, and even to the extremity of the strait gut; and the splenic, which goes to the spleen. The kidneys were large, and of the size of a walnut, having cavities to filter the urine. The half rings of the windpipe before were divided like those of a man; but behind they were united by two membranes, one of which was fleshy, and the other nervous. The ventricles, auricles, and vessels of the heart were like those of a Dog. The lungs had six lobes, and the testicles had three coats besides the scrotum. The penis, on the side of which were the testicles, was connected to the skin by a membrane, and was half an inch long. There were three ventricles in the brain, two of which were circular. According to *Willoughby*, there are two holes, that is, one on each side the anus, from which a foetid liquor proceeds, filtered by the small glands seated on the sphincter. The Cat differs in this from the Hare or Rabbit, in having these glands seated within the anus, without ever a vessel to conceal or contain the liquor, as there is in those animals. The penis is not bony, and it bends backwards.

The claws of a Cat are long and pointed, and they can draw them back so as not to touch the ground when they walk, that they may not be blunted. The heel is much the same as in Monkeys, Lions, and Dogs, it being not very far from the rest of the foot, that they may fit more conveniently. There are grave physicians who affirm, that if those who have a whitlow, put their finger into the ear of a Cat, it will certainly cure it.

The BEAR is by some reckoned of the Cat kind, but for what reason it is hard to say; however, it will not be amiss to take notice of this animal here, though *Linæus* makes him a distinct species. While his hair is on he is a very ugly creature, but when he is stripped of his skin, he much resembles a man in the structure of his thighs, legs, and feet. This resemblance consists chiefly in the length of the Bear's thighs, in which he is quite different from other brutes; and he has
five

five toes opposite to the heel. The bones on the wrists are also like those of a man; but the thumb is not separated from the rest of the fingers as in a man; and it is placed on the contrary side. Likewise the great toe on the foot is placed outwardly. In treading the Bear does not touch the ground with his heel, for which reason it is covered with hair like the leg. Likewise the fingers of the fore paw are of a very bad conformation, which renders them quite improper for the uses a man makes of his hand; for they are thick, and set close to each other.

The substance of the paws are no less remarkable than the structure, for in *Germany* they are reckoned a great delicacy; in so much, that some authors pretend, they are usually reserved for the tables of princes, after they are salted and smoke dried.

The claws of a Bear are connected to the last phalanx of the fingers and toes, in the same manner as a Lion; and they have the power of keeping them raised as they walk, that they may not blunt their points. However, they are generally found to be half worn away, because a Bear has much more occasion to use them than Lions, and other animals of prey. These claws are black, very large, and crooked; and the teeth are like those of a Lion, only the grinders are not sharp and pointed, but flat and square; and there is likewise a small tooth behind the lower dog-tooth. However, the teeth in general are smaller than those of a Lion; for which reason it is said, that the Bear makes use of his paws only in breaking the nets and snares of the hunters. Likewise the thickness of his lips prevent him from making use of his teeth upon this occasion. They are of an extraordinary figure, for those below are turned inwards, and towards the corners are of the form of the comb of a Cock.

The length of the whole body from the nose to the extremity of the paws of the hind feet is eight feet three inches, and to the root of the tail five feet and a half; and this last is five inches long. Likewise from the nose to the hind part of the head is five inches. The breast is larger than that of a Lion as well as longer, and it consists of fourteen ribs on each side.

The neck is short, in proportion to its size, like that of a Hog; for it is but seven inches broad, and nine long. However, the extraordinary thickness of the hair about this part, makes it seem shorter than it really is.

The skin or hide is very thick and hard on the back, but thin and delicate under the belly. The hair is not so harsh as that of a Lion, or wild boar; it being a sort of wool, more curled than that of a Goat, but not so much as that of a Sheep. With regard to the guts they are less distinguished from each other than in any other animal that does not ruminates; for there is no appearance of the cœcum, or blind gut, and their whole length is forty feet, whereas those of a Lion are but twenty-five. The spleen is small and slender, being but six inches long, two broad, and not quite an inch in thickness. The kidneys are five inches and a half long, and two and a half broad; and consequently they are larger in proportion than in other animals.

The BEARS of *North America* differ in several respects from those in *Europe*, for they are not at all mischievous, except when they are hungry, or when they are wounded. They always run away at the sight of a man, and if he has a Dog along with him the Bears will soon get out of sight. Their rutting time is in *July*, and then they become so lean, that the flesh has a faintish and disagreeable taste; even the savages themselves, who feed upon almost any thing, will not touch it at that time. In this season they are much more formidable than at other times, which is perhaps owing to jealousy; but after this they soon get their flesh again, by the help of fruits which they meet with every where in the woods. They are particularly fond of grapes which run up the highest trees; and they will readily climb to the top in quest of them. But if a hunter happens to see them, they pay dear for their liquoriness, for they seldom come down without the loss of their lives. The Dogs which the savages hunt them with are of the Wolf kind, for they never bark; and these were the only Dogs in this country before the coming of the *Europeans*. However, they serve extremely well for hunting.

These

These Bears are very common in *Carolina*, but they are not near so large as those of *Russia*; yet their flesh is much better and more nourishing, being not inferior to the finest pork. However the taste is between beef and pork, and the young cubs are accounted the finest eating in the world. Most of the planters prefer Bear's flesh to beef, veal, pork, and mutton. The fat is as white as snow, and extremely sweet and wholesome; for if a man drinks a quart of it at a time, when melted, it will never rise on his stomach. It is of very great use for the frying of fish and other things, and is greatly preferred to butter.

The Bacon made of Bear's flesh is exceeding good; but it must be well cured, or otherwise it will grow rusty. It is no wonder that Bear's flesh should be so highly valued, because this animal in these parts lives chiefly upon fruits. However, when Herrings come upon the coast they will go down to the creek side to catch them, that is in the month of *March*; and at this they are very expert, for they will take them out as fast as they can put their paws into the water. But at this time their flesh alters much for the worse, and has so bad a taste that few are now willing to eat it. They are also great devourers of acorns, and oftentimes when they meet with Hogs in the woods, they will kill and eat them; but then they must be very hungry, and able to find no other food. They now and then get into the fields of *Indian* corn, making a sad havock, spoiling ten times as much as they eat. The potatoes of this country are so agreeable to them, that they never fail to root them all up when they come in their way.

They are seemingly a very clumsy creature, and yet are extremely nimble in running up trees; but then they always come down with the tail foremost. There is one thing very remarkable of this animal, which is, that no she Bear ever yet killed has been found with young. For this reason some have imagined that they hide themselves after conception in some secret place.

Bear hunting is a very great sport in *America*, both with the planters and savages. Not many years ago 500 Bears were killed in two of the counties in *Virginia*

in one winter. There was not above two the Bears among them all, and these were not with young. The *Engliſh* have a breed of Dogs above the ſize of farmer's curs, which are brought up to this ſport; and by practice they come to know the ſcent of a Bear. As ſoon as they meet with this they follow him by their noſe, till they have overtaken him, and then they bark and ſnap at him till he runs up into a tree. There are then generally two or three hunters ready to kill him with their guns, leaſt one ſhould miſs.

They are not naturally voracious, and yet they are very fierce when wounded. The Dogs often bring them to a bay when in this condition, and then the huntſmen are ready to ſhoot them with the piſtols that are ſtuck in their girdles. Thoſe Dogs are not accounted proper for the game that will attempt to faſten upon a Bear; for the beſt Dog in *Europe* is nothing in its paws. Beſides if they ever get one in their clutches they blow up his ſkin from his fleſh like a bladder, and often kill him; but if he recovers he is never good for any thing afterwards.

As the paws of this creature are held to be the moſt delicious morſels about him, ſo the head is thought to be the worſt, and is always thrown away; but for what reaſon is very hard to ſay, for it ſeems to be only cuſtom and not experience. The oil of the Bear is counted a very ſovereign remedy for ſtrains, achs, and old pains; and the ſavages make uſe of it to greaſe their ſkins and hair. The fine fur underneath the belly in ſome places is uſed for making mats; and the ſkin dreſſed with the fur on, is proper for facing of caps, making of muſſs, and the like. But the ſkin of a Cub is more proper for making of muſſs than any other fur in the world.

The time of hunting the Bear in *America* is the winter ſeaſon, for then they hide themſelves in hollow trees. When they find any thrown down they make a den of the root, and ſtop the entrance with fir tree branches, where they lie ſheltered from the rigour of the weather. If they can meet with nothing of this kind they make holes in the earth, and take great care when they are within to ſtop up the entrance. They have been ſeen

seen to lie so snug in the bottom of a cave, that they were perceived with difficulty by those who were very near them.

But in whatever manner a Bear gets a lodging, he never stirs out of it during the winter; and yet it is not known that he carries any provision along with him; which renders it extremely probable that he neither eats nor drinks all that time. It is generally said that he lives all this while by sucking his paws, but of this there is no certainty; nor does it seem at all probable that they could render him sufficient nourishment for so long a time. However, it is credibly asserted, that they have been kept chained up all the winter without any thing to eat or drink, and that when it was ended they continued very fat; but every one is left to his own liberty to believe what he pleases in this respect; for it is certainly very strange, that an animal so well provided with fur should be so extremely unwilling to stir abroad in the winter time.

What has been said may serve to shew that there is no great occasion to go very far in search of Bears at this time of the year; for all that a hunter has to do is to find out the places where they are concealed. When they imagine they have found the place where the Bears are lodged, the hunters make a circle of above half a mile in circumference, more or less according to their number. Then they advance forward, closing their ranks, and looking about to find out the retreat of the Bear. In this case it would be somewhat strange if any escaped them, for the savages are excellent ferrits.

The hunters take care to live well while they are hunting; and for fear they should not succeed, they carry provisions with them, not only for themselves, but for their friends and families. Their fare is not indeed very delicate, but every thing is agreeable to savages. To behold their reception when they return home, the praises that they receive, and their air of contentment and satisfaction, one would think they came from obtaining some great victory, and that they were laden with the spoils of a nation they had conquered. Besides, they think it a great piece of man-
hood

hood to vanquish and bring home a Bear. He that commanded in the expedition is always treated with distinguished honour at his return back. They constantly make a great feast, and are proud when all the victuals is quite consumed. The largest Bear is the first course, and they roast him whole, entrails, skin, and all, in the same manner as they would barbacu a Hog. This feast is always dedicated to some genius or god, and they think he would be very angry if the whole was not eaten up. Some of them feed so excessively, that they are killed with their gluttony, and others are ill for a long while afterwards.

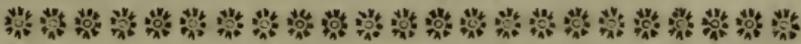
When the savages are about to go a hunting they always appoint a solemn fast, at which times they eat nothing at all, and prepare themselves for it by bathing in a river. After this they make a feast, in which they feed very soberly, for then they are not obliged to devour the whole repast. Before they set out they dawb themselves with black, as if they were going to war: For hunting, among these people, is counted as noble an employment as fighting with their enemies, because not only their food but cloathing depends thereon.

The GREENLAND BEAR is larger than the former sorts, and is of a white colour; and the shape of their heads and some other parts is quite different, which plainly shew they are of a distinct species. Not many years ago there was one carried about for a shew in *England*, which was four foot and a half high when he stood upon his legs, and about nine feet long. When he reared up on his hind feet he was thirteen high, and would lay hold on the upper part of his den, and swing like a parrot in a cage. However, we are credibly informed there are many in *Greenland* much larger.

The head is of a more formidable make than that of a common Bear, for in some respects it resembles a Lion. It is but small in proportion to the size of the animal, and yet it is four times as large as that of a Mastiff Dog. The neck is prodigious thick and strong; the eyes are very small and far sunk in his head, and the nose is black and thick, with wide nostrils. The mouth is large, black within, and exceedingly well armed with strong teeth. There are four
tusks,

tusks, two on each jaw, of above two inches long. The ears are very small, and the tongue is of a purple colour.

The limbs of this animal are monstrously large, the thigh being above a yard in circumference. The soles of the feet are flat, broad, and undivided, being ten inches in length and seven or eight in breadth. The toes, which are five, are armed with large nails full two inches long, and in some cases he makes use of his paws in the same manner as we do our hands. The animal we are now describing was taken when he was about four or five months old, and at first was fed with raw flesh; but afterwards they brought him to be contented with bread soaked in milk, and with this he grew very fat. He was very docible, and was taught a great many tricks by his keeper; but his roaring was very terrible, and might be heard a great way off. It is very uncertain to say how long these animals will live, but I have seen the same animal when he was upwards of twenty years old; however he was then very lean, meagre, and inactive, and seemed to be quite worn out with age.



C H A P. XIV.

Of Animals of the Dog Kind.

THE WOLF is the largest and fiercest animal of this species, and partakes somewhat of the nature of a Dog; for the teeth and feet are so like one, that if his head was not different, he might easily be taken for a Dog. He has a great wildness in his looks, and is a bold voracious creature with shining eyes, sharp unequal teeth, and a short neck. His claws are different likewise from those of a Dog, for he draws them up when he walks, for fear of being heard. He is always of a blackish colour, though in the northern regions the Hares and Foxes are generally white.

His neck seems to be very limber, and he is very quick in turning it which way he pleases, being more

nimble

nimble than a Dog in this respect; he is so far from having no joints in it, as *Aristotle* and some of the ancients have affirmed. He can bear hunger a considerable time, which is a property belonging to all beasts of prey; this seems to be a wise design of nature, because they do not always meet with game proper for them to devour. The cry of a Wolf is what we call howling, not barking.

The Wolf, from the top of the head to the root of the tail, is about two feet eight inches in length; and that of the head, from the top to the tip of the nose is seven inches. The height from the upper part of the back to the ground is about a foot and eight inches, and the muzzle is oblong and blunt, in which it differs from a Fox, whose nose is more sharp at the end. The ears are short and erect, and the tail is thick and covered with long hair.

When a Wolf is opened he appears to have a large breast, defended by twelve pretty large ribs on each side; of which the eight uppermost are the true ribs, and the four lowermost the bastard ribs. The sword-like cartilage is made like a spatula, and the windpipe is very wide; the lungs consist of two lobes, reddish above, and livid or marbled below; the left lobe is divided into three parts, and the right into four, but they are all unequal. The heart is almost round, has a great number of vessels, and is covered with fat at the base. The diaphragm is hard and thick; the gullet is of a middle size, and of an equal diameter throughout. The stomach is large, long, pretty thick, broad at the bottom, narrow in the middle, and has an internal membrane composed of several winding or vermicular strings. The intestines are fifteen feet long, and the jejunum and ilium are red; the colon is thick, and the cœcum short and wide; the rectum is broad, and the mesentery full of a great number of slender vessels, intermixed with hard blackish glands. The pancreas is broad and long, and seated under the stomach.

The liver is jagged on the edges, and of a reddish yellow; and it is divided into two large lobes, of which
the

the right is longer than the left, and is subdivided into five unequal lobes. The gall bladder is yellowish, containing a gall of a gold colour. The spleen is slender, long, flat, and of a lead colour; the kidneys are pretty large, almost round, and of a florid red. The testicles are as large as small walnuts, and the penis is very long, moderately thick, bony, and like that of a Dog.

The WOLF of *North America* is much less than those in the other parts of the world, and approaches nearer to the nature of Dogs. They were indeed made use of as such by the savages, till the *Europeans* introduced others; and even now in the parts distant from the habitations of the planters they still make use of these animals in hunting. They are very tame and gentle, and those of this kind that are wild, are neither so large nor so fierce as an *European* Wolf, nor do they ever attack mankind. They go together in great droves by night to hunt the Deer, which they do as well as any Dogs in *England*; and it is confidently affirmed, that one of them is sufficient to run down a Deer. What is said of their eating mud when they fail of catching their prey I take to be a fable, because all these sort of creatures can live a great while without food, as was just observed. When there are many of them together they make a most hideous and frightful noise. The skins when dressed are very proper for muffs; and when the fur is taken off, they are excellent for drum heads; as also when they are tanned they are fit for the upper leathers of shoes in warm climates.

Wolves in general are great enemies to Sheep and tame cattle, for which reason the inhabitants of all *European* countries endeavour to destroy them; but they have never been able to root them out any where except in *England*; though in *France* the intendants of the provinces give a pistole to every one that brings the head of a Wolf. *Linnæus* acquaints us, that about thirty years ago Wolves were very scarce in *Sweden*, but since that time they are become common in the forests. He is a very voracious animal, for he will swallow the flesh with the skin and hair, as well as the bones.

bones. He generally eats sufficient to serve him three days, and commonly seizes his prey in the night; that is, after midnight and before the break of day. He hunts after Moles, Rats, Mice, Geese, Pigs, and young Wild Boars, as well as Hares, Kids, and Fawns, and he will set upon Dogs; but he is fondest of Kids, Lambs, and Sheep. He will often enter inclosures, and even stables, in search of prey; but then he always walks against the wind, lest the Dogs should smell him, and discover him by their barking. He will leap over high walls, and make holes in sheepfolds to come at the Sheep. The She Wolf goes with young nine weeks, and generally brings forth six or seven young ones at a time; however, the hunters observe there are generally an odd number, as five, seven, or nine. A Wolf is said to live thirteen or fourteen years; but this is not very certain. He is one of the most crafty animals known, for when he is in great danger he will counterfeit being dead; his eyes shine in the night like candles, which is a terrible sight not only to men but to other animals. He is always upon the watch for fear of being surpris'd, though he is not much afraid, of the common sort of Dogs because they dare not come nigh him. When they have Dogs large enough to hunt a Wolf it is accounted excellent sport, and they know his footsteps from that of a Mastiff Dog, because the Wolf has a large thick heel, and in sand, mud, or dust, they always leave three cavities. The claws are thick and short, and the two toes of the fore feet are always close together, in which he differs from a Dog. Sometimes they take Wolves in nets, traps, and gins, and sometimes they dig deep pits, cover them over, and place a Lamb thereon as a bait, by which means they take him. A Wolf is afraid of fire, guns, bells, and every thing that makes a loud shrill noise, as a trumpet, horn, or drum. It is confidently affirmed, that a man pursued by a hungry Wolf in the night, may drive him away by striking fire with two flints, by sounding a horn, or by shaking a bunch of keys. Wolves may be easily tamed, and they will live in a house, and play with Dogs, as well as lie by the side of theirmaster; but then they must be taken very young.

young. It is pretended, that the flesh, heart, and liver of a Wolf boiled together, or separately, are good against an epilepsy, the dropsy, and consumption. The guts of a Wolf dried and powdered are said to cure the cholic, and the dose is from one scruple to two. The fat of a Wolf is hot, resolvent, and nervous, and makes a good liniment against an atrophy, the palsy of the members, the rheumatism, and diseases of the joints. The tooth of a Wolf fixed in silver like a coral, is proper to rub children's gums with, to cause them to cut their teeth more easily.

The SEA WOLF nearly approaches to the shape of a Dog, only he has four very short paws, especially those behind: but he rather drags his feet along than walks upon them. Those before are armed with claws, but those behind are like fins. The skin is hard, and covered with short hair of divers colours. They are white at first, but afterwards some become black, others red, and others again are diversified with all these colours.

This kind of animals is to be found in *North America*, and perhaps in many other countries, though they have not yet been described. The fishermen take notice of several sorts, of which the largest weigh near two thousand pounds, and it is pretended that their muzzles are more pointed than in the rest. There is one kind called by the sailors Great heads, or Bull heads, which are very nimble creatures, and generally break the nets that are thrown into the water to catch them. They are of the colour of a Tiger, and are as playful and as pretty a creature as these sorts of animals can well be supposed. The savages teach them to follow a Man like a Dog; notwithstanding which they never fail to knock them on the head and eat them.

Near the mouth of the river *St. Lawrence*, there are young ones as large as great Hogs; and they fish for these in *February*, when the young ones just begin to take the water. At this time the dams fly to the sea in a great hurry, making a loud noise to give notice for the young to follow them, which they would
not

not fail to do, if the fishermen did not prevent them by knocking them on the head. An author of credit affirms, that these animals are in such great numbers on the sea shore, that eight hundred have been killed in a day.

There is a lesser sort which is very small, and yields no more oil than what a bladder will hold. They always keep near the sea shore, where one stands to watch; and at the first signal given by him they all fly to the sea. Soon after they lift up their heads out of the water, standing upon their hind paws to see if there is any danger; notwithstanding which many of them are taken while they are on shore; for it is not possible to catch them otherwise.

Some say, the flesh of the Sea Wolf is very good to eat; but those that take them find their account much better in making oil from them. They only melt the fat over the fire, and it immediately turns to oil. This, while it is fresh, the *French* affirm, is of great use in the kitchen; but if these animals are very young it soon grows rancid, and then it is fit for roasting but lamps, or to dress leather with. The *French* formerly used the skins of these animals to make muffs with, but they are only used now for covering of trunks and portmanteaus. When they are tanned they have the same grain as *Turky* leather, but not quite so fine; however, the surface does not rub off so easily, and they continue to look well a considerable time. The shoes and boots that are made therewith, are not apt to let the water soak through; and they are also made use of to cover chairs and the like.

These animals couple among the rocks, and sometimes on the ice; and the female have generally two at a time, which they suckle sometimes in the water, but most commonly on shore. The Sea Wolf has a very quick smell, which is its chief defence; however, it does not prevent them from being sometimes surprised, as has already been taken notice of.

However it must be observed, that the above is the *French* account taken from *Charlevoix*; and it is supposed that they give the name of a Sea Wolf, to what we call a Seal, or Sea Dog; of which the reader will be
a better

a better judge when he compares it with the following account of that animal.

The SEAL or SEA DOG lives as well by land as by water; and they have five claws like fingers on their feet, which are joined together with a thick skin like those of a Goose. The head resembles that of a Dog with cropt ears; but their heads are not all alike; for some are more round, and others of a longer make. They have whiskers about the mouth, and hair on the nose and eyelids. The eyes are large, hollow, and very clear, and the skin is covered over with short hair. They are of several colours spotted like Tigers; some are black with white spots, some yellow, others grey, and others again red. Their teeth are sharp like Dogs, and so strong that they can bite a stick in two as thick as one's arm. On their toes they have black, long, and sharp nails, or claws, and their tail is short. The old ones make a hoarse barking, like Dogs, and the young ones mew like Cats. They go lame behind, but they can climb upon high ice, whereon they sometimes sleep, chiefly when the sun shines. But in stormy weather they are seldom seen upon it.

They feed upon small fish, as many imagine; however, when some of them have been cut open, there was nothing found in their stomachs but whitish worms of the thickness of ones little finger. When they are found upon large sheets of ice, and hear the noise of men shouting, they hold up their noses very high, and make a long neck as Greyhounds sometimes do, and bark; then those who intend to take them strike them with long poles upon their noses and heads till they are almost dead; yet for all this they will sometimes recover themselves, stand upon their defence, and run after the men pretty swiftly; for they shove themselves along just like an Eel. Some run from the ice into the water, squirting out a yellow dung at the hunters, with an abominable stink.

The largest of these Seals are eight feet in length, and they yield half a barrel of fat. This is about three or four inches thick, and it covers the flesh just under the skin. It yields the best sort of train oil; but the flesh is quite black, and they have a vast quantity of
blood,

blood. They have large livers, lungs and hearts, which are often eat by the seamen. His belly is filled with guts, which are very small, and his pizzle is bony like that of a Dog, of which some are a span long.

They are a long time in dying after they are wounded, and when all their blood seems to be exhausted they will snap at the men, and endeavour to bite them. They seem not to mind their being run through the body with a sword at all; for after the captain of a ship had served one so several times, he ran as fast as ever, and the captain had much ado to avoid him. At length he flung himself off the ice into the sea, and went down to the bottom.

The PHOCA, or SEA CALF, is of two sorts, one of which is found in the *Mediterranean* sea, and the other in the *Ocean*. However, there is little difference between them except in the bulk of their bodies; for that in the *Ocean* is more round and plump. and that in the *Mediterranean* more long and slender.

The neck is long, and the breast appears to be broad because it is joined to a part of the arm called the humerus. It is twenty-eight inches in length from the nose to the end of the hind feet; but from the nose to the beginning of the tail it is only twenty-one. The head is six inches and a half long, and the fore feet three and a half. Those behind, when extended, are close to each other, and the tail, which has no resemblance to that of a fish, is an inch and a half. The hind feet have a very bad conformation, for they have no toes like those before. When these feet are extended, as above, they look more like the tail of a fish than feet; and in this they have a great resemblance to those of Didappers or Divers, which cannot walk like other birds parallel to the ground, but are obliged to keep themselves upright like a man.

The fore feet are furnished with strong sharp pointed nails; but these feet are so close to each other, and so short, that they do not seem likely to be fit to hold their young, as some authors pretend. However, they seem to be much more proper to walk with than to swim; for the toes are not webbed like those of the Otter. The head is not short and round as some have asserted,
for

Sea Calf 204



White Bear 96



Sea Lion 217



Sea Bear 214



for the muzzle is long enough to give it a resemblance to that of a Calf. However, the eyes are not at all like those of that animal, for they lie deep in the head, and as it were almost concealed. They are nevertheless pretty large; for they are an inch and a quarter in diameter, and they have a thin skin to cover the eye, not unlike those of Birds. On the side of the eyes there are only holes instead of ears, like those of birds. For otherwise there is no appearance of any at all.

The skin is covered with short strong hair like that of a Calf, and is of a colour between grey and fallow, and somewhat whiter on the belly than back. The hide is hard and thick, and the teeth are long and sharp in both jaws, not unlike those of a Wolf, for which reason they are called by some Sea Wolves; though they do not seem to be of the same kind as those mentioned above. The tongue is broad, flat, and pretty smooth, and is forked and cloven in two at the end. The stomach is long and like a gut, only it is straiter near the two orifices. The inner membrane is full of folds and wrinkles, which are waved towards the upper orifice, and strait towards the lower; in which they resemble ruminating animals. The liver has six lobes, and the kidneys more resemble those of a Calf than any other animal. The lungs consist only of two lobes, and the heart is round and flat.

The MORSF, so called by the *Russians*, and by the *Dutch* WALRUIS, is by the *English* improperly named the SEA HORSE, because it is not at all like those animals of that name, which are to be met with only in *Africa*. He is not unlike a Seal in the shape of his body, but he is much larger, being as big as an Ox. The legs are also like those of a Seal, and they have five claws as well on the fore as hinder feet, but their nails are short. The head is thicker, rounder, and much stronger; and the skin is an inch thick, chiefly about the neck, and is covered with short mouse coloured hair; though in some it is reddish, others grey, and in others there is scarce any hair at all; but then it seems to be owing to some distemper. About the joints it is every where full of lines and scratches, and they have two great and long teeth in the upper jaw, that

that hang down below their under lips, and are two feet in length, and something longer.

The teeth of the young ones do not appear till they are grown up, and then they grow longer with age. It is very probable that they sometimes lose them when they fight, for many have been seen with only one tooth; or perhaps they may fall out with age. These teeth are in higher esteem than ivory, because they are close and firm, and always continue white. The mouth is very broad before like an Ox's, whereon grow above and underneath several bristles, that are hollow within, and of the thickness of a straw. Of these bristles the seamen make rings, which they pretend are good to prevent the cramp. Above the uppermost bristles they have two semicircular nostrils, out of which they blow the water like a Whale, but not with so great a noise.

Their eyes, which are naturally as red as blood, are at a considerable distance from the nose. They have also eye lids like terrestrial animals, and their ears are a little above their eyes, and are like those of Seals. The tongue is as large as a Neat's, and is often eaten when fresh; but it becomes rank in two or three days. The neck is very thick, for which reason he cannot readily turn his head about; and their tails are short like those of Seals.

The fat does not lie immediately under the skin, as in some animals of this kind, but is mixed with the lean. The heart and liver are generally eaten by the sailors, who, for want of better provision, think them well enough tasted. The pizzle is a hard bone about two feet in length, and thick at the root, but somewhat bent in the middle, and is covered on all sides with sinews. Their dung is like that of Horses, which renders it very probable that they feed partly on grass and herbs. That they eat fish is likewise pretty certain, because they will lay hold of the skin of a Whale when it is taken off, and keep it under water. In summer they lie upon the ice in great numbers, and roar very terribly. They dive under water with their heads foremost like the Seals, and sleep, and snore not only on the ice, but in the water. They are very stout

undaunted creatures, and will stand by each other as long as they have life. When any of them are wounded they make after the long boat, let the men do what they can to keep them off; sometimes they will make holes in their bottoms under water with their great teeth; likewise some will endeavour to get into the boat.

When any attempt to imitate their roaring, they immediately dive under water, and fall to fighting and biting each other till they fetch blood, others attempt to set the Sea Horses at liberty that are taken by the sailors; they strive which shall get into the boat first; bite and gnash their teeth with a terrible noise, and will never give over as long as one of them is left alive. It is well for the sailors that their prodigious number prevents them from swimming very fast, because for this reason a boat can easily get away from them. They are chiefly taken for their teeth, though perhaps not above one of a hundred has them very good. When they lie upon the ice, or the sailors hear them roar, they endeavour to come near them with their boats which they cannot always do; for it is thought some of them are set to watch; one having been seen to strike the next to him with his tooth, that the next, and so round the whole company. As soon as they awake they rise up, stand on their fore feet, look terribly, and roar, striking their long teeth into the ice, and so drag themselves along by the help of them. Their greatest strength lies in their head; and the skin of their neck, as was observed before, is prodigious thick, insomuch that some think it would be very proper to make buff leather.

When these animals are hunted, the harpooner runs after them on the ice, or darts his harpoon out of the boat, which having struck him, the men draw in the rope and bring him to the boat, where he will bite, and jump out of the water; and then the harpooner runs his lance into him till he is killed. They next take off his head, carry it on board the ship, and cut out his teeth.

A young Sea Horse of ten weeks old is described by *Vorstius* in the following manner. This animal in

neral resembled of a Sea Calf, with a round head, Ox's eyes, and open nostrils, which were contracted or dilated alternately. He had no ears, but holes in their stead, and the mouth was very wide. There were very thick bristles on the upper part, and the tongue was thick and short, with flat teeth on each side. Both the fore and hind feet were broad, and had five toes, with a thick membrane between each. He had little or no tail, and he seemed rather to creep than walk with his hinder parts. The skin was thick, tough, and beset with a short hair of an ash colour. He grunted like a Wild Boar, and made a strong loud noise. The teeth or tusks did not yet appear; but the places from which they were to grow were very visible. He was kept tame, having water to tumble in, and lived upon pap made with oatmeal, which he sucked into his mouth.

The MANATEE or SEA COW, called by the *French* LAMENTIN, is found in various parts of the world; and has a head not unlike that of a Hog, only the muzzle is not so sharp. The largest of those in the islands of the *Indian* sea, are about twenty feet in length, and have no fins but the tail, and the two paws. The body is very thick near the navel, and the tail is horizontal like those of Whales. The skin is blackish, and very rough and hard, and there are a few hairs scattered about which can hardly be perceived. The eyes are small, and there are two holes which open and shut that are supposed to be ears. The tongue is so short, that some has pretended he has none at all; and there are teeth in the jaws, and even tusks that stand out of the mouth like those of a Wild Boar; but there are none in the fore part of the mouth, but instead thereof the gums are pretty hard, with which he nips the grass. The flesh is excellent, it being very wholesome, and has a taste like that of the best veal.

The female has breasts like those of women, and it is generally believed they bring forth two young ones at a time, and she holds them with her paws to her bosom. However, she has very seldom been seen with above one. They feed on the banks of rivers
in

flocks like Sheep, but never go above three or four foot from the side. In unfrequented places they are exceeding tame, for they will not fly away when a man goes among them, so that they may be easily taken. Sometimes three or four hundred of them have been seen together. The fat is exceeding good, and the flesh in general looks more like butchers meat than fish.

Monsieur de la Condamine, in his voyage down the *River of the Amazons* saw several of them, and he observes, that they feed on grafs on the sides of rivers, and that the flesh and fat pretty much resemble veal; the female has paps, or breasts, which serves to suckle her young. This animal is not, as he affirms, properly speaking, amphibious, since it never comes entirely out of the water, neither is it able; because it has only two fins, pretty near the head, shaped like small wings, sixteen inches in length, which serve both for arms and feet; so that it only advances the head out of the water to reach the grafs on the river sides. The eyes of this animal are by no means proportionable to the size of the body, they being round, and only a quarter of an inch in diameter; and the holes of its ears are still smaller, since they will only admit of a large pin. It is never found in the open sea, and very seldom near the mouths of rivers; but in *South America* it has been seen 2500 miles from the sea, and in most of the rivers that fall into the *Amazon*.

We have a very particular description of this animal in the *Memoirs of the Royal Academy at Petersburg*, which was found in an island near *Kamskatska*. It is there observed, that it is not amphibious, as some have represented, but lives constantly in the sea, and feeds upon sea weeds near the shore. Therefore it does not live constantly in rivers, as *Condamine* supposed. It is covered with a very thick skin, which looks more like the bark of an old oak, than the hide of any animal yet known; for it is rough, wrinkled, without hair, and so hard that it can scarce be penetrated with an axe. When cut it is as black and smooth as ebony, and is about an inch in thickness. The back, though the smoothest part, is covered with circular wrinkles

from the top of the neck to the tail fin. The sides are full of large inequalities, especially about the head.

The length of these Manatees is twenty-five feet eight inches, and yet the head, compared to the bulk of the body, is but small. It is flat at the top, and goes off sloping to the snout, which is eight inches in diameter. The head is covered with a black hard skin, exceeding rough, but thinner than in other parts. The mouth is but little, and yet large enough for its manner of feeding. The lips both above and below are double, and divided into the inner and outer. The upper lip terminates the snout, and appears like a semicircle at the end. It is very thick, being fourteen inches broad, and ten deep. It is white, and beset with many tubercles, out of each of which springs a white transparent bristle four or five inches long.

The nether lip is likewise double, and that on the outside is black, and forms a sort of a chin, seven inches broad, and six deep, but has no bristles. The inner lip is villous, and only a little separated from the outer, neither does it appear when the mouth is shut. The corners of the mouth are beset with thick white bristles an inch and a half long, which keep the water from washing away the food while it is eating. The bristles are like small quills, hollow within, and bulbous at the root.

The lower jaw, which is only moveable, is shorter than the upper, and the lips move in the same manner as those of cattle. They have no teeth, but instead thereof they have two strong white bones, which run the whole length of both jaws. It has no tusk, and in this it differs from that first described. The nostrils resemble those of a Horse, and are parted by a gristle above an inch thick. They are two inches over, with wrinkles on the inside, and bristles half an inch long.

The eyes are placed in the middle, between the end of the snout and the ears, and are no bigger than those of Sheep; and they seem to be only round holes made in the skin not half an inch in diameter. It has a membrane which sometimes covers the eyes, as in birds; and the ears are so small they will hardly admit a Crow quill.

quill. The neck is so short, that it can scarce be perceived, unless by its motion in feeding. From the shoulders to the navel the body is greatly enlarged, and from thence to the anus it grows slender again. The circumference of the head is seven feet, and of the body next the shoulders twelve, but where it is largest it is twenty feet four inches in compass; and the tail, next the skin, is four feet eight inches round.

In the summer, when they are fat, they are hog backed, and in the winter they are so lean that their bones may be seen. The fore fins, or arms, as some call them, are very remarkable, and are twenty-six inches and a half in length. They consist of two joints, and have neither fingers nor nails; but they are covered with solid fat, intermixed with tendons and ligaments, with a thick skin, resembling a Horse's hoof, convex on the upper side, and flat beneath; they are beset with bristles half an inch long, and as rough as a brush.

The breasts are placed between the arms, one under each; these are convex, and a foot and a half in diameter. They are hard, rough, and wrinkled, and when they give suck the teat is four inches long. The penis is thirty-two inches in length, and like that of a Horse. The stomach is of a stupendous size, being six feet long and five broad; and when it is full of sea wreck and grass, four men can hardly draw it along with ropes. It is smooth on the inside, and has a gland about the size of a man's head near the insertion of the gullet. The stomach generally abounds with white worms, half a foot long, which bore holes therein in several places, and in this they resemble the seals above mentioned.

The pylorus is so large, that it appears like a second stomach, and the pancreas is divided into two lobes. The intestines, or guts, seem to be more numerous than those of any other animal; and when they are pricked the wind flies out with great impetuosity. They are covered with a very strong peritonæum, which reaches from the os pubis to the sternum, and adheres to the false ribs on both sides. The small guts are about six inches in diameter, and the cœcum and colon are di-

vided into many cells; but there is no valve in the latter. In other respects they resemble the guts of a Horse, and the whole length of the intestinal tube, from the gullet to the anus, is 497 feet *English* measure.

The mesentery is very thick and fat, and has many glands as large as walnuts. The inside of the thorax is lined with a pleura, consisting of two membranes. The urinary bladder is very strong, but not larger than a man's head. The wind pipe consists of a gristle, which is spiral, and covered within and without by a strong membrane; the same structure is continued after it is divided into branches, and enters the substance of the lungs. The diameter of the wind pipe is about four inches, and the glottis is like that of an Ox. The thyroide gland is very large and cloven, and when pressed pours out a liquid like milk.

The apex, or point of the heart, turns towards the sternum, and the pericardium is exceeding large. The heart weighs near thirty-seven pounds, and is two feet two inches long. The lungs lie along the back, and are very long and broad; and each lobe is covered with a strong membrane. The liver has two large lobes, besides another seated between them, in the shape of a smith's anvil. The colour is darker than that of an Ox, but the substance is exceeding soft. There is no gall bladder, but there is a biliary duct that enters the duodenum with the pancreatic duct. The kidneys are placed on each side the spine of the back; and are thirty-two inches long and eighteen broad.

The bones in general, for strength and solidity, exceed those of all land animals whatever; and the skull is about the size and thickness of that of a Horse, which it resembles pretty much. There are sixty vertebræ in all, and there are five pair of true ribs, and twelve of the spurious. The collar bones are wanting, and the arms have two bones, besides the tarsus and metatarsus. Instead of the nameless bone there are two on each side, which join the vertebræ of the tail by strong ligaments, and are also connected to the os pubis.

These

These animals keep together in large companies and surround the young ones. They bring forth their young most commonly in autumn, and have but one at a time. It is supposed they go with young about eighteen months, for the time of generation is in the spring. The Manatee has no voice nor cry, for the only noise it makes is by fetching its breath. The fat, which lies between the cuticle and the skin, when exposed to the sun has a fine smell and taste, and far exceeds the fat of any sea animal. It has this peculiar property, that the heat of the sun will not spoil it, nor make it grow rancid. The taste is like the oil of sweet almonds, and it will serve very well in all cases instead of butter. Any quantity may be taken inwardly with safety, for it has no other effect than keeping the body open. The fat of the tail is of a harder consistence, and when boiled is more delicate than the other. The fibres, and the lean part are like beef, but more red; and may be kept a long while in the hottest days without tainting: It takes up a long time in boiling, and when done eats like beef. The fat of the young one is like pork, and can scarce be distinguished from it, and the lean is like veal. The heart, kidneys, liver, and other parts on the inside are rejected, because there is a sufficiency of what is thought to be better.

Labat informs us, that the Manatees in the *West Indies* delight in those places where there are rivers, because they seem to be fond of fresh water. They are very fearful, and when they hear the least noise immediately dive under water. That which he examined was fourteen feet nine inches long, from the end of the nose to the root of the tail, and was quite round as far as that part. The head was large, the mouth wide, with great lips, and long bristles thereon. The eyes were small in proportion to the head, and the ears were nothing but small holes. The neck was so short, that it would be impossible to distinguish it from the body, if it was not for its motion.

The feet, or hands of this animal, though so called by some, were no more than fins; yet it must be owned they take their young ones in them to give them suck. They were like the paws of a Tortoise, or Turtle,

tle, but more thick and long; which is no wonder, considering the animal. The breasts were seven inches in diameter, and the teats were as thick as a man's thumb, and an inch long. The tail was nineteen inches long, and fifteen inches in compass where it was thickest. The skin on the body was twice as thick as an Ox's hide, except under the belly. It was of the colour of slate, with hairs of the same colour, which were pretty thick and long. It might weigh about eight hundred pounds. I have given the different descriptions of this animal from undoubted authorities, that the reader may be able to judge whether they are all exactly of the same kind or not; or whether they differ from each other in some particulars; which last opinion seems to me to be out of doubt.

There are four stones of different sizes in the head of a Manatee, which are somewhat like bones, and are used in medicine. They are said to be good against agues, and to cleanse the kidneys of gravel; the dose is from twelve grains to a scruple. *Hoffman* affirms they are good against the epilepsy.

The SEA BEAR is another amphibious animal, which bears some relation to the former. He was found near an island to the East of *Kamschatka*, and bears a greater resemblance to a Bear than any other land animal. The feet and the back part of the body excepted; which last grows slender, and terminates in a conical figure.

The length, from the tip of the nose to the end of the hind feet, or fins, is seven feet six inches, and the circumference behind the ears is two feet six inches, at the shoulders five feet, and at the anus one foot eight inches. The whole length of the intestines is one hundred and twenty feet. The head is like a Bear, but thicker and rounder, and both that and the nose are covered with a hard, black, wrinkled skin, without any hair. The nostrils are large, and the lips thick, with long whiskers, consisting of stiff bristles of a different length and thickness, and generally triangular. The length of the longest is about six inches, and the inside of the lips, towards the throat, is of a rose colour spotted with brown. Each jaw has a row of extremely sharp teeth,
with

with spaces between them to receive those of the opposite jaw, for the better retaining of his prey.

He has four incisors in the upper jaw, which are forked at the end, and there is a very sharp dog-tooth on each side, the point of which turns backward towards the throat, and is one third of an inch long. The rest, which are six on each side of the jaws, are like dog-teeth. In the lower jaw there are four incisors, made like those above. There are crooked tusks in the upper jaw, two thirds of an inch long, but none in the lower. The dog-teeth are an inch and one third long; and the hinder teeth in the lower jaw are only five on each side; so that he has thirty-six in all. The tongue is rough like a Calf's, and is five inches long, one and a half broad, and forked at the end. The eyes are as large as those of an Ox, and very prominent, with a black iris, and a pupil that glitters like an emerald. There is a fleshy panicle, or skin, in the greater corner of the eye, like that of an Owl, with which he can occasionally cover the eye. The ears are short, sharp, erect, and covered outwardly with very short hair. The aperture is long, and when he is under water he can shut it quite close.

He has four legs, which serve him both for walking and swimming; and they have all the bones and internal parts like those of a land animal. The toes on the fore feet are not divided, and those behind are united by a membrane, which renders him in some measure web-footed. The paws, both before and behind, are black and without hair; and externally on the legs there is no appearance of joints; insomuch, that they seem to be a shapeless lump of flesh. However, there are the rudiments of nails on the toes, and the latter are a little more prominent than the membranes that join them together. He makes use chiefly of his fore feet when he walks on the shore; for which reason the hind feet being dragged along, make furrows in the sand.

The tail is conical, two inches long, and without hair. The skin is thick, like that of a Seal, and the hair four times as long, standing erect. It is generally black in the males, and ash coloured in the females; but in some it is partly ash coloured, and partly reddish, and among the hair there is a fine reddish down.

Under the skin the adipose, or fatty membrane, that covers the whole body, is an inch thick on the head, and four on the other parts. Both the flesh and fat of the male is nauseous, and causes vomiting, and yet the flesh of the female is very delicate, and has the taste of Lamb. That of the cubs can scarce be distinguished from roasted Pig. The gullet and stomach are like those of a Seal; and the guts are full of small white Worms of two or three inches long. The whole intestinal tube, from the stomach to the anus, is of the same thickness, except the rectum, and hath neither valves, wrinkles, nor the vermicular appendix. The heart has nothing remarkable, except the very large auricles, and the columns of the ventricles, which are as thick as a man's little finger. The liver is very large, and divided into six long lobes; and these again into six less, with deep furrows above and below. The kidneys are six inches long, shaped like those of a man, and covered with fat. The bladder is small and oblong, like that of a Seal, and the gall bladder is tied to the liver by a membrane.

Sometimes many thousands of these animals are seen lying on the shore together, and yet they are all divided into families, that is one male with from eight to fifty females; and all their young; so that some families amount to one hundred and twenty. They never avoid any man, but rather advance to meet him; and when one, by casting stones, or otherwise, runs away, the rest will tear him to pieces. They will fight with one another for an hour together, and then rest to take breath, after which they will renew the fight. The most frequent cause of their quarrels is jealousy, when one takes away the females of another. These are always lookers on, and when the battle is over they follow the conqueror. When the sailors steal away any of the cubs from the dam, she is sure to be punished by the male if she does not defend them. After which she endeavours to regain his favour by licking his feet, and shedding tears in abundance. Likewise, when the male begins to be pacified, the tears will fall from his eyes in such plenty as to wet his breast all over.

In *June*, *July*, and *August*, they lie on the shore sleeping, yawning, stretching, and bellowing, without taking any food all that time; but then they lose much of their fat before they go into the water again. Their cry is different; when they lie on the shore they bellow like a Bull, in the time of a fight they make a noise like a Bear, and when they gain a victory, they squeak like a Cricket.

They swim at least eight miles an hour, and will stay a considerable time under water. The hunters first endeavour to blind them, and then knock them on the head with clubs. Sometimes they will bear two hundred strokes before they die, and they will attempt to fight when their brains are almost beaten out of their head. They are hunted in a boat, and struck with a harpoon, in the same manner as they kill Whales.

The SEA LION is another amphibious animal, to be met with in various parts of the world; but that which shall be described here was seen at the island of *Juan Fernandes* in the *South Sea*, by commodore *Anson* and his people. He bears some resemblance to a Seal, though he is much larger. The size, when arrived at the full growth, is from twelve to twenty feet in length, and from eight to fifteen in circumference. They are extremely fat, so that after the skin is cut through, which is about an inch thick, there is at least a foot deep of fat before you can come at either the lean or the bones. The fat of some of the largest afforded at least a but of oil. They are likewise full of blood, for if they are deeply wounded in a dozen places, there will instantly gush out as many streams of blood, spouting to a considerable distance. One of them that was shot, and his throat cut afterwards, yielded two hogheads of blood, besides what remained in the vessels. The skin is covered with short hair, of a light dun colour; but their tails, and their fins, which serve them for feet on shore, are almost black.

Their fins, or feet, are divided at the ends like fingers, because the web which joins them does not reach to the extremities; and each of these fingers is furnished with a nail. They have a distant resemblance

to an overgrown Seal; though in some particulars there is a manifest difference between them, especially in the males. These have a large snout or trunk, hanging down five or six inches below the end of the upper jaw, which the females have not; and this renders the countenance of the male and female easy to be distinguished from each other; and besides the males are of a much larger size. The form and appearance, both of the male and female, are very exactly represented in the annexed plate. That of the male was drawn from the life after the largest of these animals; he was master of the flock, as appeared from his driving off the other males, and keeping a great number of females to himself. For this reason he was ludicrously stiled the bashaw.

These animals divide their time equally between the land and sea, continuing at sea all the summer, and coming on shore at the setting in of the winter, where they reside during the whole season. In this interval they engender and bring forth their young, and have generally two at a birth; which they suckle with their milk, they being at first of the size of a full grown Seal.

During the time these Sea Lions continue on shore, they feed on the grass and verdure which grows near the banks of the fresh water streams; and when not employed in feeding, they sleep in herds in the most miry places they can find out. As they seem to be of a very sleepy disposition, and not easily awakened, each herd was observed to place some of their males at a distance, in the nature of sentinels, who never failed to alarm them when any one attempted to molest, or even approach them; and they were very capable of alarming, even at a considerable distance, for the noise they make is very loud, and of different kinds, sometimes grunting like Hogs, and at other times snorting like Horses in full vigour.

They often, especially the males, have furious battles with each other, principally about the females. One day the sailors were extremely surprised at the sight of two animals, which at first appeared different from all they had ever observed; but on a nearer approach they appeared to be two Sea Lions, who had
been

been goring each other with their teeth, and were covered with blood. The bashaw before mentioned, who generally lay surrounded with a seraglio of females, which no other male dared to approach, had not acquired that envied pre-eminence without many bloody contests, of which the marks still remained in the numerous scars which were visible in every part of his body.

They killed many of them for food, particularly for their hearts and tongues, which they thought exceeding good eating, and preferable even to those of Bulls. There was no difficulty in killing them, for they were incapable of either retreating or resisting, because their motion is the most unwieldy that can be conceived; for their blubber, all the time they are moving, is agitated in large waves under their skins. However, a sailor one day being carelessly employed in skinning a young Sea Lion, the female from whom he had taken it, came upon him unperceived, and getting his head in her mouth, she with her teeth scored his skull in notches in many places, and thereby wounded him so desperately, that though all possible care was taken of him, he died in a few days.

The OTTER has by some authors been confounded with the Beaver on account of their resemblance; but though they are alike in some things they are very different in others. However, these agreements and differences have not been so well distinguished as they ought to have been; because authors have not been so particular in their descriptions as a true natural history requires.

Pliny, Belon, and some other writers affirm, that an Otter and a Beaver are alike in every thing except the tail, which is covered with hair in the former, and with scales in the latter. Some make the feet of an Otter like those of a Dog, and others affirm they resemble a Beaver; but no such conformity is to be found after an exact examination.

The size of the Otter which was dissected by the members of the *Royal Academy of Paris*, was three feet two inches in length; whereas the Beaver is three feet and a half. However, though the tail of the Otter

was

was longer in proportion to the rest of his body than that of the Beaver to his : yet in other parts he was smaller in proportion than the Beaver ; for the head of the Beaver was five inches and a half from the nose to the neck, and that of the Otter was but four and a half. The fore feet of the Beaver was six inches and a half to the end of the toes ; and those of the Otter were but five. The hind feet of the Beaver were six inches from the heel to the end of the toes ; and those of the Otter were but three and a half.

The hind feet of the Otter exactly resembled those of the Beaver, being five inches long ; and they were slender, not large and short like those of a Dog, and the toes were united by skins, or webs, like the toes of a Goose. Those before were like those behind, and very different from the fore feet of a Beaver, whose toes are not joined together by webs as the Otter's are ; whereas those of a Beaver are like a hand, having five fingers of equal length ; for the thumb was as close to the fingers as they were to each other.

The muzzle, the eyes, and the form of the head are almost the same as in a Beaver, but the teeth are very unlike ; for the Otter has not the fore large and long incisors, or nippers, which are particular to the Beaver and some other animals, such as the Hare, the Squirrel, and the Rat ; for all his teeth were shaped like those of a Dog or Wolf ; and this is the only thing in which he resembles a Dog, whatever some authors may say to the contrary.

The hair was not half so long as that of a Beaver, it being only two thirds of an inch in length ; whereas that of a Beaver is an inch and a half. The colour of both these animals is not exactly the same ; for the hair of the Otter, under the neck, stomach, and belly, is more grey than that of a Beaver. Likewise it was shorter on the tail than on the body ; but much longer than on the paws. The rest of the hair, namely on the head and back, was of a brown chesnut colour, as on the Beaver ; and it was of two kinds ; the one more long, more brown, more strait, and more thick ; and the other more short, more grey, more curled, and more soft.

The inward parts in general were still more unlike those of a Beaver than the outer. The liver, which has but five lobes in the Beaver, has six in the Otter; and the spleen, which was cylindric and very slender in the Beaver, it being seven inches in length, and not an inch in breadth, was flat in the Otter, and was an inch and a half broad, four inches and a half long, and half an inch thick.

The kidneys were three inches long and two broad; whereas in the Beaver they were two inches long; but the principal difference was in the conformation, which was like that of the kidneys of a Bear; but those of an Otter differed from it only in the number of the small kidneys, of which they both seemed to be made up; for instead of fifty-two that were found in a Bear, the Otter had only ten, which were all distinct from each other, and had each their vein, and the emulgent artery apart. These small kidneys had a common membrane, in which they were wrapped, and a great number of fibres that connected them together. The pancreas was composed of conglomerate glands, as in a Beaver; but they appeared more distinct and more separate from each other than is common. The lungs were like those of a Beaver, composed of seven lobes, of which six were of an equal size, and the seventh very small.

The Otter is to be met with in most parts of the world; but they are not all of the same colour, for in *North America*, near *Carolina*, they are white inclining to yellow. It is a very mischievous animal, and will attack men as well as Dogs when pursued, and he bites so hard that he will not let go his hold very easily. Some pretend that in *Sweden* and *Norway* they are brought up tame, and made use of to drive the fish into nets; but this we dare not say is true. He generally feeds upon fish, especially in the summer, but in the winter he is contented with the barks of trees, and what else he can find in the fields. The flesh of the Otter has the smell and taste of fish, and yields very bad nourishment; however, it is of common use in several religious houses in *France*. It is hard, tough, and full of gross juices, and must needs breed gross humour,

humours in the human body. The powder of dried liver given to a drachm in loosenesses of all kinds, is said to cure them; but without any good foundation. The testicles are recommended in the epilepsy, on account of the supposed analogy between them and castor; but they are quite different substances. The fat does not grow hard when it is cold, and it is said to be good against pains of the joints, and to supple contracted limbs,

The BRASILIAN OTTER, called by the natives JIYA and CARIGUEIBIU, is an amphibious animal of the magnitude of a middle sized Dog, with a roundish head almost like a Cat; but the muzzle is longer. The nose and teeth are also like a Cats, with black round eyes, and roundish ears. There are five toes on every foot, which are armed with brown sharp claws, the most inward of which is shorter than the rest. The tail is also five inches long; and the hair is soft, short and black, except on the head, where it is of a dark brown; and there is a yellowish spot under the throat. He makes a noise like a puppy, and feeds upon fish, which he takes in the water. In general the shape is much like that of a common Otter; but we have no description of the teeth, nor yet do we know whether he is web footed or not.

The JACKAL is called in *Latin* LUPUS AUREUS or the GOLDEN WOLF, but SUILICHI by the modern *Greeks*. There are whole droves of them in several parts of *Asia*, and particularly near the *Euphrates*, where they make a hideous noise with their howling in the night-time. The colour is yellowish. He is less than a Wolf; and is so bold an animal, that he will come among travellers who sleep in the open fields, and steal away every thing that is made of leather, as shoes, boots, bridles and the like.

The Jackals of *Malabar* are not unlike a Fox of the largest kind, and they are of a redish grey colour, but thinly covered with hair. Their tails are large and bushy like those of a Fox. They assemble in the night-time near the villages or planters houses, making a hideous noise like the shrieking of women. The natives of *Malabar* eat their flesh, and affirm, it is
very

very sweet ; but the *Europeans* that are settled among them will not touch it.

Dellon who resided some time on the coast of *Malabar*, informs us, that the Jackals there, are of the size of a middle sized Dog, resembling a Fox towards the tail, but have a face not very much unlike a Wolf ; and that they are sometimes tamed, and kept as domestic animals. When they are wild they hide themselves in holes under ground in the day-time, never keeping abroad, but in the night in search of their prey. They commonly appear in large companies, and will fall upon children, and kill them when no assistance is near ; nay, they will sometimes terrify travellers that are unprovided with arms.

They howl in a most disagreeable manner ; not unlike the cries of a great many children of different ages mixed together. They are at perpetual war with the Dogs, which always pursue them if they appear near the houses. Sometimes they are the harbingers of Tigers ; for which reason the *Indian* peasants keep up their Dogs close, when they are apprehensive that a Tiger is not far off.

The Jackal is commonly called the Lion's provider ; but for what reason it is hard to say ; for they do not attend upon the Lion, as is commonly pretended. This is observed by sensible travellers, who have been in countries where they are frequently to be met with. It must be acknowledged that many authors have asserted, that they seek out the prey of a Lion ; and when they have found it, give notice to that animal by their yelling ; but then they have only copied this account, one from another, without ever examining whether there was any foundation for such a story, or not.

There is a creature at the *Cape of Good Hope*, called by the *Dutch* a TIGER-WOLF, which is of the size of a Bull Dog. The jaws, muzzle, and eyes are very large, and his teeth are very sharp. The hair is curled like that of a Spaniel, and he is spotted like a Tiger. The paws are large and armed with great claws, which he can hide when he pleases like a Cat ; and his tail is short. He hides himself all the day in the clefts of
rocks,

rocks, or in holes that he makes in the earth; and in the night he goes a hunting. If he did not howl he might gain sufficient to feed upon without danger; but his noise awakens the Dogs that guard the Sheep, for which reason he is often obliged to go back empty. When he is not discovered, he generally kills two or three Sheep, and devours part of one upon the spot; after which he carries the remainder to his den, from which he does not stir till all his provision is consumed. If he happens to find the body of a dead *Hottentot*, he never fails to devour him. His enemies are the Lion, the Tiger, and the Leopard, who often hunt him, and pursue him to his den; falling upon him and tearing him in pieces.

The DOG is a quadrupede that has six teeth called grinders in the upper jaw, and seven in the lower; the fore teeth in the upper jaw are six in number, but those in the sides are longer than those in the middle; there are likewise six fore teeth in the lower jaw, and only four of those teeth usually called dog-teeth; that is, one on each side in the lower jaw, and the same in the upper; all which in some sense stand alone, and are sharp at the points. It is plain from a view of the teeth, that a Dog is a carnivorous animal, and yet he will not feed upon all flesh alike; for some have an aversion for particular sorts of wild fowl, as every ones experience must have taught him.

Among the *Turks* they never admit Dogs into their houses, and yet they provide for them, and find them in meat: they will not destroy them, because they feed upon dead carcases and carrion, which may happen to lie exposed to the air, and by that means, as they imagine, they prevent its being infected. There is scarce any thing indeed so nasty, that a Dog will not eat; for a piece of a stinking dead Horse is as great a delicacy to them, as an Ortolan to an epicure. When flesh is wanting, he will feed upon many other things of the vegetable kind, though he is always more fond of the former.

There is no kind of animal more docile than a Dog, for he may be taught almost any thing; he being

ing certainly endowed with reason, though in a much lesser degree than mankind. He may readily be taught to go in and out of the house on certain occasions; he will guard the house, and give notice of the approach of any stranger; for which reason some country people keep them lying near the door, that they may be informed when any one arrives. Some Dogs will not let one touch any thing belonging to their master, and others will guard his goods in his absence. They will follow Horses, coaches, or any other carriage; and in many places there is a sort of short legged Dogs, which they make use of to turn the spit. It is common to see them walking on their hinder feet; but not so very usual to see them dance, as some have been taught to do. They will readily learn a great variety of tricks, and some have gone to market with money to buy their own provisions.

A Dog is the most faithful animal in the world to his master, and will never forsake him in any journey or voyage, though never so long. In town when he is before his master, he will sometimes stop to see w^hether he comes forward or not, and when he meets with a turning, he will wait till his master comes, to see which street he will take. When his master is attacked he will defend him against all persons whatever to the utmost of his power. If his master should happen to die, he always shews great signs of grief, and some have been known actually to pine away and die.

There is no animal that has so exquisite a nose as a Dog, for he will distinguish his master by the smell among ten thousand people; and by this means he can pursue his footsteps, though sometime after he has passed along. The nearer he approaches the game the more loud he barks, with a design, no doubt, to terrify the animal, and by that means make it slacken its pace; but there are so many instances of their fine smell, and so well known, that it would be lost labour to describe them; however, it will not be improper to take notice that in *Siberia* they make use of Dogs, as they do of Horses, and train them up to draw carriages

riages from one inn to another; but this is only in some parts of that country.

The Dogs in this part of the World may be distinguished into those that have short hair; those that have long hair, and those that have none at all. Of those that have short hair, there are, 1. The ENGLISH BULL DOG, which has a thick large head, and carries its tail turned upwards; but this Dog is so universally known, that it is unnecessary to describe him. He is thought to be the strongest of all the Dog kind.

2. The DUTCH MASTIFF or PUG DOG, seems to have some relation to a Bull Dog; but he is much less, and some of them are exceeding small. He has a black muzzle, a flat nose, and yellowish brown hair, with a tail turned up in a curl. They cut off the ears of all these sort of Dogs, to render their heads more round. Some of them have a black list along the back. It is hard to say what they are designed for, for they pursue no game in these parts, which perhaps may be owing to their being brought from *Batavia* as some affirm; for there may be animals in that country which are never seen here.

3. The LAP DOG is of different sizes, and of several kinds. Some of these are exceeding small, and consequently most valued; but there are others that are larger, that are not without their admirers among the ladies.

4. The DANISH DOG is the tallest of any in these parts, is more slender than a Mastiff, whom he resembles, except his muzzle is more long and slender. The colour is generally of a yellowish brown, though there are some grey, and others quite black. The highest are most esteemed, and they generally cut off their ears, because they think it makes them look more handsome; he carries his tail turned up, and has a large high forehead.

5. The MASTIFF DOG is not quite so high as the former, but much more fat and fleshy. The under lip is loose, and generally hangs down on each side. This sort is kept for guarding houses, yards, and other places. The IRISH GREYHOUND is, as *Ray* affirms, the highest Dog he had ever seen, he being much taller

taller than a Mastiff Dog, but more like a Greyhound in shape. These are the Dogs that they make use of in catching Wolves, and might more properly be called Wolf Dogs.

6. The SMALL DANISH DOG is a very gentle animal, and very playful. It has some resemblance to a Harlequin Dog, only it is more short. The eyes are large, the head round, and the nose small and slender.

7. The HARLEQUIN DOG is not much unlike the small *Danish* Dog, only it is longer, and generally black and white, though sometimes white and of a cinnamon colour; but there are other varieties of them.

8. The HOUND is well known for his use, which is the hunting of Hares. There are two sorts of them, one of which is properly called a Hound, and is the largest; the other which is least, is termed a BEAGLE. The ears are long and pendulous, the nose blunt, the mouth large, and their barking, or opening loud and deep. Akin to these is the BLOOD HOUND, which is often made use of in the country to pursue thieves, when they have made their escape.

9. The TUMBLER is a Dog that seems to be at play when it pursues its game. It looks like a small Greyhound, and is most commonly known by the name of a RABBIT DOG.

10. The GAZE HOUND is so called, because he pursues his game more by sight than smell, and it will hunt both the Fox and the Hare. These Dogs are much more common in the north of *England* than in other parts.

11. The TERRIER is a sort of a Hound, which is made use of in hunting Foxes and Badgers, for they will creep into the holes after them, and either force them out, or kill them in their dens.

12. The GREYHOUND is the swiftest of all Dogs, and pursues a hare by sight, not by smell. His legs are long, as well as its muzzle, and the body is so slender, that it seems to be made peculiarly for the sake of running swiftly; but this Dog is so well known, that nothing more needs to be said.

13. The

13. The HOUSE DOG commonly called a CUR DOG, is as large as a Fox, with upright ears, and there is a sort of woolly hair underneath the tail. The Dogs made use of for this purpose, are generally Mungrels, that is, between a Dog and a Bitch of different kinds; and therefore, the shapes and sizes of these must be exceeding different.

14. The SETTING DOG has a longish muzzle, and flat long large hanging ears. He is of a white colour, spotted with brown or black, and is very well known. The SPANISH POINTER is a Dog of this kind, and in very high esteem.

Among the Dogs that have long hair, there is 1. The LARGE SPANIEL. The nose and middle of the forehead are white; but the other parts of the head of a different colour. The ears are long, furnished with fine hair, and it is all smooth, and of a moderate length; but there are different sorts of Dogs of this name; one of which is a LAND SPANIEL, and is made use of in fowling by Gentlemen, and the other is a WATER SPANIEL so called, because he will readily take the water.

2. One of the most remarkable Dogs yet known; is that of *Siberia*. These Dogs are generally either entirely black, or entirely grey, and they are of a middle size. The eyes are small, the head long, and the nose is sharp; the ears are short, pointed, and stand up almost like a horn. The hair is short on the ears, the head and the legs; but the other parts of body are furnished with smooth, soft, silky hair, about six inches in length.

The SHOCK DOG is remarkable for its long curled hair; and there is so much of it, that some of the white sort have the appearance of Sheep, only the shape is different, and there is a large quantity on the head, insomuch, that they almost seem to be blinded with it. Some that are fond of these Dogs, keep them very clean, and trim them handsomely.

There is but one Dog yet known without hair, and that some call the EGYPTIAN or TURKISH DOG; and this circumstance alone, is sufficient to distinguish him from all others.

In the southern coast of *Africa*, there are Dogs that neither bark nor bite like ours, and they are of all sorts of colours. Their flesh is eaten by the Negroes, who are very fond of all sorts of Dogs flesh, and will give one of their country Cows for a large Mastiff Dog. The Wild Dogs of *Congo* and *Angola* herd together in large companies, and are at continual war with all wild beasts; and therefore it is no wonder that they should destroy tame animals. They are made somewhat like Greyhounds, and they employ most of the day in hunting; carrying to the place of rendezvous what they take, where they afterwards make a sort of a feast, dividing the prey among them. These are much like the Dogs at the *Cape of Good Hope*, and are no enemies to mankind, for they will suffer them in both countries to partake of their prey without the least resistance.

The Dogs that were found originally at the *Cape of Good Hope*, were a very ugly sort of creatures; inasmuch, that few would take them to be good for any thing. This Dog is more like a Fox than any kind of Dog in these parts. He has a pointed muzzle, prick-up ears, and a long slender tail, which drags along the ground. His hair is long and rough, never lying close to his body; and, in short, he is so frightful an animal, that every one that sees him must be prejudiced against him. Notwithstanding this, he has a great many excellent qualities, and constantly attends his master in the fields to take care of the Sheep. He is extremely active, and seems to understand his business perfectly well. Though these Dogs are under command, they do every thing without bidding, and will not suffer a Sheep to stray from the rest of the flock. The Dogs belonging to several owners, assemble in a body as if they were going upon some expedition, and act in concert in doing their duty.

When the Beeves and Sheep surround the kraal or village of the *Hottentots* in the night; they always keep guard, and will suffer no enemy to approach, and on this account they are exceeding useful. The cattle have no occasion to make a noise when the wild beasts are about to attack them; for the Dogs are so ready,

ready, that they fall upon these animals before the *Hottentots* know any thing of the matter. These Dogs are continually patrolling about the huts, and if a Cow, or a Sheep happens to make the least outcry, they always run to see what is the matter. When the wild beast is too powerful for them, they keep him at bay, till the *Hottentots* have time to come to their assistance; and then he seldom escapes with his life.

The use of Dogs in medicine has been formerly very great, and in some parts of *Europe* they still make an oil or balsam of a whelp, which is kept in the shops. It is recommended against weakness of the nerves, palsy, and rickets. The fat of a Dog is said to be vulnerary, healing, and deterfive, and is used by some both inwardly and outwardly. Some would have it to be good taken inwardly against the consumption of the lungs, and epilepsy. The dose is from a scruple to a drachm and a half. Album græcum or white Dogs dung is detergent, attenuant, and resolvent; and was formerly made use of against quinsies, pleurifics, and cholicks; the dose is from half a scruple to a drachm and a half. It is said to promote sweat, and to restore a due circulation of the blood; but it is now entirely neglected with us. A great many ladies are fond of gloves made with the leather of a Dog's skin, because they are supposed to be emollient, and to render the skins of their arms and hands more soft; but then they wear them chiefly in the night.

The FOX is an animal noted for its cunning, and has a great resemblance to a Dog. His hair is long, thick, and soft, especially about the tail which is bushy. He has a peculiar strong smell that is not very agreeable; and yet in some places he is kept tame for that very reason; many having a notion that it will keep off all infectious diseases. The colour is generally reddish; though in some places they are white, and in others black. At *Spitzbergen* there are some with black heads, and white bodies; and that make an noise, which at a distance seems to be the laughing of a man. *Linnaeus* tells us, that there are several sorts of Foxes in *Sweden*; as the common fallow or red Fox; the white, which is the Lapland Fox,
has

Has feet almost like those of a Hare; the bluish Fox; the Fox that has a cross on his shoulders; and that of the colour of rusty iron.

They dig for themselves holes, or dens in the earth; and are of so wild a nature, that they can never be tamed, so far as to be suffered to run loose about a house. The inward parts are like those of a Dog, only the great gut is much shorter; being but half a foot in length, but the blind gut is larger and longer, and curls somewhat like a screw. His prey is Fowls, Geese, Hares and Rabbits; he is also fond of grapes in places where there are plenty of vineyards.

There are several passages in and out of their holes or dens, and often at a distance from each other, that they may the better elude the pursuit of the hunters. They also take care to make them at a distance from all roads and paths. However, it is not hard to discover them by the feathers of Fowls, Pigeons, and other birds. Some affirm, that when they can meet with no prey, they stretch themselves out and lie as if they were dead, in order to invite birds that feed upon dead bodies, to come with an intention to devour him; at which time the Fox springs upon them, and catches them. Some pretend that Foxes never make their own dens; but having found out one belonging to a Badger, or some other animal, they defile it with their dung; upon which account it is forsaken by the original owner. There are other instances given by authors of their extraordinary cunning; but as they do not seem warranted by sufficient authority, I shall forbear to mention them.

Foxes are taken in snares, pits, iron traps, and by hunting them with Dogs. They never run directly forward when they are hunted, but make a great many doublings, turnings, and windings. When they are in danger of being taken, they emit such a filthy smell from their posteriors, that the hunters can hardly bear it. There is scarce any country where Foxes of some kind or other are not to be found.

A female Fox that was dissected, had pretty long hair of a dirty white colour at the root; but the ends were reddish, except a few that were black. The

whiskers were blackish, and there were very long hairs over the eye-lids. The throat was whitish, as well as the edge of the jaws; the ears were short, somewhat broad and erect; and the ends were brown without, and whitish and hairy within. The palate and teeth were like those of a Dog, and the tail was two feet ten inches long, thick at the root, tufted in the middle, and there was a tuft of white hair at the end. The paws were of the colour of the body, and the toes and nails were like those of a Wolf. She was one foot three inches high, and smelt so strong after she was dead, that they were obliged to open her in the garden.

The caul had two folds, and was connected to the crooked part of the stomach; it was not very fat, but it covered all the surface of the guts, as far as the bladder. The stomach was in shape like that of a man, and it took up the two hypochondriack and hypogastric regions. The pylorus was seated immediately under the gall bladder, and the guts were all of the same thickness, and of a somewhat greenish colour; the blind gut was spotted like a green Frog, and was in the shape of a *Roman S*. The mesentery was extremely full of vessels, whose branches spread over all the intestines; and the liver was yellowish within and without; it consisted of six lobes, the largest of which lay upon the stomach, and the third contained the gall bladder, which was yellowish, and in the shape of a small pear; the fifth lobe was divided into three others, and the sixth, which was the least of all, into two. The pancreas was large, and the spleen of a reddish brown colour, and shaped like a Dog's tongue; it was six inches in length. The bladder was in the shape of a small flattish pear, and the kidneys were like those of a man, and of a brownish red colour. The breast had thirteen ribs on each side; that is, nine true and four bastard. The lungs were of a yellowish red colour, and the right consisted of four lobes, but the left had only three. The heart was somewhat large, and its ventricles, as well as the auricles and valves were like those of a man.

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236



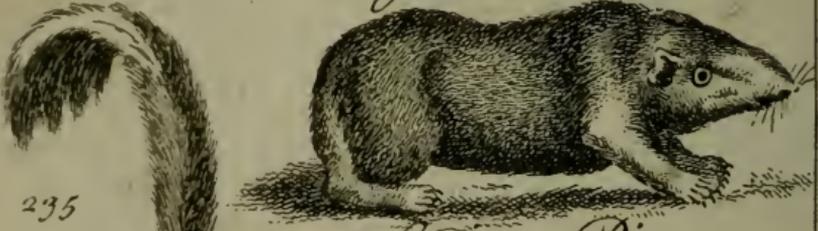
Raccoon

246



Possum

235



Guinea Pig

192



N. American Bear



Macasser Fox

The flesh of a Fox either boiled or roasted is said to be good in consumptions, and other disorders of the breast; but it is seldom or never used for that purpose. The fat is recommended in the rheumatism, contractions of the joints, and hardness of the tendons, as well as in all disorders of the nerves, being used as a liniment.

The Fox of *Carolina* is grey, and has not the rank smell of the *European*. The hair about the ears is reddish, and the fur when it is seasoned, is used for muffs and other ornaments. They live chiefly upon birds, and are generally very fat, but their flesh is not eaten. They make sport when they are hunted, because they run up trees. There are some black Foxes in *Canada*; but they are hard to be met with, for the common sort are grey, mixed with white, and there are others of a brownish red. Those near the river *Missipi* are very beautiful, and their hair is of a silver colour. They are very cunning in catching of birds that frequent the rivers; for they will play so many odd tricks upon the banks, that Ducks, Bustards, and other birds, seem to be diverted with them; and when any of them come within the Fox's reach, he first wags his tail with a design to bring them nearer; and the foolish creatures will often come and peck at his tail, at which time the Fox jumps up and rarely misses of his prey.

The **MACASSAR FOX** has its name from the island where he is chiefly found. He has an excessive long bushy tail, which stands upright; and his feet are flat, not much unlike those of a Bear or Monkey, with long claws, and short ears.

The **CIVET CAT** is not properly of the Cat kind; for it partakes more of that of a Dog; because the shape of the head, and muzzle, and the figure, and number of the teeth, resemble those of the Wolf, Dog, and Fox. Their colour varies; but it is commonly ash, spotted with black, though it is whiter in the females tending to yellow, and the spots are much larger like those of a Cat-a-mountain.

The shape is more like a Fox than a Cat; for the muzzle is long, not short like a Cat. The ears are

small and roundish, and the hair is like that of a Badger. The body is somewhat like that of a Hog, and is a palm in breadth from the back to the belly. The feet are rather little than great, and the legs very short.

The bag in which the civet is contained is in the middle, betwixt the anus and the pudendum, both in the male and female. However, in the male it is much larger.

The colour on the belly and under the throat is black; whereas the remainder of the body is grey, directly contrary to what we meet with in other animals; where almost always the lower part is of a lighter colour than the upper. However, in this particular it agrees with the Badger. The liquor in which civet consists, seems to be excreted from certain glands, which lie between the coats that compose the bag, from which the civet is taken.

There were five Civet Cats dissected by the Members of the *Royal Academy* at *Paris*, which to all appearance seemed outwardly to be females; for the parts of generation of the males were hid within the body; or rather there was not the least sign of any distinction of the sexes. From the nose to the beginning of the tail, they were twenty-nine inches long, and the legs were very short, especially those before, which were but five inches from the belly to the bottom of the foot. Each paw had five toes, and the smallest seemed to be in the room of a thumb as in a Bear, but it scarce reached the ground, unless by the end of the claw. Besides these, there was a spur furnished with a nail as on the claws, which were all crooked and black, and not very sharp.

They had whiskers like a Cat near the nose, and cheeks; the eyes were black and long; and the dog-teeth sharp and a little pointed. The neck was strong, and not very flexible. The hair was short on the head and feet; but very long on the rest of the body, being four inches and a half where it was longest. This was hard, rugged, and stood upright; but among it there was short, soft, curled fur, not unlike wool, the same as in a Beaver, but it was not so fine. The
long

long hair was of three colours, and on it were spots and stripes, some black, others white, and others again reddish. The feet were black as well as the belly; and the rest of the body was covered with a mixture of three colours as above; among which the black was most predominant. There were two large black spots on the sides of the muzzle, which surrounded the eyes; but the other part was very white, except the nose, which was black. The ears were quite black on the outside; and they were edged with black, and within they were furnished with white hair. The neck on each side had four black stripes upon a white ground, beginning below the ears and descending to the breast.

The opening of the pouch or bag which is the receptacle of the civet, was under the anus, and not under the tail, as some authors have affirmed. Under it there was another small aperture at the distance of two inches and a half; and the pouch itself was two inches and a half broad, and three long. Its opening made a chink from the top downwards that was two inches and a half long, and it was covered on the edges, and within with short hair; when the two lips were drawn asunder, the inward capacity might be seen, which was big enough to hold a small Pullet's egg. The bottom was pierced to the right and left, with two holes big enough to contain the little finger; each of which penetrated into a bag covered with a white skin, like that of a Goose. The eminences made by this inequality were pierced with pores, from which might be squeezed the scented fluid, called zibet by the *Arabians*, from whence our civet is derived.

When the belly was opened, the caul appeared to be double, and of the common form, but large; it descended as far as the os pubis, and was composed of bands of fat that contained the vessels; they had each three angles, and were joined together by a web or fibres, resembling a net. The guts were not very long, especially the thick ones, for they altogether were but six inches in length, and a quarter of an inch in diameter. The pancreas was connected to the

duodenum, and was an inch broad, and four inches long. The liver had five large lobes, and a sixth less than the rest. The right kidney was seated higher than the left, and they were both connected to the loins by a membrane, that inclosed them as in mankind. The penis was seated between the two pouches, and had a bone half an inch long at the extremity. The matrix was divided into two long horns, at the end of which were the testicles, or ovaries, that were scarce as big as a large pea.

The lungs had seven lobes, three on one side, three on the other, and a small one in the middle. The heart was like that of a Dog. Civet Cats are found in *Africa*, *China*, and in the *East Indies*. There are a great many between the river *Senegal* and *Mount Atlas*. The civet is of no use in medicine, but is accounted a great perfume; whatever medicinal qualities the other parts of a Civet Cat may have, they are not known in *Europe*.

The RACKOON is an *American* animal, and is called by the natives of *Brazil* COATI. It is of the size of a Beaver, or somewhat less, with a short thick body not unlike a Badger. The feet are like those of a Beaver, but short in proportion to the body; and the hair is like that of a Fox, being thick, long, soft, and black at the ends; whereas the remaining parts are between green and yellow. However, some affirm, there are two kinds, the one being of the colour of dark yellow oker, and the other of a blackish brown, or rather black without, and yellow within.

The shape of the head resembles that of a Fox, only the ears are shorter, more round, and naked. On the face there is a broad stripe which runs across it and includes the eyes, which are large, with reddish yellow irides. The muzzle is black, and at the end roundish like that of a Dog. The teeth are likewise like a Dog's, there being six fore teeth, and then two dog-teeth in each jaw. The tail is round and longer than the rest of the body, with annular stripes like those of a Cat. The feet have five long slender toes, armed with sharp claws, with which it is enabled to climb up trees like a Monkey; and it will run to the very
ends

ends of the boughs. It makes use of its fore feet in the manner of hands, and feeds itself with them. It has such a sense of feeling, that it will take crumbs of bread, or small bits of flesh out of the water into which they are cast. It is remarkable that it dips all its food into the water, before any of it is eaten. It will likewise walk on its hind legs like a Bear. It commonly lives upon fruits, and yet is very glad of the flesh of fowls and mutton when it can be got. It is a native of several parts of *America*, and is easily tamed.

The Raccoons of *Carolina* are of a grey colour, and if taken young, soon become tame. They are the drunkenest creatures living if they can get at any liquor that is sweet and strong. They are rather more unlucky than a Monkey, and when wild they are very subtle in catching their prey. Those that live near the salt water feed much upon Oysters, of which they are very fond. They watch the Oyster when it opens, and nimbly put in their paw and pluck out the fish. Sometimes the Oyster will shut, and hold fast the paw till the tide comes in, and then they are drowned, though they can swim very well. This is asserted by a very grave author, and yet it seems strange to me, that they are not able to run away with the Oyster out of the water, and so save themselves.

This animal is a great admirer of Crabs, and when he wants to catch them, he will stand by the side of a lake and let his tail hang in the water. This is mistaken by the Crab for a bait, and he fastens his claws therein; upon which the Raccoon springs forward a considerable way, and drags the Crab along with him. There is a sort of a Land Crab, which they call a Fidler that runs into a hole when any thing pursues him. This the Raccoon will pull out with his foot, and when he is tame, he makes very good sport.

The above Raccoon is like a Fox in shape, with large black eyes, and grey whiskers like a Cat. The nose is like that of a Hog, and the feet are like hands, inasmuch, that some take him to be a sort of Monkey. But whether this is a distinct species from that above-

mentioned, is a very great doubt. The skins or fur serve to make very good hats, and lining for coats in cold countries. The flesh is never eaten by the *English* planters; but the native *Americans* and negroes are very fond of it.

The COATI MONDI is an animal of *Brasil* in *America*, of which there are several kinds; insomuch, that it is hard to say whether they can be properly ranked under the same species or not. Those that have written the history of *Brasil*, say, this is a kind of Fox; but among these they perhaps may include the Rackoon abovementioned. The *Members of the Royal Academy at Paris* dissected four, which were all unlike in some particulars.

Delery in his voyage to *Brasil*, affirms, that the snout is a foot long, and round like a staff, and as slender about the beginning as at the end, not much unlike the trunk of an Elephant, to which *Marcgrave* compares it. The same author makes two kinds of this animal; the hair of one is red all over the body, and he gives it the name of Coati, without any addition. The other has the belly and neck of the same colour, but on the other parts he is of a brownish black.

Three of the Coati Mondies that were dissected at *Paris*, were all alike with regard to shape and size. The biggest was thirty-five inches and a half long; namely, six inches and a half from the end of the nose to the hind part of the head; and sixteen from thence to the root of the tail, which was thirteen inches long. From the top of the back to the bottom of the fore feet was ten inches, and twelve to the bottom of the hind feet. The muzzle or snout was very long, and moveable like that of a Hog; but was more long and narrow in proportion, its motion was likewise more evident than that of a Hog, and is bent more readily upwards.

The fore paws were divided into five toes, whose nails were long, black and crooked, and hollow like those of a Beaver. The toes of the fore feet were a little longer than those behind, and were like a Bears, only they had no hair at the bottom. The under part

Civet-Cat?

233



Badger.

249



Otter

219



Coati Mondí?

238



Quick-Hatch.

252



of these fore paws, was covered with a soft skin; and at the end of the heel there were several callosities half an inch long, and one tenth broad, which clung together like a marigold when it shut in the night.

The hair was short and unequal, being blackish on the back, and on some parts of the head, as well as on the paws and snout; but on the rest of the body it had a mixture of a little black and a great deal of red, but was more of a gold colour in some places under the belly and neck. The tail was surrounded with annular stripes of both colours, some of which were black, and others black and red. The tongue was furrowed much in the same manner as the leaves of trees; but in every thing else it was like that of a Dog. The eyes were small like a Hogs, and the ears were round, resembling those of a Rat; and covered with a very short hair above; but within it was long, and of a whitish colour.

There were six fore teeth in each jaw, and the dog-teeth were very large, especially those of the lower jaw, and they were almost as sharp at the end as an awl. They were also of a greyish colour, and a little transparent. With these teeth the chief of the savages mark their bodies, as is pretended, to accustom themselves to wounds, and to make them appear more terrible to their enemies. The mouth was large, and resembled that of a Hog; and the lower jaw was much shorter than the upper.

All these particulars agree with the description that *Marcgrave* and *Laet* have given of these animals; except the singular shape of the dog-teeth, and the callosities at the heel, of which they have said nothing. They likewise make the tail longer than the whole body; but then they observe, that they are apt to gnaw their tails, and that sometimes they will eat them quite off. He likewise says, that they have hands like Monkeys, which was not so in that just described; notwithstanding which, they are like the figure that he has given us of that creature.

The two other animals which were dissected by the *Academists*, differed greatly from the former; for besides their being more small, they had no such dog-

teeth, nor were there any spurs on the heels. One of them had a muzzle, resembling that of a Hare, which was red, and without hair; as were also the parts about the eyes and ears, as well within as without. The teeth were like those of a Beaver, and it was without a tail. The fore feet had five fingers, three of which in the middle were of the same kind, and near each other as in the hand of a man; but the two remaining were separated from them like thumbs. That of the inside was so small, that nothing appeared of it but the nail. The hind feet had but four fingers, three of which were large, and the other small like a thumb, which was a little more than a flat nail half an inch long, and a quarter broad.

Under the skin of three of these animals, and between the muscles, there was a great deal of white fat, as hard as suet. The penis was hid in a sheath, whose opening was under the belly, and the glans was furnished with a smooth bone, longer in proportion than in other animals.

The fourth COATI was a female, covered with red hair; and the tail was encircled with rings of a deep fallow colour; likewise the extremities of the paws, and the upper part of the ears were of a browner colour than the rest, and the extremity of the snout was of a greyish brown. The whiskers were like black bristles, and on the hind paws there were none of the callosities above-mentioned. The teeth were like those of a Dog.

The COATI that *Delery* saw, was of the size of a large Hare, with short, smooth, spotted fur, and small, upright, pointed ears. The head was not large, but from the eyes to the end of the snout, it was above a foot long, as observed above. The mouth was so small, that it would scarce admit the end of ones little finger. When this creature was taken, it held all the feet so close together, that it could not be made to stand; but would fall down on one side or other. It would eat nothing but a few Pismires, or Ants, which it is said to live upon in the woods. Hence it appears, that almost all these animals that go by the general name of Coati, are of distinct kinds, and ought to be di-

distinguished from each other, by the writers of natural history.

Labat informs us, that there is another creature of this kind, called by the *Americans* TAMANDUA GUACU, which signifies an Ant eater, because he lives upon Ants. He is as long and as tall as a middle sized Dog, and his hind legs are all of a thickness, like a Bears; but those before, are not quite so large. His fore feet are flat, and divided into four toes, armed with long, and strong claws; but those behind have five toes. His head is long, with a sharp prominent snout, small round black eyes, and very black ears. Those that have measured the tongue, affirm, that they have found it upwards of two feet in length; but it is very slender. He is obliged to bend part of it back when he keeps it within his mouth; for it is not long enough to hold it, without this artifice.

He lives upon Ants, as was observed above, and when he has found out one of their nests, he opens the upper part of it with his claws, that he may have room to put in his snout and tongue. This is besmeared with a slimy liquor, and is soon covered with Ants, which when he finds, he draws it into his mouth and swallows them. He repeats this practice as long as there are any remaining, or at least, as long as they will run into the same snare. When he is hungry again, he will go in quest of another nest.

This nourishment renders the animal pretty fat; but it makes the flesh disagreeable; and yet it is eaten by the native *Americans* and negroes. However, if the inhabitants consulted their own advantage, they would preserve them all alive; because the Ants in these parts are a very great plague, and do a vast deal of mischief.

They have some resemblance to a Fox in shape, and more especially with regard to their tails; though there is no Fox in the world has so large a bushy tail, as the Tamandua Guacu. It is generally two feet in length; and it is almost flat, and covered on all sides with hair, from fifteen to twenty inches long. It is a little harsh, which gives it somewhat the appearance of a Horse's tail; It is very strong, and he can move it just

as he pleases; for which reason, he often brushes the ground that he passes over; and when he turns it upon his back, it entirely covers it. It likewise defends him from the rain, to which he has a great dislike.

The Coati Mondí of *Brasil*, is seldom brought to *Europe* alive, according to Dr. *Mackenzie*; however, he met with two in a pyrate ship of Captain *Green*; one of which died in his custody, of a wound it had received in the thigh, which he caused to be dissected. He sent an account of this to the *Royal Society*, comparing it with those of the *Academists* at *Paris*, with a design to shew wherein it differed from them.

His was a female, and was four inches from the end of the snout to the hinder part of the head; whereas theirs was six inches and a half. Theirs was also sixteen inches from the occiput to the beginning of the tail; but his was only ten; theirs was thirteen inches from the insertion to the end of the tail, and his was twelve. Theirs was ten inches from the top of the back to the extremity of the fore feet, and his was seven; theirs was twelve inches from the top of the back to the extremity of the hinder feet, and his was eight. The snout of theirs was very long and moveable, like that of a Hog; but straiter and longer in proportion; but his was only two feet.

The fore paws had each five toes, the claws of which were black, long, and hollow, like those of a Beaver; and the toes of the fore paws were somewhat longer than those of the hinder. The soles of the feet were without hair, but the palms, or soles of their fore paws, were covered with a soft and tender skin; the soles of the hinder paw was long, and had a heel, at the extremity of which, there were several scales, a line broad, and half an inch long, in which they all agree very well.

The ears were round like those of a Rat, and covered on the top with very short hairs, in which they both agreed, as they did in the eyes, which were exceeding small and beautiful. But there was some difference in the hair; for theirs was short, rough, and knotty, blackish on the back and head, and the rest of the body was mixed with black and red; but in his,
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the hair was long in proportion to the animal, especially on the tail, and the whole was beautified with white and black circles, which rendered it a most agreeable sight. From the snout down all the throat and belly to the top of the tail and the inside of the legs, the hair was of a reddish colour; and the tongue, both of theirs and his was chapped with several fissures, or furrows, which rendered them rough to the touch. There were six fore teeth in each jaw, and the dog-teeth were very large, especially those of the lower jaw, but they did not turn up like tusks as theirs did; they were not round, blunt, or white, like those of a Wolf Dog, or Lion; but sharp, by means of three angles, which at the extremity formed a point like an awl. The colour was greyish, and somewhat transparent; the mouth was large, and cleft like a Hog's; the lower jaw as in a Hog, was much shorter than the upper.

Under the skin between the muscles, there was a great deal of white hard fat like suet: this being a female had an exceeding large matrix, and the insertion of the urethra was on the right side of the vagina. The epiploon or caul was very small, because it had but little fat, and seemed to be a complication of fibres and fillets, rather than a membrane; and did not lie on the intestines, but touched on the stomach. That of the *Academists* had a very large spleen; but this had none, at least, that was discernable. The liver was somewhat blackish, and did not appear to have any glands; it had seven lobes, that is, two large ones on the left side, and five small ones on the right. The pancreas was fastened along the duodenum, inclining more towards the right kidney than the left; but whereas it was very small in theirs, it was very large in this. The mesentery was filled with very hard fat, which enclosed, and almost concealed all its vessels. The intestines in theirs was seven feet long, and all of the same thickness, without any distinction; but in his they were only forty-two inches and a half. Theirs had no cœcum, but he found one in his at the upper end of the rectum. The bladder was very large,
and

and the right kidney a great deal higher than the left, and covered with the lobes of the liver.

The lungs of these had five lobes, two on the right, two on the left, and one in the middle, which was as thin as a cobweb; but in his there were seven, three on the right, three on the left, and one in the middle. The heart resembled that of a Dog, and the right auricle was exceeding large. The crotophite muscle passing under the zigoma, was in his, as in theirs, fastened there; and it was extremely fleshy even to its insertion, made by a very large tendon enclosed between two pieces of flesh, much thicker than those which are commonly found in this place, and are thought to be placed there to defend and strengthen the tendon of the muscle of the temples.

The tendons of the articulations of the fore feet were very large and strong; and he observed two glands on each side the anus, with a passage to each of them full of a greyish stinking matter. The orbit of the eye in his was not bony throughout like theirs; but was supplied in the upper part by a cartilaginous ligament, which joined the apophyses of the frontal bone to that of the first bone in the upper jaw. The bone that parts the brain from the cerebellum was like that of Dogs; and the dura mater did not adhere to the skull as in theirs. The sinus's of the frontal bone in his, as in theirs, were full of a matter like brittle fat, and the mammillary processes were very large. The eyes in both were alike, and the pupil was as large as the whole globe of the eye. The choroide coat was reddish or brown all over, without any variegation, which is seldom wanting in the eyes of other animals.

He was of opinion that the *Coati Mondi* does not carry its tail erect as the *Academists* had been informed; at least the tail of this trailed on the ground; nor did he believe they ever eat their tails, because there was no other part seemed so tender; for whenever it was touched, it would make her cry, or rather hiss, like a Snake. She could not bear cold, for when she was not feeding she would get under the bed cloaths, or lie on a cushion before the fire. Her food was but-
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tered eggs, milk, and bread, and all manner of roasted flesh; but she would not touch fish. He supposed that they have dens under ground like Rabbits, for when she was brought into the field, she would dig up the sand very swiftly with her paws.

The UZQUIEPATL is a kind of a small Fox, and is an *American* animal. He is about eighteen inches long, and has a slender snout, little ears, and a black hairy body, especially near the tail, which is long, and covered with black and white hair. The legs are short, and the nails black and crooked. He lives in caves, and feeds upon Beetles and Worms; he kills fowls that are kept in coops, but then he only eats their heads. When he is pursued, he lets fly such an intollerable stink from his anus, that it is hard to imagine any thing could be so detestable. In short, both the urine and dung have so pestilent a smell, that nothing in our parts of the world can be compared thereto. For this reason when an Uzquiepatl is in danger, he squirts out his urine and dung to the distance of eight or ten paces; and if any part of them happens to fall upon a garment, the stink can never be got out again.

Travellers affirm, that there are two other kinds of this animal, one of which has the same name as the former, and is distinguished by many white stripes; but the other, called CONEPATL, has only one stripe on each side, which runs to the tail.

There is an animal not much unlike this at the *Cape of Good Hope*, called by the *Dutch* BUNSING, or STINK-BUNSING, that is a STINKING BADGER. They affirm there, that there is not such another animal with so detestable a smell under the sun. *Pere Xuchelli* had indeed told them, that there was a creature in *Brazil*, which resembled it in most things; but then he had forgot the name; however, they could not believe it was so bad as this.

He is of the size of a middling Dog, and in shape much like a Ferret; when he is hunted close, either by man or beast, he lets them come pretty near him, and then he lets fly such a terrible smell from his backside, that it almost knocks those down that cannot
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get away from it in an instant. The Dogs, and other animals that are in pursuit of this Bunsing, are so effected with it, that they immediately turn aside, and rub their noses against the stumps of trees, or any thing else that comes in their way.

The *Dutch* have sometimes killed one of these animals; but they let him remain on the spot where he falls, for no one can come near him to carry him off. When any of the filth falls upon a person's cloaths, or is even touched with the end of the finger, it is the most difficult matter in the world to get free from it, though they use all kinds of means they can possibly think of. Whether this *African* animal is good to eat or not, does not appear from any of the *Dutch* accounts; however, that in *America* is said to be excellent food.

The MARITACACA of *Piso*, the CARIGOY of *Delery*, and the CARIGUEYA of the *Brasilians*, is by some called a POSSUM, and is an animal of the size of a Cat, being about eighteen inches in length. The head resembles that of a Fox, with a sharp nose; and the upper jaw is longer than the lower. The teeth are also like those of a Fox; there are eight small fore teeth in the lower jaw, and in the upper ten. The two great ones in the middle are like those of a Hare, next which are four long dog-teeth. There are likewise six others in each jaw, besides sixteen grinders, which make fifty in all. The eyes are little, round, clear, lively, and placed upright; the ears are long, broad, smooth, thin, transparent, and placed erect like those of Foxes. The whiskers are like those of a Cat, and black; there are some on the cheeks, and above the eyes.

The head is about three inches long, the earstwo, the neck one, and the rest of the body to the tail seven. The tail is round, and is a foot long, with which it lays hold of the branches of trees, like some sort of Monkeys. It is hairy from the root to the length of four inches; but the other part is as naked as a Snake, being black for four inches, and the remainder is whitish mixed with brown. The fore legs are short, being three inches long; but those behind are above
four

four. The feet are like hands, on each of which there are five toes, with white crooked nails: and they are longer behind than before. It is covered with long hair, but on the head, neck, under the belly, and legs it is more short. Under the neck, belly, and tail it is of a yellowish colour; there is a stripe runs according to the length of the head by the eyes, and through the middle of the cheeks, which is broad and black as in a Badger, to which it bears some resemblance in the body and feet. The whole back, sides, and upper part of the tail near the root, is chiefly black with a mixture of white hairs. *Hernandes* affirms the hair is long and white, except on the extremities, which are brown or black. But *Marcgrave* tell us, that this is the colour of the Taibi, a *Brazilian* animal; for its whole body, says he, is covered with white shining hair, which is blackish near the extremities. However, this description belongs to the male only; for in the account of the Taibi we are told, that the legs, feet, toes, and tail are like those of the female; which, however, he has not described.

This animal has one property which distinguishes it from all others in the World; for it has a bag, or purse, which is supposed to be an open uterus, in which the young are thought to be bred. Many authors of credit affirm, that they have seen them stick to the teats when they have not been above the size of a raspberry. This has occasioned many naturalists to believe, that this purse is the place in which they are conceived and grow. *Marcgrave* tells us, that on the belly, near the hind legs, there is a double skin, with an aperture two inches and a half long, which is as it were the mouth of a purse, that is big enough to hold a large orange. It is hairy within, and contains eight teats. It is shut up pretty close, and cannot be well opened without violence. *Mr. Ray* informs us, that this is the only uterus this animal has; because upon dissection there was no other to be found. It bears about six young at a time, and when they are exceeding small they have all their members compleat. They keep in this bag, or purse, till they are able to provide
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for themselves, and then they go out to seek their food, returning back again at pleasure.

Lawson, in his account of *North Carolina*, calls him the wonder of all land animals, and says, he is of the size of a Badger, and near that colour. The pizzle of the male is placed retrograde, and in coupling they turn tail to tail. The female, he supposes, breeds her young at the teats, because he has seen them exceeding small, and when not able to stir. He calls the purse a false belly, wherein she carries her young till they are able to shift for themselves. He adds, that they have no hair on their tails, but a sort of scabs, or hard crust, like those of a Beaver. They are very hard to be killed; for when all the bones in their hide seem to be broken, they will come a little to themselves and creep away. They are a very stupid creature, and seem to have little or no regard for their safety. Their flesh is very white and well tasted; and they climb up trees like the Raccoons. Their skins and fur are of little use, only the natives make girdles and garters thereof. This animal has a strong smell, like that of a Fox or Martin; and its principal food is roots and wild fruits; though it will sometimes catch birds, and kill fowls, when it can come at them. It is also fond of sugar canes.

Briffon takes notice of three kinds of these animals, which, he says, have all a tail like a Rat, that is very long; and in each jaw there are several dog-teeth and grinders; they have feet like those of a Monkey, with sharp nails. The first is no more than eight inches long from the tip of the nose to the root of the tail; but the tail itself is a foot long. The fore legs are three inches, and the hinder a little more than four in length. The muzzle is pointed, and the upper jaw is a little longer than the lower; the eyes are small, round, and brilliant; but the ears are long, large, and without hair, soft to the touch, very thin, transparent, and upright, like those of a Fox. It has whiskers like a Cat, some of which are above the eyes. The tail is covered with hair from its root to one third of its length; the remainder is covered with small scales, and is like that of a Rat. The upper part of the body is of a reddish bay colour, and round the mouth, under
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the belly, and the legs are yellow. The head is brown, only over the eyes there is a yellow spot. It is found in *America*, and the female has on the lower part of her belly a sort of bag, the opening of which is two inches and a half wide. In this the teats are placed, and the young ones by some thought to be bred.

The second sort is the Possum just described, but the third is bred in the *East Indies*, and from the hind part of the head to the root of the tail is thirteen inches long. The tail is very long, and covered with rhomboidal scales; the snout is also long, and the ears large and erect. It has whiskers like the former, and the hair which covers the upper part of the body is long and silky, and of a very dark reddish bay colour; but it is lighter on each side as it approaches the belly, which is of a yellowish ash colour. Over each eye there is a deep brown spot, and the female has a bag like the former which serves for the same purposes.

The TAIBI, so called by the *Brazilians*, is named BOSCHRATTE by the *Dutch*, and by the *Portuguese* CACHORRO DOMATO. It has a round oblong body, and is in length fourteen inches from the hind part of the head to the beginning of the tail, and in girth it is ten. The head is like that of a Fox, with a sharp nose, and whiskers resembling a Cat's. The eyes are black and prominent, and the ears roundish, white and soft. The tail for the length of five inches is white, and then a little blackish; but the remaining part, which is longer, is covered with a thin scaly skin of a whitish colour, like the slough of a Snake. The hairs are only fixed in the cuticle, which may be taken off, and then there will remain a thicker skin underneath it.

This animal seems to resemble the Tlaquatzin which is described by *Hernandes*; but whether it differs in kind or sex from the preceding is very hard to say.

The TAXUS, or MELES, in *English* the BADGER, BROCK, or GREY, was unknown to the *Greeks*; unless it be the same animal which they call the Hyæna. The writers of natural history say there are two kinds, one of which has some resemblance to a Dog, and the other to the Bear; but of this last we know nothing,
and

and it may be justly doubted whether there is any such animal, or not. The former species is very common in *England*, or at least it was some years ago; but perhaps now they may begin to be scarce, because they are killed wherever they are found.

A Badger has a thick shortish body, with a very short neck, and coarse hair nearly resembling that of a Hog. On the back it is of a palish yellow at the roots, in the middle brown or black, and yellow at the ends; insomuch, that at first sight one would take him to be of a blackish grey; for which reason some have given him the name of a Grey. On the sides and under the belly the hair is entirely of a pale yellow; and on the shoulders, legs, as well before as behind, and under the throat he is quite black. From the top of the head there is a white line or stripe two inches broad; and below it on each side the nostrils, about the eyes, and farther than the ears, there is a black space or stripe in the shape of a pyramid; and below that again on both jaws the hair is white, which render the whole head of a pied colour.

The tail is short and thick, beset with strong longish hair, and the ears are short, roundish, and in shape like those of a Rat. The eyes are small in proportion to the body, and the muzzle is like that of a Dog. The tongue is of a middle size, the legs short, and the teeth like those of a Dog. The fore feet are armed with very long claws, with which it makes holes in the earth; and the head is in shape nearly like that of a Fox; for from a broad base it ends in a sharp muzzle, which renders it almost of a triangular figure. The jaws, or cheeks, are full and tumid, on account of the thickness of the muscles; for which reason this creature bites very hard.

He lives upon Beetles and other insects; for in his stomach, which is very large, great numbers of these have been found, mixed with the roots of grass. Some say he feeds upon apples and grapes, and that he is fond of Rabbits, Geese, Fowls, and other birds; but of this little can be said with any certainty. He has none of the gross intestines, nor no blind gut; at least none such could be found; but the kidneys are pretty

pretty large. The greatest peculiarity is a large orifice directly under the tail, above the passage for the excrements. It is a sort of a bag, or purse, which is hairy within, and is full of a white substance of the consistence of Calves brains. Sometimes it is very small in quantity, and has no sensible smell. The external part of this purse is covered with conglomerate glands on all sides. Besides this cavity there are two larger glands near the anus, which are hollow within, and full of a sort of fat of a strong smell, which empty themselves by two holes into the gut. The gall-bladder is long, and there are three biliary ducts, which belong to three distinct vessels; that is, there are three biliary passages that concur with the cystick duct. The stomach resembles that of a man, and the pylorus is very thick; the guts in general are slender, and there is no blind gut; nor is the colon much distinguished from the rest; but the strait gut is thick and fleshy. The pancreas is seated along the great flexure of the stomach, and is of a yellowish colour, flattish, of a triangular shape, and six inches long. The liver is large and red, and composed of six unequal lobes; the gall-bladder is yellowish, in the shape of a longish pear, and covered with a membrane as strong as parchment. The spleen is red, flat, eight inches long, and like the tongue of a Dog. The kidneys are covered with fat, and are somewhat bigger than those of a Sheep; the bladder is of the size of a Goose's egg, and the testicles of that of a small nut; the penis is bony, and four fingers breadth long. The heart is as big as that of a Sheep, and the lungs are divided into six lobes; four of which are on the right side of the breast, and two on the left; the surface is full of tubercles, like the skin of measy pork; there are fifteen ribs on each side.

The boroughs that he makes in the earth are not only for his own safety, but for the sake of getting his food; for he finds a great many insects under the earth, as well as the roots of plants. The parts of *England* in which he chiefly abounds at present are *Essex*, *Suffex*, and some of the midland counties.

The

The flesh of a Badger is said to be good eating, and to taste like that of a Boar. The fat is emollient, warm, and penetrating, and is thought to be good to ease pains in fits of the gravel.

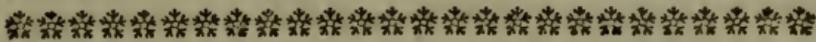
The WHITE BADGER is sometimes seen in *New York*, and from the tip of the nose to the end of the tail is a foot and nine inches in length. The eyes are small in proportion to the size, and the ears short; the legs are also very short with white claws. The whole body is covered with very thick hair, which is white on the back, and of a whitish yellow on the lower parts.

The BADGER of SURINAM is about a foot and a half long, with short ears, a roundish head, longish muzzle, and short legs. The claws are black, long, and crooked; and the whole body, except the belly which is yellow, is covered with hair of a deep chestnut colour inclining to black; but the fore part of the head is not of so deep a colour, and the tail, which is as long as the body, is brown, and as it were striped with yellow. This seems to differ but little from the Uzquepatl, though no mention is made of its stinking.

The WOLVERIN, so called by the factory at *Hudson's Bay*; but by the natives QUEQUEHATCH, is in shape much resembling a Badger, and is remarkably strong jointed, with large feet, short legs, mouse ears, and long and sharp teeth. The skin is of a dark brown colour, with a stripe of lightish yellow encircling the body, and running from over the shoulders along both the sides, and crossing the loins. It is a terror both to the Bear and Wolf; for they shun him while he is alive, and will not prey upon him when dead, though they will feed upon their own species when dead, and all other animals either alive or dead. Their skins are of some value, and are sold at the sales of the *Hudson's Bay Company* by the name of Woolverins.

The Wolverin, or Quequehatch, is by others thought to be of the Bear kind, and is taken notice of both by *Catesby* and *Edwards*, and described thus. It is an animal found near *Hudson's Bay*, and is a little larger than a common Wolf; the eyes are small and black,

black, the ears short and round, and the tail of a moderate length, but smaller at the root than towards the end, where it is covered with longish hairs. The muzzle or snout, as well as all the feet, are black, and the throat white marked with black; all the rest of the body is of a chesnut colour, but deeper on the back than elsewhere. It is said that his cry is like that of a hoarse Dog. The hair is long, and as soft as wool, and he will swim and continue in the water for a considerable time together. Those near the shore live chiefly upon dead Whales, and those within land upon any thing they can meet with. There is one now kept in the *Tower of London*.



C H A P. XV.

Of Animals of the WEASEL Kind, commonly called Vermin.

THIS kind of animals are very well known, and are to be met with almost every where. They differ from other rapacious and carnivorous quadrupedes in their small size; in the long figure of their bodies, with a small longish head, and short feet; in the shortness of their intestines, which have neither colon nor cœcum, or blind gut; there being no evident distinction between the great and small; and in the number of their teeth, which in the Dog kind are forty, whereas these have but thirty-two.

The MUSTELA VULGARIS, or COMMON WEASEL, called in *Yorkshire* the FOUMART, is a little animal less than a Pole Cat; and is of a bright red on the back and sides, but white under the throat and belly; this whiteness reaches from the end of the chin along the throat and belly, as far as the fore feet. The muzzle is like that of a Dog, and the upper jaw is a little longer than the lower, and they have whiskers like a Cat. The fore teeth in the upper jaw are six, which are small, upright, close to each other, and look like the teeth of a comb. There are the same number in the lower jaw,
and

and in both jaws they are large and strong; but the number of the grinders are uncertain, because they are hard to be distinguished from each other. The eyes are little and black; the ears short, broad, and roundish, beset with short thick hair; and what is most remarkable they have a fold at the lower part, which makes them look as if they were double, and the inner part, or cavity of the ear, is very large, with several protuberances.

The body is slender, and a young one, which was dissected, was above a span long from the end of the nose to the tail; which last was two inches and a half long, and lessened gradually to a point. The legs were short, and the feet broad, each of which were divided into five toes, armed with small claws. The heart was very large in proportion to the size, and the lungs were divided into several lobes. The liver was very big, divided into seven lobes, with an ample gall bladder; and the spleen was long and large. In the stomach were several folds which run from the gullet to the pylorus, and the kidneys were very big. The guts were all of a size, with very few glands, and about an ell in length and half an inch in diameter, without any remarkable difference, from the stomach to the anus.

Near the anus was a pair of small bladders, of the size of a large pea, adhering to the intestines, full of a yellow, thick, stinking fluid, of a smell proper and peculiar to this animal. There is something analogous to these in all kinds of animals that live upon flesh; at least as far as has been hitherto observed; Doctor *Grew* has found them in the Rabbit and Hare; and Doctor *Tyson*, in several sorts of serpent.

Their bodies are so small and slender that they can creep into little holes; for which reason they are greatly valued in some countries for their killing of Mice, Rats, and Moles. But the worst is they will also destroy all sorts of poultry, and suck their eggs; though some affirm they will not attempt to meddle with any large fowls; but I am afraid the country farmers often find the contrary by experience.

VIVERRA INDICA, or the INDIAN FERRET, called by some QUILL, and QUIRPELA, is an animal.

mal that is a great enemy to serpents. *Garcias* pretends, that when he is going to attack one of these animals, he will first bite the root of a tree called snake-wood; that is, the part of it that rises out of the ground. This done, he wets his fore feet, and then his head, with his spittle, and afterwards approaches the Serpent, which he never leaves till he has killed. The *Portuguese* affirm, that they have often seen these kind of fights.

There is another *Indian* Ferret of a greyish red colour, called by the *Portuguese* MUNGO, and by the inhabitants of the island of *Ceylon* MUNGATHIA.

The WHITE WEASEL, called by the moderns an ERMIN, or STOAT, is of the shape of a common Weasel, and is all over white, except the end of the tail, which is black. It is greyish about the eyes, and there is a spot of the same colour in the middle of the head, as also between the shoulders, and on the tail. However, the colour varies according to the season of the year. It feeds upon Mice and Moles, and delights to frequent the banks of rivers, and meadows.

The VIVERRA properly so called, and in *English* the FERRET, is made use of in *England* for the hunting of Rabbits, and driving them out of their holes. However, they never turn them into a coney borough before they have sewed up their mouths, because they would otherwise bite the Rabbits, and tear them to pieces. By this management they can only scratch them with their claws, and force them out of their holes. They will feed upon the flesh of birds, and several other animals; but they are all naturally hunters of Rabbits. They are less than a PoleCat, and somewhat larger than a Weasel, with a little flat head like the rest of this kind, and erect, open, broad, but short ears; a long sharp snout like a Hog, and red eyes, which are common to all these sort of animals. The make of the body is long and slender, and of a whitish box colour, which is a little darker under the belly. They have five toes or claws on each foot, and are said to have been brought originally from *Africa*.

The POLE CAT, or FITCHET, in *Latin* PUTO-RIUS, is remarkable for its strong smell; and is larger and more black than a common Weasel. It is white about the mouth, and a little beyond the corners a stripe begins, which at the rise and middle of the head is yellowish, but in the intermediate parts it is white. It is covered with two sorts of hair, the longest of which is black, and the shorter yellowish; but the throat, feet, and tail are more black than the other parts. The upper jaw stands out farther than the lower; and the ears are broad and short, with a whitish border. The claws are white underneath, and brown above. It is about twenty-two inches in length, with a tail of two inches and a half. The fore feet, from the second joint, are three inches and a quarter long, and the hinder five inches and a half.

The gullet and stomach are like those of a Weasel, but the guts are different. The first is three quarters of an ell long, and half an inch broad; being very slender and equal throughout. The second is a quarter of an ell long, and a quarter of an inch broad, but much stronger, and full of small glands, about the size of pins heads. The third is a foot and a half long, and half an inch broad; about the middle there is a heap of glands, two inches in length and a quarter of an inch broad; and near the end of the fourth gut there are another parcel, which are as broad again. These glands are about the size of mustard seeds, and have orifices which do not terminate in a common duct as in the pancreas. The fourth is separated from the former by a contraction, and is five inches in length, and three quarters of an inch in diameter near the anus.

The AMERICAN POLE CAT of *Catesby* is nearly of the same size with the former, but the snout is longer; it is black, with five white streaks on the back, one of which begins at the head and runs along the middle of the back to the tail, and two others on each side run parallel to it.

It is a mischievous animal, and is a great enemy to the farmers, killing the fowls and destroying the eggs. It also lives upon small birds, Rats, Mice, and the like;

like; and those that are near the banks of rivers, and the sea shore, will eat Frogs and small fish. Their skins are in season in the winter, and they are used for the linings of garments, and muffs; but they would be in much higher esteem if they could be intirely divested of their smell. They are hunted by a particular sort of Dogs, and this in the night time, for they never appear abroad in the day.

The MARTIN, or MARTLET, in *Latin* MARTES, is of the size of a Cat, but somewhat longer; for the length of the body, from the tip of the nose to the root of the tail, is a foot and five inches, and that of the tail generally twelve inches; but the legs are shorter, as well as the claws, and the whole body is covered with fur of a brownish fallow colour, except the throat, which is white. The ears are short, broad, and roundish; the eyes shine in the night like those of a Cat, and the nose is somewhat prominent; the upper jaw is blunt, the tongue long and smooth, and covered with sharp papillæ, but they are soft, and the points are turned backwards. The teeth are very white, unequal and rough; and it has whiskers like those of a Cat; the feet are divided into five toes, and are hairy all over; they are united half way by a membrane, and what is called the great toe is the shortest, and at a distance from the rest. The tail is covered with long hair, which makes it seem thicker than it really is.

When one is opened, the caul appears to be connected to the bottom of the stomach, the guts, and the spleen; the stomach is very large in proportion, and is composed of two membranes; that on the outside is white, and that within smooth; but they are both very thin. The guts are connected to the spine of the back by means of a membrane, and they are all uniform; but there is no blind gut. The spleen is pretty small, reddish, oblong, and connected to the left side of the stomach. The liver is palish, and consists of seven lobes; the lowermost of which is divided into three parts, like the foot of a hen. The gall bladder is shut up in one of the lobes; and the right kidney is higher than the left. The spermatic vessels descend

from the middle between the kidneys; but below is divided into two branches. The penis is bony, and turned at the end like a gimlet. The diaphragm descends obliquely towards the edges of the liver, to which it is connected. The lungs are composed of four small lobes on the right, and two larger on the left. The heart is of a middle size, and has nothing uncommon.

Some authors distinguish Martins into two kinds, namely, the Domestick Martin with a white throat, and the Wood Martin, that is to be found in forests consisting of tall trees, in which they make their nests, much in the same manner as squirrels. It may be known from the former, or true Martin, in having a yellow throat, and the fur on the rest of the body more of a fallow colour. Some call it the Golden Martin, and its skin is much more valuable than that of the other.

In some places the common Martin delights to be among buildings, such as castles, churches, barns, hay-lofts, stacks of wood, pigeon houses, and the like. He is a great enemy to domestic fowls, and pigeons, and will kill a great number whenever he can come at them. He is also very fond of eggs, and will carry them from one place to another without breaking. The dung is said to have a musky smell, by which means their haunts may be found out. Martins sleep in the day time, and go abroad in the night in quest of their prey. They are hunted in some places by a sort of Dogs, that seem to be designed by nature for that purpose. Perhaps they may be the same as our Fitchet Dogs, so called from their hunting the Pole Cat, or Fitchet. These animals are hunted for their furs, which are very valuable, and they are in season in the beginning of the winter.

The flesh of the Martin is said to be, by those that have tasted it, good eating; but as for its being proper to strengthen the stomach may be very much doubted. In some places they make use of the dung as a perfume; and some pretend it is good to resolve the swelling of the glands. The gall when mixed with fennel water, is recommended to take out spots in the eyes.

The

The MINX is an animal of *North America*, and like an *English Pole Cat*; for he is long, slender, and resembles one in every particular. They are to be met with chiefly high up the rivers, on whose banks they live. Their holes may be known by the great number of Muscle shells that lie at their entrance. However, they have not the disagreeable smell of an *English Pole Cat*; for many of them have been tamed and kept in houses, which they would not have been, if their smell had been nauseous.

They are the greatest enemies to Rats and Mice in the world, and would be kept on purpose to kill them if they might be trusted where there is poultry. The wild ones are very great thieves, and they will come in the night when a traveller is asleep in the fields, and gnaw the wrappers to come at his provisions; especially if they happen to be fowls of any kind. They are also enemies to the Tortoises or Turtles; for they will search out their eggs which lie in the sand, and eat them. Perhaps upon this account many of them frequent the sea side, and the places near salt water. Their skins are very valuable, provided they are killed in the proper season.

MUSTELA ZIBELLINA, in *English* the SABLE, is a little less than a Martin, and of a dark brown colour, except the throat, which is ash coloured. The skin is the most valuable of any animal of this kind yet known. It is about the size of a Cat of *Cyprus*, and according to the observation of Dr. *Tancred Robinson*, it is of a dark brown colour on the body, but the fore part of the head and ears are of a whitish ash colour, with long hairs over the eyes, and the nose and mouth are exceeding long in proportion. The teeth are very white, rough, and unequal, and the grinders are serrated as in a Martin.

It is bred in the northern countries, as *Russia*, *Norway*, *Poland*, and *Siberia*; and is to be met with chiefly in unfrequented places, especially forests; for it will run up a tree like a Squirrel.

The GENETTE is an animal a little less than a Fox, and of a colour between saffron and black, sometimes with black spots placed in a regular order.

It is a mild creature unless provoked, and it delights in low places by the sides of rivers, where it gets its food. It is principally to be met with in *Spain*, and yet at *Constantinople* they run tame about the houses like Cats. Some give it the name of a Gennet Cat for that reason. The skin is of great value, and would be esteemed much more if it was not so common in the above countries. It has eight black annular circles about the tail, and as many of a whitish colour. It has a very agreeable smell, somewhat like musk; but more pleasant to a great many people.

The ICHNEUMON, by some called the RAT OF PHARAOH, is for shape and colour like a Badger; though some say that his body is longer and more compact than that of a Cat; others again liken him to a Hog, because he has a long snout, which he makes use of to turn up the earth. It is certain he has a black sharp snout, like a Weasel, but has no whiskers. The nose is a little prominent, and the ears are short and roundish. The hair is of a dark yellowish colour, like that of some Monkeys, unless when he is angry, for then it stands up an end, and appears to be of two colours; that is, white and yellowish, by lines or rows, at an equal distance from each other; and it is coarse, hard, and pointed like that of a Wolf. His legs are black, with five toes on his hinder feet; that called the spur is on the inside and short. The tail is long, and thick where it joins to the rump, and the tongue and teeth are like those of a Cat. He has a large aperture near the anus surrounded with hair, which he opens in very hot weather, which has occasioned some authors to affirm, though falsely, that he is of both sexes. They live both by land and water, especially among the reeds of the river *Nile* in *Egypt*.

He will dive in the water like an Otter, and continue under it much longer. He is a bold, active, nimble creature, and is not afraid to fight with a large Dog, and if he meets with a Cat he will kill it in a very short time. His snout is so sharp that he cannot bite very readily; for he is not able to hurt a man's hand when it is shut. He is very cunning in catching his prey; for when he looks for it, he will stand upon his hind feet

Indian Ichneumon 261.



Iguana 341.

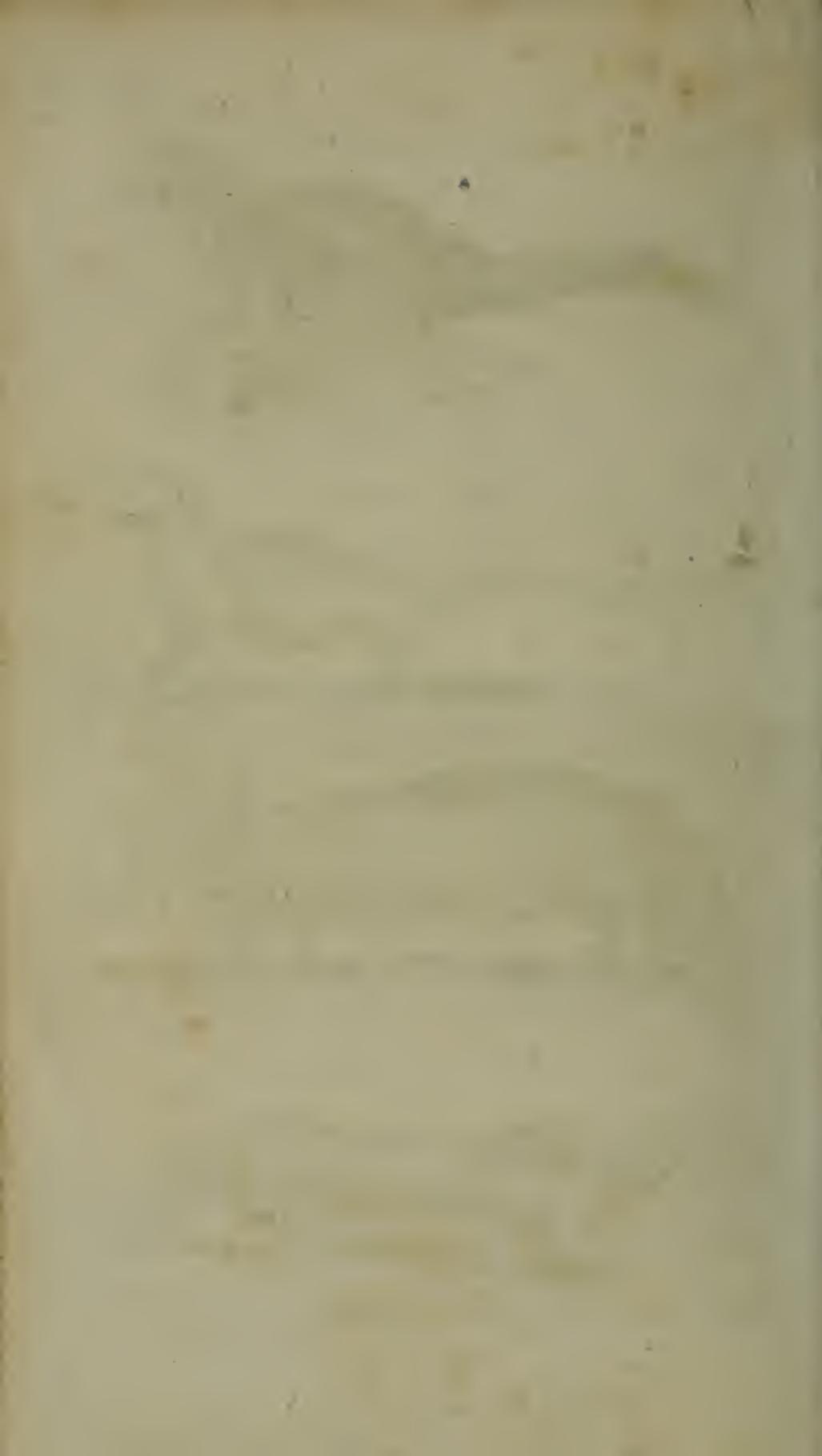


Ferret 255.



Pole-Cat 256.





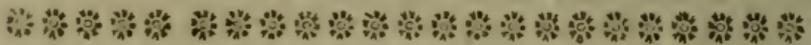
feet to observe where it lies, and then he will creep slowly along the ground till he comes to it, and will then fall upon it with great force and speed.

He feeds upon Snails, Lizards, Camelions, Serpents, Frogs, Mice, and the like. He is very fond of birds, and particularly of fowls and chickens. As he is a great enemy to Serpents, he is often kept tame, and runs about the house like a Cat. They are brought to be sold publickly at *Alexandria* in *Egypt*.

Maillet, who resided many years in *Egypt* as consul, says the Ichneumon is a sort of little wild Hog, which is very easily tamed, and that his hair stands up like the quills of a Porcupine. That he is a very great enemy to Rats and Mice, and more particularly to the Crocodile. He not only devours their eggs, which he feeds upon, but will fall upon young Crocodiles, seizing them by the top of their neck; he also affirms, that he had seen them do this more than once; for which reason he thinks the ancient *Egyptians* had good grounds for the veneration of this creature; he farther informs us, that when the Crocodile sleeps in the sun with his mouth open, the Ichneumon will creep down his throat and gnaw his intestines, and by this means certainly kills him; but this last account he does not assert from his own knowledge.

The INDIAN ICHNEUMON is about the size of a Ferret, or Pole Cat, being about twenty-seven inches long, and has a tail which from a thick base ends in a point like that of a Lizard. The nose is pretty sharp, and covered with short hairs of a reddish brown colour; the eyes are bright and sparkling like those of a Ferret, having somewhat of a flame colour in them. The ears are small and round, covered so thinly with hair, as to shew the colour of the flesh. The top of the head, neck, back, sides, and tail, are covered with pretty long stiffish hairs, each hair being partly brown, and partly of a dusky colour. The hairs of the throat and belly are somewhat softer and shorter, and of a clay colour, without any mixture; and the legs are very short, of a dusky or black colour. It has five toes on each foot, with black claws. One of these animals was brought to *England*, and would sometimes creep

with its belly on the ground, so as to resemble a serpent moving without feet; and at other times it would raise its head, appearing to walk on its legs, and shortening its body a little. It would also sit upright on its hinder legs, and look about it, and when angered would set up its bristles in a surprising manner. It was suffered to run about the house to clear it of Rats and Mice. Mr. *Edwards* saw an *Egyptian* Ichneumon, which he takes to be twice his bulk, he being in length forty-two inches. In shape and colour he was like the former, only he had a small tuft of hair at the end of the tail. He takes the *Indian* to be of a different species from the *Egyptian*.



C H A P. XVI.

Of Animals of the HARE Kind.

THE HARE, in *Latin* LEPUS, is a well known animal, and needs little description, and therefore we shall only observe, that his hinder legs are much shorter than those before; and that he is endowed with very strong muscles, which enable him to run exceeding fast. The head is short and roundish, and the upper lip is cloven in the middle. The eyes are very prominent, to the intent that he may see objects that are behind him, and he is said to sleep with them open. The ears are long and moveable, and he can readily hear the least noise whatever. The hair is of a reddish grey; but in some northern countries and among the *Alps* that are covered with snow, it is white.

He is a solitary animal, and continues sitting all day, for he feeds only in the night. In the winter season he makes his form, that is, the print on which he sits, in places exposed to the sun; and in the summer on higher ground for the sake of the cool air. They are very prolific, for they breed every month, at least in some parts of the year. When they are enclosed in warrens, and remain undisturbed, they will multiply prodigiously in a short time; which, however, they are seldom permitted to do. The oesophagus, or gullet, like that of a Rabbit, is inserted into the middle
of

of the stomach, and the blind gut is of an uncommon magnitude and conformation. It is almost an ell long, and two or three inches in diameter, being broad at the beginning. The extremity for eight inches is of the size of the fore finger, and the blood vessels are very conspicuous thereon. The substance seems to consist of round glands, which being squeezed emit a white muddy liquor. The other part of the blind gut is very thin and transparent, and has a large valve which turns in the form of a screw from one end to the other.

The stomach lies in the left hypochondrium, under the diaphragm, and is oblong and single, though double in appearance. The colon is wrinkled, surrounded with narrow circles, and is not so wide as the cœcum. The kidneys are pretty large and hollow, and the right is seated much higher than the left; the ureters are small, and are inserted into the neck of the bladder, which is eight inches long and four broad. The spleen is small and slender, and pointed towards the extremities; it is nearly as long and broad as a man's little finger, and adheres to the stomach. The liver is composed of three large lobes, and has a small appendage; but on the biggest lobe there is a cleft that almost seems to divide it into two parts; of which the largest receives the gall bladder, that is small and of a pyramidal shape, and so much hid in the substance of the liver that it almost escapes the sight. The pancreas inclines to the left side of the stomach, and is connected to the spleen for near half its length; it empties itself at a considerable distance from the biliary duct into the duodenum. The seminal vessels lie under the orifice of the bladder; and there are two testicles, one on each side, hid in the lower belly under the teguments; they are three fingers breadth long, an inch broad, and half an inch thick. The penis which is nervous, and pointed at the end, is nine inches long, and part of it bends backwards towards the anus; for which reason a Hare pisses backward. The lungs are yellowish, divided into three lobes on each side, of which one is much bigger than the rest; not to mention the seventh, which is light and spongy, and placed on the

middle of the back. The heart is pretty large in proportion to the body.

In the female there are two lateral sinus's, which contain a substance like ear-wax, and gives the animal a peculiar smell. The vagina is very smooth, as well as the gullet, and at the entrance there are several whitish caruncles, not bigger than the head of a pin. About four fingers breadth from the vulva there are two holes, the least of which proceeds to the bladder, and the biggest to the matrix, which is forked, and has two pretty long horns.

Every one knows the flesh of a Hare is good, and in great request; for which reason they bore a good price at the markets before the game act, or rather before it was put so strictly in execution. However, it is said that when a Hare is very old the flesh is hard of digestion, and breeds gross humours, that is, if it be frequently eaten it makes a person heavy and sleepy. However, there is no fear of eating so much of it as to produce this effect. It is pretended that the heart, liver, lungs, and blood, dried and reduced to a powder, will stop the bloody flux and promote urine. The dose is from a scruple to a drachm, but this seems too trifling to do any good; and indeed it does not appear that we have any experiments to prove this powder good for any thing at all.

The JAVA HARE is about the size of a common Hare, having a small head in proportion to the body. The eyes are large and prominent, the ears are like those of a Rat, except which the head partakes of the likeness both of a Deer and a Hare; but the hinder part is remarkably large, and the legs long. The fore feet have each four claws, and that on the outside is very short; the hind feet have only three claws each, and as for the tail it is very short.

The RABBIT, in *Latin* CUNICULUS, is much like a Hare in shape, and resembles one in all things except the size. He likewise differs in the colour of the flesh, which in a Rabbit is white. He also borrows in the earth, which a Hare does not; but the inward parts are exactly like those of a Hare.

Rabbits

Rabbits breed plentifully in all parts of *Europe*, but more especially in *England* and some parts of *Spain*. They are of various colours, as white, black, grizzle, tawney, blewish, grey, ash coloured; and some are spotted with yellow. They seldom come out of their holes in the day time, except early in the morning and late in the evening. They will feed on almost any thing that is green; and when they meet with great plenty of food they are apt to grow rotten. They are fond of sow-thistles, but will feed on cabbages, carrots, turnips, bran, corn, and the like. Those that are kept tame, if suffered to drink much will soon grow rotten; to cure or prevent which, those that keep them allow them bran and corn for some time. They generally begin to breed about a year old, and some say they bring forth young every month eleven times in the year. However, some do not breed above seven, and they have from five to nine young ones at a time.

When Rabbits are kept tame, the Buck must be carefully separated from the young ones, for he will sometimes kill them. The Doe has likewise been known to do the same, and to prevent it they commonly pluck the fur from underneath their bellies, and lay it in the nest; however, the Does generally do this of their own accord. The hair or fur is a very useful commodity, and is employed in *England* for several purposes, as well when the skin is drest with it on, as when it is pulled off. The skins are in great use for lining of garments, facing of gowns, making of muffs, and lining the inside of gloves. The white and black are in most esteem, and the skins of the bucks are most lasting, but they are somewhat harsh, and the fur on the belly is best both in the Buck and Doe because it is finest.

The *BAHAMA RABBIT*, according to *Catesby*, has a long tail, and is somewhat smaller than a common Rabbit. The colour is brown, without any mixture of grey, and the flesh tastes more like Pig than Rabbit. But he is deceived when he says this animal is like the Marmout of the *Alps*; for it is rather of the Dormouse kind, whose characteristic is to have two teeth that are incisors in each jaw, but no dog-teeth, with
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the toes furnished with nails, and a long tail covered with hair, all which particulars are found in this Rabbit.

In *America* they have neither Hares nor Rabbits properly so called, but animals which partake of the nature of both. The BRASILIAN RABBIT called TAPETI, has the shape of the *Englisch*, and is twice the size of a Dormouse, with fur of the colour of a Hare, but browner; and the ears are long like those of our Rabbits, It is reddish on the forehead, and a little whitish under the throat; they have no tail, but they have whiskers like our Rabbits, and black eyes.

The BOCAQUE is an animal that has some resemblance to a Rabbit, and is met with about the river *Nieper*. The fur is of the colour of a Badger, and he has four teeth, two above and two below. He borrows in the earth like a Rabbit from *October* to the end of *April*, when he goes into the fields in search of provisions for the winter. He lives upon dry grass and Hay. Some keep them tame, and then they play as many tricks as an Ape. They are very cunning, and have one always to stand sentinel while they are feeding, who makes a sort of a whistling noise to give notice of any danger.

The animals of this kind in *Carolina* have the name of Hares, and they delight in marshes and meadow land. They hide their young from the Buck in the same manner as the *European* Rabbits. When one of them is started and pursued, she takes into a hollow tree, running up it as fast as she can; but the hunters get them from thence by making a fire below, and smothering them with the smoke. On the *Isthmus of Darien* they are as large as *European* Hares; but they have no tails, and their ears are little and short. Likewise the claws of their feet are long, and they lodge in the roots of trees. Their flesh is very good, it being moister than ours. *Labat* affirms, they are of several kinds in *Brazil*, and that the flesh of them all is very sweet, and not so dry as with us.

The APEREA, by some called the BRASILIAN RABBIT, is an animal which seems to partake both
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of the nature of a Rat and a Rabbit. The ears are like those of a Mouse, being short and roundish; but the other parts are like those of a Hare. He is a foot in length, and seven inches thick, with fur like that of a Hare, only it is white under the belly. The lip is cloven, and the teeth, whiskers, and manner of walking agree with those of a Hare. The fore feet are about three inches long, but those behind are a little longer. The feet behind have only three claws, of which the middlemost is the longest; and the head is not so blunt as a Hare's. It has no tail, and seems to be the same in all respects as that on the *Isthmus of Darien*.

Some authors mention four particular kinds of these Rabbits, one of which is called the Long Nosed Rabbit, because he has a long snout; though his ears are round and short. The Collared Rabbit is larger than the former, and is distinguished by a white ring that runs round the neck. The Hog Rabbit is large and fat, with short, harsh, dark hair, which is grey at the ends. The Spotted Rabbit is so called from having white, black, and reddish spots. They have also short round ears, and when tame they grunt for their food.

The PORCUPINE, in *Latin* HYSTRIX, has been formerly carried about for a shew in *England*, and is of the size and shape of a Badger; though one of those dissected at *Paris* was two feet and a half from the nose to the root of the tail; his feet are very short, for those before are but four inches from the belly to the ground; and those behind are six. The neck is five inches in length, and the head the same. On the back and sides he is covered all over with quills. There are also some on the other parts of the body, but then they are more slender, short, less pointed, and more easily bent: these are mixed with hair of a greyish brown colour, as fine as Horse hair, and they grew out between the sheaths of the quills. On the back part of the head, and on the neck, there is a broad tuft consisting of a great number of thin flexible quills, not much unlike the bristles of a wild Boar: but they are not all of an equal length, for some are a foot long, and white half
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way towards the root, and the rest are grey. The whiskers about the mouth are very large and very slender at the point. They are of a shining black, and the longest is about six inches.

The quills on the back and sides were intermixed with hair of a finer and longer sort than that on the other parts of the body; and the quills are of two kinds. One of these is thick, short, strong, and pointed; and the other is more slender, long, and flexible. The biggest are of a different length, from six to twelve inches long, and above a quarter of an inch in diameter; but they are more slender near the root; for they are less by three parts there than in the middle. The point at the other end is very sharp and keen on each side. They are white towards the root, and of a brown chestnut colour at the point; but the rest is diversified with white and black alternately, sometimes to the length of two inches each. Some of the quills are all white; and others of the more flexible kind are fifteen inches long, and are very slender. They are generally flat towards the point, only there are some round, and very sharp, but weak. They are white towards the root, and the other parts are varied with white and brown by intervals, like the former. All the hair and quills are hard and shining on the surface; but within they are white and spongy, like the tops of the quills of Geese, and other large birds.

There is another sort of quills which seem to have been cut off short at the end, and that which remains looks like the barrel of a Goose quill; but much more thin than that, or of any other large bird. They are not quite a quarter of an inch in diameter, though they are about three inches long. They are white and transparent like writing quills, and are a little fluted according to the length. They grow near the rump, and do not lie quite flat, but rise a little upwards. They are very small at the root, being no thicker than a pin, and enter the skin about a quarter of an inch. After they rise out of this they grows thick all of a sudden, and comes to the size just mentioned. The fore feet have five toes, one of which is very small, and looks like a kind of a spur, though it consists of three phalanges

lanxes, or rows of bones, like the rest; but they are covered with the skin in such a manner, that nothing but the claw appears outwardly. The hinder feet have likewise five toes, but they are not so unequal as the former. The largest of these is placed outwardly, and yet there is a great toe which has but two phalanxes as usual. The whole leg and foot, as well as the belly, have a sort of prickles, and there is nothing but the bottoms of the feet that are free from them. The snout is not made like that of a Hog, as some authors of note have pretended.

The muzzle of a Porcupine is like that of a Hare, with a cloven upper lip; and that below is made like a sheath, containing the two fore teeth of the lower jaw. These teeth, as well as those of the upper jaw, are like those of a Beaver, being very long, and so placed that the cutting part of those below cannot meet that of those above; but slide by each other like the blades of scissers. The roots of the teeth in the lower jaw are six times longer than the teeth themselves; and the grinders are six in number in each jaw, though in some that perhaps were old, eight have been seen. They are short, and do not rise above half a quarter of an inch out of the jaw; but they are very even.

The tongue is furnished near the end with little hard bodies, like teeth, which are sharp at the end, and divided into three or four parts, that look like four incisors. The ears are thinly covered with very fine hair, and they are in shape like those of Mankind. The eyes are small, like those of a Hog, being only one third of an inch from one corner to the other.

To the right of the os pubis, near the anus, there is a bump the size of an egg, and without prickles. About the middle of this bump, which rises high there is a small orifice, that is less than the anus itself. There is not much difference in the parts of generation, as to outward appearance, in both sexes; because the penis of the male is hid in a sheath.

After the skin is taken off, there appears a kind of paps on those parts from which large quills proceed. They are round, and a sixth part of an inch in length, lying near each other, and forming semicircles composed

posed of eight or ten of these paps. These are connected by fibres to a large muscle that lies under the skin; by the means of which they are drawn towards the spine of the back, and towards the tail. Each of these paps answer to as many holes, which appear on the outward surface of the skin; and are at the entrance like so many hollow pipes, half an inch in length; wherein the quills are fixed, as in so many sheaths, and yet the ends of them are only fastened at the bottom, the rest of the pipe being wider than the quills are thick.

It is very plain that this structure was designed to enable the animal to erect the quills; and to give them a free passage when they are shot at any enemy. These motions are produced by a cutaneous muscle, which covers the whole body, and is connected to the hind part of the head to the spine of the shoulder bone, and to the crupper bone. It terminates before in a white line, and produces aponeuroses, which encompass the fore feet. This muscle is much more fleshy on the back, and near the os sacrum, than in other places; and it is furnished with a great number of blood vessels, and several nervous filaments, from which there proceeds some that are distributed in the lower belly.

The sword-like cartilage is very large, and the stomach is almost round, though it is contracted in two different places, which gives it the resemblance to three bags of different sizes. The guts altogether as far as the blind gut, are about twelve feet in length, and the largest is not above half a quarter of an inch in diameter. The blind gut is very large, being near a foot long in some subjects, and two inches thick at the beginning. The colon is about five feet long, and an inch and an half in diameter. The liver has seven lobes, the two largest of which are connected together by a strong membrane. The gall bladder is small, and flat; and the pancreas is divided into two parts. The bladder is large and thick, being composed of two coats, with a spongy fleshy substance between them. The heart is two inches in length, and
a little

a little above an inch in breadth about the middle, and blunt at the point.

The EAST INDIAN PORCUPINE of *Seba*, is according to him, a very uncommon animal, and its hair differs from that of the common Porcupine in being long, and as sharp as the point of a needle. The whole body is covered even to the end of the feet, with harsh, coarse, sharp hair, which in different lights appears of different colours. It has the head of a Pig, but larger, and has no snout wherewith to root in the earth. The upper lip is cloven like that of a Hare, and yet the nostrils are not placed so forward; there are grinders in the back part of the jaws, and in the fore part dog-teeth. There are whiskers, consisting of long sharp hair; the eyes are large and shining; and the ears are small, round, and naked on the inside. The body is short and thick, and the feet are cloven into four toes, of which the least is in the room of a great toe, and turns backward; each toe is armed with thick, sharp claws, and the hinder feet are longer than those before, made like Hedgehogs, and supported with large heels, which assist him in running. The tail is the most uncommon part of this animal, being of a considerable breadth at the root, and growing gradually narrower; it is beset with prickly hair, and ends in a bush, whose hair seems to be composed of knots very curiously done. At first there appears slender hair, on which there is more that is longer and thicker, and standing almost like grains of rice, before their husks are taken off. They form a transparent bundle which shines like silver; the surface of the skin is spotted with black. Voyagers assure us, they have seen this animal in the gulph of *Cageli*, near the island of *Celebes*. One of these animals is now to be seen in the cabinet of *Vincent* at *Harlem*.

The AMERICAN PORCUPINE, called by the *Brazilians* CUANDA, and by the *Portuguese* FLAQUATZIN, is of the size of a pretty large Monkey, and the whole body from the head, except the muzzle, and the bottom of the feet, and half of the tail are covered with quills of three or four inches in length. They are yellowish at the beginning, about half way; and

and the upper half are black or brown, with white points. They are hollow like quills, and sharp at the end; and when any animal is wounded with them, they cannot easily be got out of the wound.

The body from the hind part of the head to the beginning of the tail is a rhyndland foot in length, and the tail is one foot and five inches: That half towards the end is covered with thin hair or bristles, like those of a Hog. The ears are small, and almost hid; and the mouth is like that of a Hare, with two teeth that appear outwardly, and the nostrils are wide. The eyes are round, prominent, and shine like carbuncles; the whiskers are like those of a Cat, four inches in length. The feet are like those of Monkeys; but have only four fingers or toes, with which he can climb up trees but very slowly for want of a thumb. He can wrap his tail about the bough of a tree with which he keeps himself from falling. He is very fond of poultry, and grunts like a Hog. His flesh is good, and very agreeable eating.

His ears, snout, teeth, and power of shooting his quills, resemble those of the former Porcupine; but he differs from them in their smallness; in having the same number of toes or fingers on each foot; in the length of his tail, and in the faculty of climbing up trees.

Mr. *Ray* is in doubt, whether these Porcupines shoot their quills or not; nay, he rather takes it to be a vulgar error, and that all the accounts that were formerly given of it, were taken upon trust. However, we are informed by a late voyager to *Hudson's Bay*, that a sort of a Wolf was found dead without any outward signs of violence; but looking into his mouth they found several Porcupine's quills therein, which made him to conclude, that he was shot by that animal, which was the cause of his death. This writer likewise observes, that this Porcupine moves very slowly, and that he turns up the snow in the winter time all the way he goes; so that it is easy to find him out by the track, and he is soon overtaken. He commonly climbs up pine or juniper trees, and there stays till he has barked both the body and branches. But,
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he farther observes, that he is most fond of the juniper, and that he feeds on the rind, between the outward bark and the wood. It is customary with the natives of these parts to cut down the tree a *Porcupine* had got upon; and then they kill him by striking him over the nose.

The make of the body, says he, resembles that of a Pig; and his eyes, and mouth are small; the feet are like those of a land Tortoise, with large claws; and he is covered with long bristly hair, with a shorter hair under it; likewise under this the quills lie concealed very thick. They are white with a brown point, and the longest do not exceed four inches. They will stick to your hand when you stroke this animal on the back; and likewise when you take your hand away, they always stick so fast as to follow it. When the *Porcupine* finds he cannot get from you, he will approach so near as to touch you with his quills, which will penetrate to the skin. The natives make use of them to bore holes in their nose, and ears, in which they put rings and other baubles. He says nothing of their long tails; but his description agrees exactly with the annexed figure drawn from the life. However, it is not impossible but there may be two sorts of these animals; the one in *Brazil*, and the other in *North America*. This I rather take to be the case, because *Nieuhoff* in his account of the animals of *Brazil*, gives such a figure, as exactly answers to the above description, and the tail is prodigiously long; whereas that in *North America* is short. He observes, that the quills were three or four inches long, without any hair, and that next the body they were yellowish half way; the remaining parts, except the points, being yellowish, and as sharp as an awl. He observes, that they will shoot their quills with such violence, as sometimes to kill both men and beasts; but whether he speaks this of his own knowledge, or by hearsay, is uncertain. He farther observes, that from the back of the head to the beginning of the tail they are a foot in length, and that the tail was a foot and five inches, armed half way with sharp quills; and that the remaining part is covered with bristles like other Hogs.

Hogs. This, and the remaining part of the description, is so like that of *Maregrave's*, that I almost suspect it to be taken from it.

The HUDSON'S BAY PORCUPINE, for shape and size resembles a Fox, but the head is like that of a Rabbit, and the nose is flat, and entirely covered with short hair. The teeth before being four in number, that is, two above, and two below, are very strong, and of a yellow colour. The ears are very small, they hardly appearing above the fur. The legs are short, and the claws long, there being four on each forward foot, and five on each hinder foot, hollowed within like scoops. The tail is of a middling length, thicker towards the body than at the end, and the upper side near the end is white. The body is covered with pretty soft fur, about four inches long, but shorter about the head, and near the paws. Beneath the hair on the upper part of the head, body, and tail, it is thick, set with very sharp stiff quills; but the longest are hardly three inches, which gradually shorten towards the nose, and on the sides towards the belly, so that they cannot be seen through the fur, except a little on the rump where the hair is thin. The soft fur on the belly is of a dark brown colour; and besides this, there are some long, stiff, straggling hairs thinly set, three inches longer than the under fur, whose ends being of a dirty white, give this animal in some places a grizzled appearance. The quills are very sharp and bearded, and consequently not easily drawn out when they have entered the skin; they are white with black points. A young Porcupine is no larger than a Rat. It makes its nest under the roots of great trees, sleeps very much; and feeds on the bark of juniper and other trees. In winter it eats snow instead of drinking, and laps water in the summer like a Dog. They are very common in the land lying to the east of *Hudson's Bay*, and several of the trading *Americans* depend on them for food, at some seasons of the year.

The PORCUPINES of the *Cape of Good Hope*, are larger than any of those yet described, for they are two feet high, and three in length. They are all over
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armed with sharp quills, which are partly black and partly white, as has been above described. There are also prickles about the head, which are smaller than on the other parts. *Kolben* positively affirms, that they shoot their quills when they are angry, especially if the enemy is very near them; and that when they enter the flesh they cause extreme pain, accompanied with an inflammation. However, unless this animal is provoked, the quills always lie flat on his back; but when he is, they never fail to stand upright.

It does not appear from any account, except that of *Mr. Ray*, that a Porcupine feeds upon flesh; for at the *Cape of Good Hope* he lives upon vegetables, and when he gets into a garden he does a great deal of mischief. He usually enters into a garden or orchard by the same track, which when discovered, they set a trap for him, that consists of a gun, which is to be let off by a spring, or rather a cord fastened to the trigger, to the end of which they tie a carrot, or some other root; which when this animal comes to lay hold of, the gun generally goes off and shoots him thro' the body. The flesh is accounted by the *Dutch* very good, and wholesome, for which reason, both they and the *Hottentots* often hunt this animal; and he is very easily killed by striking him on the head. The body of a Porcupine after the skin is off, and the entrails are taken out, weighs about twenty pounds; and they pretend the flesh eats much better when it has been hung up in a chimney for two days.

The BEAVER or CASTOR is of two kinds; one of which is an inhabitant of *Siberia*, and the other of *North America*. But it is hard to say in what they differ, because we never had a very exact description of the former. However, we certainly know that Castor which is the inguinal glands of this animal in *Siberia*, greatly differs from that in *America*, for which reason all physicians when they prescribe it, distinguish it by the name of *Russian Castor*. *Gesner* says, they are about the size of a country Dog, with a short head, round ears, and very long teeth, and that the under teeth stand out of their mouths about three fingers breadth, and the upper half a finger; being
very

very broad, crooked, strong and sharp; that they grow double very deep in the jaws, bend like the edge of an ax, and are of a yellowish red colour. The grinders are also very sharp, and with them they can break the hardest substances.

They have whiskers about their mouths, which are so hard, that they rather seem to be horn than hair; and their bones are said to be solid, and without marrow; but this may be justly doubted. Their fore feet are described to be like Dogs, and their hinder like those of a Goose, serving both for land and water; but the tail is scaly like a fish, and is in shape like a Seal, being about six fingers broad, and not much more than six inches long.

The colour of the fur is between yellow and white, among which, there are hairs of an ash colour, as long again as the former. Some affirm, that they are brown and inclinable to black. They were formerly in great plenty near the *Black Sea*, and they have likewise been met with in *France* and *Spain*; but it may be questioned whether there are any there at present or not; because no authors now mention them as existing in those countries, but it is agreed on all hands, that there are some in *Moscovy*, *Lithuania*, and *Poland*.

The AMERICAN BEAVER, is now better known than the former; for of this we have a very exact description from the *Memoirs of the Royal Academy at Paris*. The hair which covers the whole body, except the tail, is not alike throughout; for there are two sorts mixed together, which differ not only in length, but in colour and thickness. Part of it is about an inch and a half long, and as thick as the hair of a man's head, very shining, and of a brown colour, inclining somewhat to a tawney. It is of a close substance, and so solid, that no cavity can be perceived with a microscope.

The shortest is about an inch long, and is in greater plenty than the former; it is likewise more small and soft, insomuch, that it feels almost like silk. This difference of the hair or fur, is to be met with in several animals; but more particularly in the Beaver,

the Otter, and the Wild Boar; which perhaps may be the more necessary for these creatures, because they delight in muddy places, and the longest hair may serve to keep the mud from penetrating to the skin.

The head from the nose to the hind part, is five inches and a half long, and five inches broad from the prominence of the two cheek bones. The ears are like those of an Otter, being round, and very short: They are covered with hair on the outside, but are almost naked within.

It is commonly said that these animals delight in gnawing of trees, and in reality, the teeth seem to be very proper for that purpose, especially those before; but they are not sharp pointed to serve instead of a saw, as some have affirmed, or at least, they are not so in the *American* Beaver; but they are proper to cut with, like those of Squirrels, Porcupines, and Rats. The length of those below, are above an inch, but those above are not quite so much, and they slip on the side of each other, because they are not directly opposite. They are half round on the outside, and of a bright red colour, or orange. They are about a quarter of an inch in breadth next the jaw; but are somewhat narrower at the extremity.

Besides the teeth called the incisors, they have sixteen grinders, that is, eight on each side, four above and four below, and they are directly opposite to each other. The structure of the feet is very extraordinary, and shew plainly, that nature designed these animals to live as well in the water as on the land. For though they have four feet like terrestrial animals; yet those behind are as fit for swimming as walking, and the five toes of which they consist, are joined together like those of a Goose; but in shape, they are like the hand of a man, only they are covered with hair on the outside, and the nails are long and sharp, as may be seen in the figure. Many authors have said, that the Beaver in most things resembles an Otter; but now it plainly appears they were mistaken. The *Academics* of *Paris* suppose, that this error may have arisen from their having seen the Beavers of *Europe* only; because as they affirm, the *European* are web-footed
before

before like Geese ; whereas those of *America* are only so in their hind feet ; and therefore, the above account of *Gesner*, must have been taken partly from these last.

The length of the fore feet is six inches and a half from the elbow to the end of the longest finger, and three inches from the beginning of the hand to the same extremity. The hind feet are the longest, being six inches from the extremity of the heel to the end of the longest toe, which is the second. Besides the five fingers and toes which have nails at the end, are a little slanting in their shape, and hollow in the inside like quills, there is on the external part of each foot both before and behind, a little bone which makes a protuberance, and might be taken for a sixth finger if it had been separated from the foot ; but as it is not, it seems to be designed to give more firmness and strength thereto.

The tail has somewhat that resembles a fish, and seems to have no manner of relation to the rest of the body, which is like that of a land animal. It is covered with a skin, furnished with scales that are joined together by a pellicle. These scales are of the thickness of parchment, above a line and as half in length, and generally of the figure of a hexagon, having six corners. Those under the tail differ but little from those above, except in having two or three little hairs on each. The colour is of a greyish brown, inclining a little to that of slate. When the skin of a Beaver is dressed, the scales fall off, but leave their print behind them. When the tail was dissected the flesh was pretty flat, and was not unlike that of large fish. It is about eleven inches in length, and at the root not above two broad ; but it grows broader as it approaches the middle, where it is three inches, and then it grows less again to the end, where it terminates in an oval. It is about two inches thick near the root ; but grows gradually thinner to the very end ; insomuch, that it is no more than an inch thick in the middle, and not quite half one at the extremity.

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The vent for the excrements, is placed between the tail and the os pubis, three inches and a half below that bone, and it is of an oval figure, about three quarters of an inch in length, and a little above half an inch broad. The skin about it is blackish, and without hair, and it dilates and contracts very easily; but not by the help of a sphincter as in other animals. This orifice serves as well for the exit of the urine, as the dung; but not in the manner of birds, whose ureters bring the urine to the extremity of the great gut; where there is a bag instead of a bladder; but in a particular manner, the pizzle being enclosed in a pipe which lies upon the rectum, and terminates at the common orifice with the rectum.

Almost all the writers who have treated of this animal, have affirmed, that he knows by instinct what the hunters pursue him for; and therefore, he bites off his testicles and so makes his escape. But this is a most egregious error, because the Castor which is of such great value among physicians, is in a quite different part; for it is contained in pouches designed for that purpose, and is now well known to be seated in the groin of this animal. It consists of a collection of glands, which even on the outside of the pouches wherein they are contained, form a great number of small eminences of different sizes. When these glands are opened they appear to be composed of a spongy substance of a whitish colour, with a cast of red; but there is no fluid within, nor any remarkable matter. However, within the pouches there is a liquor of an unpleasant smell, as yellow as honey, which appears like melted grease, and it will burn like turpentine, these two pouches are the true Castor. Below these, there is another pouch, above an inch long full of liquor; but it has a different smell, and is of a more pale colour.

The use that this animal makes of this, according to some accounts from *North America*, is to procure an appetite as is pretended. However, this is certain, that the savages rub the traps therewith in order to entice the Beavers to approach them. The shape of the real Castor is like the testicles of a Dog, only it is
 longer,

longer, and not so thick in proportion, being above an inch in length, and half a one in thickness. As to the parts in the lower belly, they resemble those of a Dog, and there is nothing remarkable in their structure, only the blind gut is ten inches long, and two and a half broad. The whole length of the guts is twenty-eight feet; and one that was opened contained eight long round Worms very like Earth-Worms. The brain is remarkably small, which is very strange, considering the wonderful sagacity of this creature.

The WHITE BEAVER with a white horizontal tail, differs from the other kind in colour, for it is all over white, except a large grey spot mixed with a little red, and another more small near the hinder part. There are also several hairs of a reddish yellow colour round the tail. These are found in *Norway* and *Canada*, from which last place one was brought to Mr. *Reaumur*.

An EUROPEAN BEAVER which was dissected in *France*, was different from the *American* in several particulars; for the tail was much smaller in proportion to the body, and his fore feet were not made like hands as those of *America*, but had toes united by membranes, as in an Otter; and there were some other differences less remarkable.

The pouches above-mentioned, grow hard in a month's time, and became brown and brittle; but when they want to dry them in a hurry, they hang them up in a chimney. The *Russian* castor which is usually brought from *Dantzick*, is of a larger size; and when it is heavy of a brown colour without, of a very strong smell, yellowish within, and mixed with very thin membranes and has a sharp taste. This castor is accounted the best. This drug is looked upon as an excellent medicine in all nervous cases, and particularly for many female disorders, especially hysteric fits. It is used by some in the epilepsy, palsy, and deafness.

Several writers have taken notice of the ingenuity of *American* Beavers in making their houses, of which I shall now give some account. The first thing they do when they are about to build, is to assemble in companies, sometimes of two or three hundred together; then

then they chuse a place where plenty of provisions are to be had, and where all necessaries are to be found proper for their use. Their houses are always in the water, and when they can find neither lake nor pond, they endeavour to supply that defect by stopping the current of a brook or small river, by means of a dam. To this end they first cut down trees in the following manner: Three or four Beavers will go to work about a large tree, and by continually gnawing of it with their teeth, they at last throw it down, and so contrive matters that it always falls towards the water, that they may have the less way to carry it, when they have divided it into pieces. After they have done this, they take each piece by itself, and roll it towards the water, where they intend to place it.

These pieces are more or less thick and long, according to the nature and situation of the places where they are required. Sometimes they make use of the large trunks of trees, which they lay down flat; sometimes the dam only consists of branches as thick as ones thigh, which are supported by stakes interwoven with the branches of trees; and all the vacant places are filled up with a sort of clay, in such a manner, that no water can pass through them. They prepare the clay with their paws or hands, and their tails serve instead of a carriage, as well as a trowel to lay on their clay.

The foundations of the dams are generally ten or twelve feet thick, and they lessen gradually till they come to two or three. They always observe an exact proportion, insomuch, that the most curious architects are not capable of performing their work more regularly. That side towards the current of the water is always sloping, but the other is perpendicular.

The construction of the houses is altogether as wonderful; for they are generally built upon piles in small lakes, which are formed by making of the dams. Sometimes they are on the bank of a river, or on the extremity of a point of land, which advances into the water. They are of a round or oval form, and the top of them is like a dome.

This description of one of their houses which was examined and measured, will perhaps give the reader more satisfaction than an account in general. This of which I am now speaking, was about three parts surrounded with water, and the other part was joined to the land. It was round, with an oval dome at the top, and the height above the surface of the water, was eight feet. It was about forty feet in diameter, and one hundred and twenty in circumference, which perhaps may seem strange, because the proportion is geometrical; this however is fact, for it was measured several times. The part that joined to the bank was not made out of it, but was of the same materials with the rest.

The bottom of the house was of earth, or soil, with pieces of wood laid in it, above three inches in circumference; then a parcel of poplar sticks laid with one end in the house, and another slanting along way under water; then a layer of earth again, and then poplar sticks, which were repeated to the height of eighteen inches. From thence to the top of the house there was a mixture of earth, stones, and sticks, curiously put together; and the whole was covered with sods, that had long grass growing thereon. The largest pieces of wood made use of near the top, were about three inches in diameter, and all the rest was small stuff, not above two or three fingers thick.

The outermost part of this house did not stand farther out in the creek than the edge of the shore; but that which brought the water almost round the house were the trenches, which were made by taking out the earth; these were nine feet in the broadest part, and eighteen feet in length. The creek at the front of the house was six and thirty feet broad, and seemed to be pretty deep. The house was so contrived as to be very solid, for there was no breaking into it without an ax; and in the frosty season it was quite impenetrable. From this house there were several paths into the wood, through which they drew the sticks and trees, which they made use of for food or building.

The wall of the house was two feet thick, and it was covered with smooth clay on the inside in such a
manner

manner, that it would not admit the least breath of air. Two thirds of the structure was out of the water; and in the upper part, each Beaver had his particular place, whereon leaves were strewed to lie upon.

There never was any filth seen in any of these houses, which are made like an oven in the inside, with a passage for these animals to go and bathe in the water. One of these will generally lodge about eight or ten Beavers, though sometimes they have held thirty; but this is very uncommon.

These creatures are never surprized by the frost and snow; for they finish their work towards the end of *September*, and then they lay in provisions for the winter. In the summer time they live upon fruits, and the barks and leaves of trees; and they likewise catch small fish, and particularly Crabs or Craw-fish. However, their winter provision is the tender branches of trees, particularly poplar, of which they seem to be very fond. It is usually said, and upon pretty good authority, that these Beavers make the walls of their houses of a thickness, in proportion to the severity of the succeeding winter, which if true, these animals must be furnished with uncommon foresight.

When there are great floods caused by the melting of the snow, which damage the houses of the Beavers they then leave them, and shift for themselves as well as they can; however, the females return as soon as the waters are abated; but the males keep the field till *July*, when they assemble again to repair the damage that has been done by the flood, either to their houses or dams. When any of their houses are demolished by the hunters, they never repair them again, but build others quite new. Several authors have said, that the Beavers make several rooms in their houses; but this upon examination has been found to be false.

In hunting the Beavers, the savages sometimes shoot them, always getting on the contrary side of the wind; for they are very shy, quick in hearing, and of a very keen scent. This is generally done when the Beavers are at work, or on shore feeding on poplar bark. If they hear any noise when at work, they immediately jump into the water, and continue there some time;

and when they rise, it is at a distance from the place where they went in.

They sometimes are taken with traps; these are nothing but poplar sticks laid in a path near the water; which when the Beaver begins to feed upon, they cause a large log of wood to fall upon their necks, which is put in motion by their moving of the sticks; and consequently requires an ingenious contrivance. The savages generally prefer this way of taking them, because it does not damage their skins.

In the winter time they break the ice in two places at a distance from the house, the one behind the other. Then they take away the broken ice with a kind of a racket, the better to see where to place their stakes. They fasten their nets to these, which have large meshes, and sometimes are eighteen or twenty yards in length. When these are fixed, they proceed to demolish the house, and turn a Dog therein, which terrifying the Beaver he immediately leaves it, and takes to the water; after which, he is soon entangled by the net.

Mr. *Larson* who was general surveyor of *North Carolina*, affirms, that Beavers are very plenty in that country. He confirms what has been said about their ingenuity in building of their dams and houses, and observes, that their food is chiefly the barks of trees and shrubs; such as that of the *sassafras*, ash, sweet gum, and several others. He adds, that if they are taken young, they will become very tame; but then they will do a great deal of mischief in the orchards, by breaking the trees. They will likewise block up the doors of the houses in the night, with the sticks and wood which they bring thither. He farther informs us, that it is certain death for them to eat any thing that is salt. The flesh is looked upon as very delicate food; but the tail is the greatest dainty, and is in great request.

The COMMON SQUIRREL is somewhat thicker than a Weasel, but not quite so long, and is of a reddish colour on the upper part of the head and back, but on the belly it is white. However, there are black ones in some places; and in *Russia* and *Poland* they

they are of a grey or ash colour. The tail is long and bushy, which being turned over his back is sufficient to shade it; whence the *Latin* name *Sciurus*, which signifies a shade.

He sits upon his backside when he feeds, laying hold of the provision with his feet, and putting it to his mouth. He lives upon nuts and acorns of all kinds; but is most fond of hazel nuts, which he gathers in the proper season and hoards up against winter. Squirrels are generally to be met with upon trees, where they build their nests and bring up their young. They can leap very readily from bough to bough, and sometimes from tree to tree, at which time they use their tails instead of wings; for it is of great help in keeping them from sinking.

The fore teeth are not unlike those of Mice; but they have no dog-teeth, and upon most occasions they use their fore feet instead of hands. They build their nests on the tops of trees with sticks and moss very artificially; and it is commonly said, but how true I know not, that they alter the mouths of them according to the shifting of the wind, in order to shelter themselves from it. They generally lodge two and two together, that is, a male and female. Some affirm, they sleep a great part of the winter, but this cannot be true, because when they are kept tame they are always lively and active. They are very familiar animals, and as they love to lie warm, they will often creep into a man's pocket or bosom. They generate in the spring, and bring forth three or four at a time, which wander abroad when they are four or five days old.

Olaus Magnus affirms, that in *Scandinavia*, where they are often obliged to cross rivers and other waters in search of food, they will get a piece of the bark of a tree and draw it into the water. They will stand upon this, and hold up their tails which serve instead of a sail, and the wind will waft them to the other side of the water; but then it must be supposed that they always take care that the wind sits right for that purpose. A more particular description of these animals is hardly necessary, because they are generally well known.

The SIBERIAN WHITE SQUIRREL is much of the same size as the common Squirrel, nor is there any difference between them, except in the colour.

The BLACK SQUIRREL, mentioned by *Catesby*, is much bigger than the former, and differs from them in colour, for some of them are quite black; but others have a white nose, others white feet, others again are white at the end of the tail, besides these there are some that have a white collar round the neck. They are to be met with in *Mexico*.

The VARIEGATED SQUIRREL resembles the common Squirrel in shape and figure; but it is different in colour. It is variegated with white and grey; likewise the hair of the tail is not so long.

The LARGE GREY or VIRGINIAN SQUIRREL, is of the size of a Rabbit, and of a greyish colour, with four toes on his fore feet, and five on those behind. This sort in *Carolina*, is called the FOX SQUIRREL on account of its large size. It is called by *Catesby* the GREAT GREY VIRGINIAN SQUIRREL, and the length of the body from the tip of the nose to the root of the tail, is about eleven inches. The body and members are thicker than those of common Squirrels, and the head and ears are more short. The upper part of the body, and external part of the legs are of a fine whitish grey, with a fine red streak on each side lengthways, and the tail is covered with very long grey hair, variegated with black and white towards the extremity; when it is turned towards the back it covers all the body.

Their chief haunts are the places that abound with pine trees, and particularly the almond-pine, because they produce a sort of nuts which they lay up for a winter store, and the rather, because this tree never fails of bearing. They may be easily tamed, and their flesh is very good eating. They have likewise a sort of Squirrel in *North America* not unlike the *English*, only they are of a different colour. They feed upon all sorts of nuts and acorns; and the hunters affirm, they never found any with young.

The AMERICAN FLYING SQUIRREL is less than the *European*, being not above five inches long, and is
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of a grey or ash colour on the back, and white on the under parts. He has black prominent eyes like a Mouse, with a long, flat, broad tail. The name seems to imply that he is endowed with wings, like Batts, which however is not the case; for he has only a loose skin on each side, extending from the fore to the hinder feet to which it is connected, and which he can stretch out like a sail, and which holds so much air that it buoys him up, by which means he can jump from tree to tree at great distances from each other; insomuch, that some have thought he had the faculty of flying. He feeds upon the same provisions as the former, and may be easily made tame; but he is apt to do a great deal of damage in corn fields, because he will crop the corn as soon as it begins to ear.

The SIBERIAN FLYING SQUIRREL differs from the former in being larger, and in having a shorter tail, and in the colour, which is all over grey.

The FLYING SQUIRREL of *Klein*, which he had in his possession, is less than a common Squirrel, and bigger than a field Mouse; its skin is very soft, and elegantly adorned with dark and light grey fur. It has large prominent black and very beautiful eyes, small ears and very sharp teeth, with which it gnaws any thing very fine. When it does not leap, its tail which is an agreeable sight, lies close to its back; but when it does, it hangs down, and is moved backwards and forwards from side to side. It makes its bed in an elegant manner of the moss of the birch tree, and lies buried therein in the day time, unless disturbed. The flying instrument is the skin, which it expands like a sail; it adheres to the bending of the hinder feet, but it is connected by a bony articulation to the fore feet; at the extremity of this articulation the skin is downy. However, it does not fly, but can leap to places at some distance. It will eat bread baked without salt; but the fresh tops of birch are its favourite food; for it neither cares for nuts nor almonds.

There are flying *Siberian Squirrels*, but larger than the former which live in hollow oaks, and roll themselves up in the moss of the birch tree, where they sleep all day, and go in quest of their food in the night.

The huntsmen take them in nets fixed to the hole of the tree. They make a fire round the root; and as soon as the smoke enters the hollow of the tree, the Squirrels immediately come out into the net, and so are taken.

There is another sort of Squirrels in *Carolina*, called **GROUND SQUIRRELS**, because they never delight in running up trees. They are very small, being four inches long, and their tails are neither long nor bushy, but flattish. They are of a reddish colour with blackish stripes on each side, and a white one between them, which render them very beautiful. They may be kept tame in a little box, with cotton in the inside; for neither these nor the Flying Squirrels care to stir out in cold weather, because they are very tender animals; and the belly is entirely white. The tip of the nose and the feet which are thinly covered with hair, are of a flesh colour; and the feet before have four toes, with the rudiments of a fifth, but on the hinder feet there are five distinct toes.

The **BRASILIAN SQUIRREL** is of the size and shape of a common Squirrel, and the tail is as long as the body when it holds it up, and is sufficient to cover it entirely. The pupil of the eye is bluish, and the ears short and round; on the feet before there are four toes, and five on those behind, all armed with long sharp claws, of which, those in the middle are the longest. Instead of a great toe which is wanting in the fore feet, there is a small black claw. The colour, except the breast and belly which are white, is a mixture of pale yellow and brown, and on each side there is a narrow longitudinal white streak; the tail is covered with very long hairs, variegated with white and black.

The **SQUIRREL** of **NEW SPAIN**, is from the tip of the nose to the root of the tail, about five inches and a half long. The tail is longer than the body, and the edges of the ears are void of hair. The colour, except the nose and the lower part of the body which are of an ash colour, is of a deep iron grey. The male has on its back seven longitudinal whitish streaks, mixed with black hairs, and the female has only five.

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These streaks are also extended over the tail, which is furnished with a great deal of long hair.

Mr. Ray thinks, that the Flying Squirrels might more properly be said to be of the Mouse kind, because their fur is shorter than in other Squirrels, with a broad and flat tail, which is never laid over the back. Likewise both in the upper and lower part of the bodies there is a black line runs along the length of him. With much more reason the Ground Squirrels may be said to be of that number, not only upon account of their tails, but because they delight chiefly to be on the ground.

The BARBARY SQUIRREL is of a mixed colour between red and black; and from the anus to the tail along the sides, there are white and brown lines which render this animal very beautiful. They are sometimes white and black, and have lines answerable thereto, which run along the tail, unless when they are expanded, for then they disappear on account of the thinness of the hair. The belly is of a sky blue, surrounded with white. It is a little less than a common Squirrel, and the ears are roundish and short, scarcely arising above the head. The head is almost like that of a Frog; but the other parts are like those of a common Squirrel.

Mr. Ray saw an animal brought by a merchant from *Barbary*, which he thought to be the same that is called by *Clusius* an AFRICAN WEASEL. It was not much bigger than a Rat; and the shape was between that of a Weasel and a Squirrel. He differed from a *Barbary* Squirrel in that he held up his tail, but not over his head like the common Squirrel; however, it was sometimes spread very broad. In other things it resembles the *Barbary* Squirrel.

There is another Squirrel, of which Doctor *Lyster* has given us a description. It was somewhat less than a common Squirrel, and was covered with a mixture of red and ash coloured fur. In the middle of the back there was a black list, and another on each side which were broader, but much shorter, and they were white in the middle. The tail was short, and of the same

same colour with the body, but darker, and it was furnished with but little hair.

The RAT, called in *Latin* *Mus DOMESTICUS MAJOR*, is of a dark ash colour, and differs in nothing from the common Moufe but in the size. He has a very long tail thinly beset with hair, and divided into one hundred and sixty joints. He is about four times as large as a Moufe, and has short round ears, a rough skin, short legs, long claws, and very large eyes, which enable them to see distinctly in the night time. He is a very ravenous creature, and does a great deal more mischief than a Moufe. His claws are so sharp that he can climb up the steepest walls.

The WATER RAT differs from the former in being much larger, and of a browner colour, in being web footed, and having a shorter tail, every where of an equal thickness, seeming to have part of it cut off, and in having much longer teeth of the colour of Box, as in Squirrels. It lives partly in the water, and partly on land; and borrows in holes on the sides of rivers, ponds, and lakes. It is said to feed upon small fish, though of what kind is not mentioned; and perhaps there are few or none that have been so curious, or thought it worth while to examine minutely into this matter. At least, we find that all our writers of natural history have been silent on this head.

The Moscovy RAT, called by some a MUSK RAT, is of the bigness of a Mole, being seven inches long from the head to the tail, and about as much in circumference. He is covered with thick soft shaggy hair, which is blackish on the back, and on the belly of a whitish ash colour. The head is pretty small in proportion to the body, and the upper part of the snout is firm, prominent, and almost an inch long. It is blackish, and is of this shape to enable him to root in the earth like a Mole or Hog. The mouth is not large, and the teeth are like the rest of this kind. The eyes are very small, and hardly visible, and the sides of the mouth are beset with long shaggy hair of an ash colour. The tail is eight inches long, flattish, broad, and very thinly covered with hair. The fore feet are almost two inches long, and divided into four toes
armed

armed with sharp claws. The hinder feet are a little longer and more full, being joined together with membranes, that he may swim more commodiously.

They are chiefly to be met with in *Russia*, and some have imagined they have a smell like musk, though this is denied by *Clusius*. However, Mr. *Ray* thinks that the skin which was in his possession might have the bag cut off in which the musk was contained.

The COMMON DOMESTICK MOUSE is a creature so well known that it needs no description. It is of a brownish ash colour on the back, which has something so particular in it, that many animals are said to be of a Mouse colour from their resemblance to it. However, it is lighter underneath the belly, and has large prominent eyes, as well as a vast blind gut.

The DOMESTICK MOUSE of the middle size is larger than the former, and differs in colour. From the back he is tinged with a yellowish red; and the belly and lower parts are entirely white. He bites more sharply than the former, and will gnaw a hole in an oak board almost an inch deep in twenty-four hours.

Thomas Willisel found some of this sort in the fields whose backs were black mixed with brown, and white on the belly. A stripe on each side terminated these colours, and the head was longer than that of a common Mouse. Not only the orbits of the eyes, but the eyes themselves were larger and more prominent. The ears were broader and more round, and the tail was long, with thin black hair on the top, and whitish underneath. The feet were longer, and there were six tubercles at the bottom.

The FIELD MOUSE with a large head, is greater than the common Mouse, and the body is longer with a large head. The snout or muzzle is short and blunt, and the eyes little, and not prominent as in the former. The ears are short, broad, and roundish, and almost hid with hair. The tail is very short, being not above a thumb's breadth in length, and there is more hair on it than on that of the common Mouse. The legs are very short, and the colour of the fur on the back is darker than that of the House Mouse; it being black-
ish

ish mixed with dirty yellow. The belly is of a lead colour, the points of the hair being whitish, and the ground black. It is remarkable for the thickness of the head, neck, and shoulders, as well as the shortness of its tail. It makes its nest in pasture lands.

The GREAT FIELD MOUSE is not much less than a Rat, and it has a long thick tail. *Agricola* affirms, that the ears are round, the head large and round, with a short muzzle; and the colour is brown on the back, but red on the sides. It has stiff whiskers between the mouth and the eyes.

The GREATER DORMOUSE, or SLEEPER, called by *Pliny* SOREX, is of the size and shape of a Rat according to *Gesner*, and of a Mouse colour on the back and sides, but more red, especially on the head. The ears are large and smooth, and the belly white, as well as the legs, and lower part of the tail near the extremity. The nostrils and feet are reddish, and the whole tail rough with hair, being a little white, and somewhat bushy at the end. The eyes are large, prominent, and very black, for there is not the least white appears therein. The whiskers are partly white and partly black; and above and below the ears, as well as about the eyes, and on that part of the tail next the body it is quite black. The smell and excrements are like those of the common Mouse, and the back part of the legs to the end of the nails is quite smooth.

It makes holes in the Earth, where it hoards up hazel nuts, whence it is called by some MUS AVELLANARUM MAJOR, that is, the GREATER NUT MOUSE. It is said to sleep from the end of *August* to the beginning of the spring, but this is doubtful, though *Pliny* affirms it.

Briffon informs us, that the length of the body from the tip of the nose to the root of the tail is five inches and a half, and that of the head from the nostrils to the hinder part an inch and a quarter; the tail is four inches long. He farther says, the eyes are black, the ears round, transparent, and covered with very short hair, and the whiskers are partly white and partly black. There are four toes on the feet before, and four on those behind; the hair is of a dark grey colour on the upper part of the body, and of a whitish grey below;

below; round the eyes there is a white spot, and another below the ears. The tail, from the root to half its length, is variegated with red and black above, and white underneath; and the other half is black above, and white underneath. It is found in woods, and places where there are fruits.

The LESSER DORMOUSE, or SLEEPER, is of the size of a common Mouse, and it is red on the back, the head, and all the upper part of the body, except the end of the tail, which is white. The tail is covered with long thick hair, almost like that of a Squirrel. The eyes are exceeding black, sparkling, and protuberant. However, those in *Italy* are redder on the back than those in *England*; here likewise they are not white on the belly, but only under the throat; nor yet is the end of the tail white. It sleeps much in the winter, but not always; nor does sleeping serve instead of nourishment; for it has always a good stock of provisions, particularly hazel nuts.

The NORICIAN MOUSE lives in caves and holes of the earth, and is in shape like a Weasel, being long and slender. The tail is very short, and the colour of the hair like that of a grey Rabbit, but lighter; however *Gesner*, who had some of the skins, affirms, they were of a brownish grey. It has no ears like a Mole, but there are holes to serve instead thereof, as in birds. The teeth are like those of Mice, and their skins are used for the lining of garments; but they are not in very great esteem. Several of these have been found together in the same hole with a large quantity of hazel nuts, which they are very fond of. They are common in *Bohemia*, *Austria*, and *Hungary*.

The CRICETUS, an animal so called by *Gesner*, is bigger than a common Weasel; or, as others speak, it is larger than a Rat, and less than a Rabbit. The feet are very short, and the hair on the back is of the same colour as a Hare; but it is black on the belly and red on the sides. Each side is marked with three white spots, and the top of the head and neck are of the same colour as the back. The temples are red, the throat white, and the tail, which is a palm in length, is of the same colour as a Hare.

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The hairs stick so fast to the skin, that it is easier to pull off the skin itself, than the hair up by the roots, which makes the skins of great value. It is an angry biting animal, inasmuch that if a horseman happens to come near it, he will leap up and fasten on the Horse's nose. It borrows in the earth like a Rabbit, and hoards up a great deal of corn. It is a greedy creature, and grows very fat; and when it sits upon the hind feet it has a great resemblance to a Bear.

St. *Jerom* describing this animal, observes, it is of a shape betwixt a Mouse and a Bear, and that it delights in the holes of rocks, and other cavities, being nearly as large as a Hedge-hog. He also affirms, that there are great numbers of them in *Palestine*.

It has two teeth in the fore part of the mouth, both above and below, from whence it appears to be of the Mouse kind. The cheeks are loose and large, and it often fills them with provisions, which are carried into its hole; and it makes use of its fore feet like hands in the same manner as a Squirrel. They are like those of a Mole, but not quite so broad; and with these it makes a borough in the ground. There are a great many windings and turnings in it, upon which account he is very hard to be found out; and some affirm, that he is never killed in his den, which can hardly be true, because his lurking place has been often discovered by digging.

This animal not only feeds upon corn, but all sorts of fruits, and when it is brought up tame it will also eat flesh; and some affirm that it will hunt and take the Field Mice. This animal is very common in *Thuringia* and *Misnia*.

The ALPINE MOUSE, commonly called the MARMOUT by the *Savoyards*, is almost as big as a Hare, and is more corpulent than a Cat, but has shorter legs. It is a native of the *Alps*, and is often carried about by the *Savoyards* for a shew, being taught by them to perform several tricks.

The back is very broad, and the fur is more harsh than that of a Rabbit. The colour is generally yellow, which is more bright in some, and in others brownish. Their eyes are prominent, their ears
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very short, and the head like that of a Hare; and they have long nails on their feet. The fore teeth are like those of a Squirrel, two above and two below, but long and sharp like a Beaver's, and of a yellow colour. It has whiskers like a Cat about the nose and upper lip.

The toes of its feet are like those of a Bear, and with its long claws it digs holes in the earth to brough in. It walks on the hinder feet like a Bear; but jumps along and feeds itself like a Squirrel or Monkey.

Scaliger, in his description of this animal, affirms it is of the size of a Badger, with hair and tail not unlike it; it has also short legs, with little or no ears, but long, sharp, hard, crooked, and black claws. He would have it to be a sort of a Mouse, though he allows it to feed like a Squirrel, using its fore paws instead of hands. But it is certain that *Scaliger* is mistaken in more particulars than one.

When they play before the mouths of their holes they make a yelping noise like puppies; and when they go at a distance in search of Food, or for other reasons, they always leave one to watch near the mouth of the dens. He generally sits upon an eminence, and when he perceives either man or beast draw near, he makes a noise like whining or whistling if his company are at a great distance; but he barks like a Dog when they are pretty near. Upon this they all run towards their den, into which they get and hide themselves.

They live upon fruits, roots, and grafs, and are very fond of butter, cheese, and milk. In the winter time they generally lie hid in their dens, upon hay, straw, or leaves, which they heap up together, that they may lie softer, and they sleep very much.

Of all wild animals there is none so easily tamed as this, and he is often suffered to run about the house, but he continues a great enemy to Dogs, and will fall upon any that comes near him. His pace is not very swift upon level ground, for a man by running may easily overtake him. His legs and toes are very strong, which enable him to make his borough with prodigious quickness, insomuch that he will penetrate
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into the earth more swiftly than a man can follow him by digging when he endeavours to take him. *Hildanus* has found these animals so fat, that he has taken above a pound and a half of grease from between the skin and the muscles, and about a pound out of the belly. He supposes the use of this is to nourish the animal during the winter, when he lies concealed in the deep caverns of the rocks; for which reason he is always lean when he is taken in the spring.

The MARMOUT of *Babama*, is called by *Catesby* the BAHAMA RABBIT, and is little less than the *European*; the ears and the feet are like those of a Rat, and the colour of the hair is brown. This is common in *Babama*.

The AMERICAN MARMOUT of *Catesby*, is about the size of a Rabbit, with black eyes level with the head, and the ears short and round; the whiskers consist of stiff hairs like bristles, and there are some of the same sort on each side the head a little above the corners of the mouth. It has four toes on the fore feet, and five on those behind, which are all long, and armed with sharp claws; the back is covered with deep brown hair, which is lighter on the sides, and more so under the belly. The snout is of a blueish ash colour; but the claws, the toes, and the feet, are black as far as the heel; the tail, which is above half as long as the body, is covered with brown and blackish hair. It is found in the northern parts of *America*.

The POLISH MARMOUT is by some called the MOUNTAIN RAT, and is a foot and a half long from the tip of the nose to the end of the tail; the head, from the nostrils to the hinder part, is four inches, and the tail is of the same length. The ears are very short and round, and it has four toes on the fore feet, and five on those behind; but in the room of the great toe on the foot before, there is a very sharp blunt claw. The body is covered with yellowish hair, and the head is a little reddish, as well as the tail.

The GUINEA PIG is less than a Rabbit, but of a sharper and thicker make. The ears are short, thin, transparent, open, roundish, and smooth, having little or no hair. The muzzle and whiskers are like those
of

of a Hare, and the upper lip is like that of a Rabbit, being cloven near the nostrils. It has teeth like Mice, but no tail, and the hair is like that of a Hog. It also grunts like a Pig, for which reason it is generally called a *Guinea Pig*.

The colour is different, for some are white, some are red, and others both red and white. There are four toes on the feet before, and but three on those behind; of which that in the middle is longer than the rest. He scratches his head with his fore feet like the Rabbits, and like them he sits upon his hind feet; for which reason there is a naked callous skin on the back part of the legs and feet. However he does not jump along like a Rabbit, but rather walks like a Hog. Sometimes he will go on his hind feet like a Bear or Monkey, and he does not burrow in the ground like a Rabbit, nor like them is he brought into the world blind.

When he is about to fight he uses his snout like a Hog, and the female sometimes brings forth eight young ones at a time. He feeds upon herbs and fruits, and his flesh, which is eaten, is not unlike that of a Hog. When he is dressed for the table his skin is not taken off as in other animals; but the hair is scalded and then scraped off in the same manner as it is in Hogs.

Marcgrave affirms, that this creature is to be met with in *Brazil*, and is there called *CAVIA COBAYA*; but, after consulting various authors, I cannot find it mentioned by any of them; and I rather think he is mistaken, because all the animals of *America* differ in some respects from those in the other parts of the world.

With regard to the internal parts, it is observable, that the lungs are divided into four lobes, two of which are very small, and the liver into seven. The gall is of a whitish yellow colour; and the intestines are long, and twisted up together. The dung is like that of Hares and Rabbits, consisting of small balls like pills; though *Doctor Ent* affirms, they are oblong, like those of Mice. The blind gut is very large, and bigger even than the stomach itself; though it is small at the end, and divided into cells by strong ligaments.

The

The length of the guts, from the stomach to the blind gut, is sixty-five inches; and from the anus to that part of the colon where the excrements are formed, is twenty-six inches. There are glands near the anus, out of which a white stinking matter may be squeezed.

They have two fore teeth in each jaw, which are long, slender, and sharp, as in others of the same kind. The grinders are four on each side, as well above as below; and they are all jagged on the top in a very pretty manner. Those in the lower jaw exactly represent the figure of a W.

The AGUTI, or ACUTI, is an inhabitant of several parts of *America*; though *Marcgrave* confines it to *Brazil*. Some have given it the name of a Rabbit, and have called it the *American* RABBIT; but very improperly. It is of a shape between a Hare and a Hog. It has the body, the activity and the teeth of a Hare; but the head is nearly like that of a Hog, only the snout is longer, with short round ears. The body is covered with rough reddish hair like that of a Pig of three months old, and the tail is naked and shorter than that of a Hare. The hinder legs are also without hair, and he has six toes with nails thereon; whereas those before have but four; and when he is tame he walks on his two hind feet, and takes every thing that is given him with his fore feet like a Monkey. The upper lip is cloven like that of a Hare, and the legs are almost naked; he has likewise whiskers like a Rabbit.

This animal hides himself in hollow trees and feeds on their roots, for which reason he is seldom very fat, though he never wants food. However, those that are near the Plantations live upon fruits, manioc, and potatoes, for which reason they are generally fleshy and well-tasted.

He grunts like a Hog; and when he is angry he bristles up his hair, and standing upon his hind feet defends himself very obstinately. Sometimes he bites the legs of those that attempt to take him, and will take out the piece where he fixes his teeth. The female brings forth young twice or thrice in a year; but there are only two at a time; she suckles them for two

or three days, and then carries them to a hollow tree, where she feeds them till they are able to provide for themselves.

In the *Caribbee Islands* they can run pretty fast upon level ground; but if they happen to meet with a field in which the sugar canes have lately been cut down, they are easily taken and killed, because they soon tire. They are very quick of hearing, and are extremely fearful, and will stop and listen like a Hare; at which time the hunters take the opportunity of shooting them. If they should chance to run into a hollow tree, the hunters gathers sticks, with which they stop up the hole, and then they set them on fire, the smoke of which obliges them to attempt to come out, and then they are generally killed.

The manner of dressing them in the *West Indies*, is to roast them with a pudding in their bellies, like that in *England* made for Hares. The skin is white as well as the flesh, which is generally fat, tender, and delicate. It never sits heavy upon the stomach, but is very light of digestion.

The PACA, or PAGUA, is a *Brazilian* animal of the size of a Pig, with a fat thick body, about ten inches long. The ears are naked, and somewhat sharp, with large nostrils. The lower jaw is shorter than the upper, and the fore legs than those behind. There are four toes on each foot, and the hair is short and hard, and of the colour of amber. On the sides there are ash coloured spots, which run according to the length of the body, and the belly is white. He does not take provisions in his fore feet like a squirrel; but devours them on the ground like a Hog. This creature is covered with hair like a Hog, and much in the same manner, he will bite very hard, and his flesh is generally very fat, and accounted a great delicacy, and he also grunts like one. The teeth, the shape of the head, and the bigness of it, are like a Rabbit; but the ears have a greater resemblance to those of a Mouse; but they are of a singular kind, and proper to this animal.

It is described by another author in the following manner. The Paca, from the end of the nose to the

root of the tail, is about a foot long, with a large head four inches long from the nostrils to the hinder part; the lower jaw is shorter than the upper, and it has large whiskers like a Hare, with very short sharp ears, and the tail is likewise very short.

The LEMING, or NORWAY MOUSE, is in shape like a common Mouse, or rather a Dormouse, only his tail is less. He is about five inches in length, and covered with thin hair of various colours. The extremity of the upper part of the head is blackish, the vertex yellowish, and from thence to the neck and shoulders black. The rest of the body is reddish, intermixed with small black spots of various figures, as far as the tail, which is short, being scarce half an inch long; but it is hairy, slender, and of a yellowish black colour. However, the spots are not alike in all, with regard to their order, figure, and magnitude. The head is a little pointed, and the mouth is beset with many stiff hairs like whiskers; of which, twelve are longer and stiffer than the rest. The mouth is small, and the upper lip cloven like a Squirrel's; beneath which, two large sharp crooked teeth stand out, whose roots reach to the orbits of the eyes and to the place where the grinders are inserted. Those in the lower jaw are the same in number as in the upper, and are disposed in the same manner. The grinders on each side are three in number; of which, that before is broadest. The tongue, in proportion to the size of the mouth, is pretty large, and reaches to the extremity of the fore teeth. The eyes are little, and black; and the ears are blunt, inclining towards the back. The legs before are very short, and the feet hairy, with five sharp crooked claws; of which, that in the middle is the longest. The fifth, which may be called the thumb, is like the spur of a Cock, and is seated somewhat higher near the leg. The hind legs are longer, but they are not unlike those before.

It is somewhat strange, that an animal with such short legs should be so swift of foot as this is said to be. The skin is very thin, except where it covers the lips, that the whiskers may have a firmer hold. The bones are small, and brittle; for they may be broken with

a very little force. These creatures do a great deal of mischief in pastures and corn fields; because when they die they infect the air in such a manner that it causes dangerous diseases. Some have affirmed, that they are generated by putrefaction, or drop out of the clouds; but this is a very ridiculous opinion, and destitute of proof; for some of these have been taken and kept in a tub for two years together, and they have been found to breed like other animals; which is a sufficient confutation of the fabulous stories that have been brought to prove their equivocal generation. Besides in those that have been pretended to have been dropped from the clouds, there have been bits of grass found in their bellies after they were opened; and therefore if these animals were bred in the clouds, grass must grow there likewise, for otherwise they could not be fed with it.

The animal called in *Latin* GLIS, and by the *Savoyards* RELL, is not accurately described in any author that we have met with, *Gesner* says only that he hears the Glis is larger than a Squirrel, and of a blackish colour. Others relate, that the back is brownish, the belly white, the tail short, and bushy at the end, with a face like a Bear; and that he is so angry an animal that he is very seldom taken alive. Mr. *Ray* observes, that there are such various accounts concerning this animal, that he is greatly in doubt, whether there is any such in the world or not.

The TREE-STRIPED INDIAN MOUSE, living in cocoa-nut trees. There is one of these kept in the *Museum* at *Leyden*; and Mr. *Ray* saw another in the possession of Doctor *Charlton*. But whether it is the same that *Schoten* saw on the coast of *Malabar*, or not, is uncertain.

This is by him called a MANGUST, being the name given it by the natives. He observes, that the head is like a Squirrels, and is covered with very short hair, with large eyes, and short roundish ears. The body is in shape like that of a Weasel, but it is a little larger, and the tail is also longer. The hair is long, very beautiful, and of divers colours. The principal of these are white, black, and red; and this last is
mixed

mixed with two others in a wonderful manner rendering them more soft, and forming shades that cannot be seen without pleasure. The hair of the tail is longer than that of the body, and it is diversified in the same manner.

Some of these Mangusts have been seen that were twenty inches in length from the head to the end of the tail. They are very nimble, and may be very easily tamed, and they will likewise play as many tricks as a monkey. They are very common on the coast of *Malabar*, and particularly in the dominions of the *Samorin*. If they live after they are taken, and are rendered quite tame, they give a great deal of diversion. However, there is no possibility of carrying them alive to *Europe*; for either the climate does not agree with them, or there is nothing to be met with suitable to their natural way of living in so long a voyage; or perhaps the sea air is prejudicial to their health. The *Indians* make great use of them in physic; for the fat is very efficacious against rheumatisms and other swellings; and it also appeases the violent pains of the gout; the liver is likewise looked upon as an excellent remedy against the falling sickness.

The PILORIS, or MUSK RAT, is of the same shape as the *European* Rats; but they are so large, that four common Rats will not weigh so much as this. The hair is black on the back, and white under the belly; and they smell so strong of musk, that they perfume the air around them. They are so domestick that they frequent houses much in the same manner as common Rats; and the inhabitants of *Martinico* in the *West Indies* eat them; but then they are obliged after they are skinned, to expose them a whole night to the air, and they likewise throw away the first water they are boiled in, because it smells so strong of musk.

There is another MUSK RAT in *North America*, which is quite different from the former; for it resembles a Beaver in every thing, except the tail. The structure of their bodies, and the shape of their heads are so exactly alike, that a Musk Rat might be mistaken for a small Beaver, if the tail was cut off, which is
some

like that of *European Rats*. It has a bag of musk of a very fine smell; or rather a gland or glands, which some take to be the testicles, and *Charlevoix* affirms, that they are so.

This animal weighs about four pounds, and is not unlike the *Alpine Mouse*, or *Marmout*. He begins to take the field in the month of *March*, and then his nourishment is the inner bark of trees. After the snows are melted, he lives upon the roots of nettles; and afterwards on the stalks and leaves of this herb. In summer he eats little else but strawberries and raspberries so called, though they are not like the *European*, and in the autumn he lives on other fruits; during this time the male is never seen without the female.

At the beginning of the winter they part from each other, and each goes to lodge in a hole proper to itself, or among the roots of trees without any provisions. The savages affirm, that during the severity of the season they eat nothing at all. They likewise build themselves houses as well as the beavers; but they are not nigh so handsome. They are always on the banks of rivers or lakes; so that they have no need of making caufways like the Beavers. The fur of this Rat is very proper to be mixed with that of the Beaver in making hats. The flesh is not bad, except in rutting time; for then it is impossible to deprive it of the musky smell and taste.

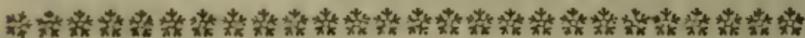
The MARMOSA of the *Brasilians*, is nearly of the size of a Rat, and has a long snout, which terminates in a point. He has large hanging ears, thin of hair, and on the upper lip there is a long mustachio. The tail is very long without hair, and curls at the end. The upper part of the body, and round the eyes, are of a deep red bay colour; but the belly and forehead are of a bright yellow, and the feet are whitish, and without hair. It has feet like a *Monkey*.

The AFRICAN RAT, called by *Charlton* the INDIAN RAT, and named by the natives COYOPOLLIN, is of the size and shape of the former, only the head is larger as well as the tail, and it is variegated all over with deep bay spots. The ears are very thin and transparent, and the upper part of the body is of

a deep bay, but under the body is of a yellowish white, and the legs and feet are white. They are found in *Africa*, and have feet like a Monkey.

The AMERICAN WOOD RAT, is of the size and shape of the former, with shining eyes, and stiff ears without hair. On the upper lip there is a long beard, and over each eye two long hairs like Hogs bristles. The tail is naked and curls at the end; and that of the male is spotted with a deep red bay colour. The upper part of the body is reddish, but the belly, feet, muzzle, and forehead, are of a whitish yellow, except round the eyes, where it is of a deep brown. All the nails on the fore feet, and those on the great toe of the hind feet are blunt and short; but the rest is black. The feet are like those of a Monkey, and it carries its young on its back. Some call it the WOOD DORMOUSE.

The WOOD RAT of *Seba*, has naked ears, with a long beard on its upper lip, and over each eye there are bristles like those of a Hog. The tail is thick and short, but the claws are sharp. The back is of a deep red, and the belly of a pale red; but the muzzle and forehead are of a whitish yellow, and the hair round the eyes is of a deep brown. It has feet like a Monkey.



C H A P. XVII.

Of Animals with divided Feet, and a longish Snout.

THE HEDGE HOG, or URCHIN, is of two sorts; one of which has a long pointed muzzle, like the snout of a Hog, and the other is more short, blunt, and like the muzzle of a Dog. The former kind is most common; and yet of the four that were dissected by the *Members of the Royal Academy at Paris*, there were two of each sort, which differed in several other respects besides the muzzle; for they were of a different colour, and shape, and the figure of the prickles

prickles was not the same; but the principal disagreement was in the size.

That with the muzzle of a Dog is six inches in length from the end of the nose to the beginning of the tail, which is but an inch long. The head, back, and sides, are covered with prickles; but the muzzle, breast, and belly, are beset with fine soft hair; however, when they shut themselves up, the muzzle and back part approach so near each other, that the belly is quite hid, and they are almost as round as a ball.

This animal is of the same colour throughout; for the skin, hair, and prickles, are of a greyish brown, with a yellowish cast. The prickles are about an inch and a half long, and very different from those of a Porcupine; for they are a little flattish, and very like the prickles of the shells of Chestnuts. There are five toes on every paw, of which, the three in the middle are the largest. The claws are long and pointed, and hollow underneath. They have no dog-teeth in the lower jaw, but only grinders and nippers. These last are only two in number, and are longer than the grinders. In the upper jaw there are no nippers, but only two dog-teeth with an empty space between them for the nippers of the lower jaw to enter into. These dog-teeth are longer than the nippers, and have each a sheath or cavity in the lower jaw to enter into, between the grinders and the nippers.

The female has eight paps, four on each side, disposed in two rows along the belly and breast; and the two upper are placed on the pectoral muscles. When the skin was taken off there appeared a fleshy muscle, which was extended from the nameless bones to the ears and nose, and runs along the spine of the back without being fastened thereto. From whence it is plain that this muscle is not made use of by the Hedge Hog for shaking his skin like the Porcupine, which darts out his quills by that action; but to draw his head and his back parts together in such a manner, as to reduce his body into the shape of a ball; which the Hedge Hog always does when he cannot escape by running,

and then it is impossible for the Dogs to lay hold of him without pricking themselves.

The liver has seven lobes, one of which is divided into two, and the gall bladder is in the middle of the two upper lobes; being of an oval shape, and two thirds of an inch in length. The spleen lies on the stomach to which it is fastened, and is long and in the shape of a Cock's comb. The pancreas to which it is fastened is of the same shape, and differs from it only in colour, being whitish; whereas the spleen is of a blackish red. The guts are all of the same substance and thickness, and are four feet long; but there is no blind gut. The kidneys are an inch long, and two thirds of an inch broad, being of an olive colour.

The bladder is an inch and a half long, and an inch broad. The lungs have five lobes, and the heart is almost round, whose right auricle is of a blackish red colour, and the left whitish.

Mr. Ray is of opinion, that there is no other Hedge Hog, except that of the Dog kind; which may be true with regard to *England*, but as the *Members* of the above *Academy* have positively asserted the Hog kind are common in other parts, we can hardly doubt the truth of their relation. However, they have not thought proper to give us any account of this last sort, which perhaps they thought might be needless, as they supposed they were every where to be met with.

In the Hedge Hog dissected by Mr. *Willoughby*, there were two white glands near the testicles, and two others of a lesser sort of a yellowish colour. In the testicles of the female, there were two ovaries like those of fowls, in each of which, there were five or six large eggs, and a great number of small ones. The stomach was wrinkled on the inside, and full of grass. The bladder was large, and the gall bladder was of a monstrous size, being full of a blueish gall. It made a noise like the crying of a child, especially when his feet were pressed hard or hurt. Water or fire will make him soon unfold himself. Some affirm, that his burroughs or holes, are always opened or stopped up according to the blowing of the wind, but of this we can affirm nothing certain. There is a white *Indian* Hedge

Hedge Hog kept in the *Musæum* at *Leyden*, and this is all that we know of it.

The SIBERIAN HEDGE HOG according to *Seba*, is six inches long from the tip of the nose to the root of the tail; the ears are short and flat, and the snout is short as well as the tail, which is not above half an inch long. On each foot there are five toes, and all the upper part of the body is covered with thick, short, sharp prickles of a deep red, and of a yellowish gold colour at the ends. The belly is covered with fine woolly ash coloured hair that seems to be gilt.

The HEDGE HOG of *Malacca*, is eight inches long from the tip of the nose to the vent, and the head from the nostrils to the hinder part is two inches and a half. The eyes are large and shining, and the ears are almost without hair, and hang down on each side. There are five toes on each foot, armed with short claws; and all the upper part of the body is covered with strait pointed prickles, like so many awls of different lengths, that is, from one inch to six, variegated with black and white. The spaces between the prickles are filled with slender, long, bristly hair. The head is covered with short hair; but that on the belly, legs, and feet, is slender, short, prickly, thick and red. This, though called by *Seba* a Hedge Hog, is beyond all question a Porcupine, only it is less than the other kinds.

The AMERICAN HEDGE HOG, is a native of *Su-
rinam*, and is eight inches long, with a thick short head; and the neck is short as well as the tail, which has but few hairs. There is no appearance of ears, but there are holes that serve for hearing; there are five toes on each foot, armed with long, sharp, crooked claws; and all the upper part of the body is covered with thick, short, hard prickles of an ash colour inclining to a pale yellow. The fore part of the head, the belly, and the feet are covered with whitish silky hair, and that on the belly is longer, and not so coarse as that of the common Hedge Hog. Over the eyes there are deep brown short hairs; but on the sides, and towards the hinder part, the hairs are long and blackish.

The TATU, or ARMADILLO, of *Marcgrave*, is in shape like a Hog, and almost of the same size. His head, body, and tail, are covered with a shield of a bony substance, and very curiously contrived with most beautiful scales. Near the hind part of the head there are two joints that he may move his head; and on the back there are seven divisions, or shields, with a yellow skin between each. The feet are also covered with a thinner shield. The lower parts of the body are without this covering, but are beset with hairs near an inch long, which proceed from prominent pores. There are also a few hairs on the skin which joins to several shells of the shield like the former; as also near the mouth and eyes.

The head is like a Hog, with a sharp snout, it has little eyes sunk deep in the head, and a pointed narrow tongue. The ears are naked, brown, and short; and the teeth are of a middle size, being eighteen in each jaw. The feet are in the shape of hands, with five fingers, and roundish nails. He roots up the ground with his snout like a Hog; and he is tinged all over with a reddish colour. The tail at the root is near four inches thick; but it grows less gradually to the end, which terminates in a point. He lives upon melons, potatoes, and other roots; and will eat flesh when he can get it. He generally lies hid in the ground, and sometimes will frequent water and watery places, where he feeds upon Worms, small fish, and water insects. Sometimes he will eat Ants, apples, and the berries of certain trees.

The TATU of the *Caribbee* islands, is of the size of Pig of a month old, with a small long head, little eyes, and a mouth well furnished with teeth; and the ears are likewise little; but the tail is long, and covered with bony rings or shells. The legs are short and thick, and it has four claws on each foot, which are large and strong. The whole body from the neck to the tail is covered with rows of shells; and the first and the last, namely, that which covers the shoulders and thighs, are much larger than those on the rest of the body. There are about twelve shells in all, which slide over each other like the joints of a coat of armour,

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by means of a skin like a gristle, which unites them together. They are of a dirty grey colour, with a few little white spots.

This animal has a quick feeling, and will roll himself up like a ball, when his shells are a little pressed. Besides the above motion of the shells, they are also capable of stretching considerably; or rather it is the membrane that ties them together, which has that faculty; and this renders the motion of this animal much more quick and easy than it otherwise would be. The skin under the belly is without hair, and seems to be very tender and delicate; it is likewise of a grey colour.

When he is afraid he withdraws his head under his shell, and lets nothing be seen but the end of the snout. He then tucks up his feet under his belly, and his tail under them; insomuch, that his shells entirely cover them, and the two extremities of this animal meeting together, he becomes as round as a ball, a little flattish on each side.

Hence it appears, he may be very easily taken when he is rolled up in this manner; but he is not very willing to unfold himself; for the more he is in danger, the more he contracts his covering. The only way to make him open is to lay him near a fire, for as soon as he feels the heat he displays his limbs. He lives upon leaves, fruit, and roots, which he lays bare with his paws, and cuts with his teeth. He cannot run very fast, much less climb up trees; and his lurking places are the stumps and bodies of trees which are hollow. The flesh is white, fat, and delicate; but it is best when seasoned with spices to quicken the taste.

This animal is called by the *Spaniards* ARMADILLO, on account of the shield, or shells, with which it is covered. There are great numbers of them in *Terra Firma*, in *South America*; and the authors that have given any account of them, attribute great medicinal virtues to all parts of his body. They pretend the shells are excellent in the *French* disease; and that the first joint of the tail being reduced to powder, will cure deafness, when put into the ear with a bit of cotton;

with other things of the same kind, which they seem only to have copied one from another.

The TATUETE of *Brazil* is another sort of Armadillo, less than the first, with a small sharp head, three fingers breadth long, and the ears are of two. The tail is near three inches long; and it differs from the first, in having only four claws on the feet before, of which, the two in the middle are equal; but, on the hinder paws, he has five, of which, the three in the middle are of the same size. The body, from the neck to the beginning of the tail, is near seven inches long, and the forehead and the whole body is covered with a shield, whose sides so stand out that when he lies down he can hide his head and feet therein. This shield consists of nine joints on the back, which are disposed in a decent order, and seem to consist of scales. The tail has also eight joints, and terminates in a point. He is of an iron colour on the back, and whitish on the sides; and the belly is white and hairy, like the first. The flesh is said to be better than that of any other of the same kind.

The TATU APARA is another kind of an Armadillo, and has a head of an oblong pyramidal shape, with roundish ears, and paws divided into five toes, as well before as behind. The fore legs are three inches long, and those behind five. The tail is of a pyramidal shape, and longer than that of the former. He is covered with a shield of a foot long and eight inches broad, which is a little narrower at the extremities. It is hollow within, and convex on the outside, and in the middle it has four transverse joints, by which the shield may be extended or contracted into a globe.

This shield is of the shape of a pentagon, disposed in a beautiful order; but between the joints it consists of parallelograms, and each finger is made up of lenticular scales of a whitish colour with a yellow cast. The joints are a thick tough skin, and on each side there is a remarkable long muscle of the figure of an X, with many fibres that cross each other, running along according to the length; by which means, this animal can draw himself up together very closely; infomuch, that a very strong man can only pull him open. When he

he goes to sleep, or is afraid of being taken, he rolls himself up into the shape of a ball, like the former; and he likewise feeds in the same manner as the rest.

The INDIAN ARMADILLO is taken notice of only by *Columna*, and he has only described the figure of the shell; but this is sufficient to distinguish him from others of this kind. The shell is composed of two sorts of shields, of which the hinder is the largest, covered with rough scales, of which, some are hexagons, others pentagons, and others square, between which there are four narrow bands joined together by a membranous skin. He calls it the TORTOISE HEDGE-HOG.

The ARMADILLO of *Guiana* is, from the tip of the snout to the end of the tail, two feet ten inches long, that is, the head is four inches, the body a foot and a half, and the tail is a foot long. There are four toes before, of which the two middlemost are of an equal length, and larger than those on each side. There are five toes on the hinder feet, of which that in the middle is the largest, the two next smaller, and the remaining two very small. The tail is thick at its root, and grows smaller by degrees; the fore part consists of ten or twelve rings, and afterwards it terminates in a point. Between the two great shields there are nine narrow bands covered with triangular scales. This animal is to be met with in *America*, and particularly *Guiana*. It is called by *Linæus*, the DASYPUS, with nine girdles; and by others, the CATAPHRACTUS, with two shields and nine girdles.

The AFRICAN ARMADILLO is called by some the CATAPHRACTUS, with twelve shields and two girdles. It is only ten inches long, from the tip of the snout to the root of the tail; but the tail itself is seven inches long. There are five toes on each foot armed with strong claws, and the three in the middle of the fore feet are the largest. The ears, which are pretty long, are roundish at the end; and between the two large shields there are twelve narrow bands joined together by a thick membranous skin, and covered with scales in the shape of parallelograms. Those that cover

the great shield have sometimes four, sometimes five, and sometimes six sides; but they are always unequal.

The WEASEL-HEADED TATU, or ARMADILLO, is so called from the shape of his head, which is like that of a Weasel. The body is eleven inches long and six broad; and the head three inches and a half, and the forehead two and a half, and very flat. The end of the snout is half an inch broad, and the eyes are little. The ears are two inches distant from each other, and an inch in length; and the tail is five inches and a half long. The fore feet are two inches and a half in length, and three quarters of an inch in breadth. All the feet are divided into five toes; of which the three middlemost are two inches long, and they are all armed with claws one third of an inch long.

The head, back, sides, and tail, are covered with a crustaceous shield; and the helmet and the cover of the feet consist of roundish scales a quarter of an inch broad. The collar is a plate made up of square bits a quarter of an inch broad, and the cover of the shoulders consists of square segments of various kinds. The armour on the back, as far as the tail, is compounded of several moveable plates, eighteen in number, connected together, with as many membranes. The plates before are the largest, and consist of square segments half an inch in length and a quarter of one broad; but those behind are made up of those that are round and square mixed together. The fore part of the tail is composed of six rings; but the latter is covered with scales, and the breast, belly, and ears, are naked.

The TATU, described by *Nicuboff*, seems to be different from any of the former; for it has seven partitions on the back, between each of which there is a dark brown skin. It is in size and shape like a common Hog, and the head and tail are covered with shells as well as the back. The head is exactly like that of a Hog, with a sharp snout, wherewith it roots up the ground. The eyes are small, and lie deep in the head, and the tongue is little and sharp, with dark brown short ears, which are quite naked. The tail at the root is four fingers thick; but grows smaller by degrees like that of a Hog. The belly, breast, and legs, are
without

without either shells or scales; but are covered with a skin not unlike that of a Goose, whereon is white hair of a finger's length.

It is generally very bulky and fat, and is so fond of roots that it generally does a great deal of mischief in the plantations. It will devour Rabbits, and eat the dead carcases of birds, or any carrion it meets with. It drinks much, and lives for the most part upon dry ground; and yet will sometimes frequent the water, and marshy places. Its flesh is generally eaten; and there are Dogs that will find out their lurking holes; which, when discovered, they are dug out of the ground.

The MOLE, or WANT, in *Latin* TALPA, is a subterraneous animal, of a black colour; though some are white, particularly in *Switzerland*. The fur is exceeding soft, short, and thick, and it has a snout like a Hog. The teeth are like those of a Shrew Mouse, and there are five on both sides the upper jaw which stand out; but those behind, or the more inward, are divided into points.

The tongue is as large as the mouth will hold, and the neck is very short, or rather there is none at all. The legs are likewise very short, and there are five toes or fingers on each paw, armed with sharp nails. The palm of the fore feet is so broad that it looks like a hand; and the nails thereon are stronger, larger, longer, and broader than in any other animal of the same size. The paws and the fingers that are thereon do not incline downwards, but towards the sides, for their greater conveniency in digging. The tail is short, and covered with rough hair.

Whatever many of the ancients and moderns have said to the contrary, Moles are not without eyes; for the holes of them appear outwardly on the skin, and may be easily seen by any one that seeks after them. The eyes appear like black points, of the size of a millet seed, fixed to their proper nerves; and Mr. *Derham*, by the help of a microscope, plainly discovered the vitreous and crystalline humours, as well as the pupil, of the eyes, which is round. They are at a great distance from the brain, and the optick nerves are very slender

slender and long; they pass by the side of the olfactory nerves, which are bigger than any other in this animal. They lie as it were concealed amongst the hair, which must be blown aside before they can be found. They have no ears, and they feed upon earth worms. They can make holes in the ground exceeding swiftly.

The skin is extremely hard and tough, and scarce can be penetrated by the sharpest knife. This, doubtless, was designed to defend this animal from the external cold, and to keep in the warm vapours. The fur is exceeding fine, and softer than any silk; for which reason it serves as a defence against the cold. The fleshy pannicle adheres so closely to the skin, that it seems to make a part of it. This very fine membrane covers the whole abdomen, together with the breast; and under it the muscles are concealed. The omentum, or caul, which is wanting in many animals, is to be met with in this; but there is no distinction between the great and small guts. However, they are full of cells from the beginning to the end, that the excrements may pass along slowly, and that the chyle may be more commodiously separated from them. The gullet as in a Squirrel, Hare, Horse, &c. is inserted into the middle of the stomach, which in that which was opened was full of Earth Worms.

The penis was quite hid in the body, and was half as long; likewise the testicles lay under the skin, and were larger than the kidneys.

The ashes of a calcined Mole are said to be good against the rheumatism, the leprosy, and the king's evil; the dose is from half a dram to two scruples, in a glass of wine.

The SHREW, or SHREW-MOUSE, or HARDY SHREW, called in *Latin* MUS ARANEUS, is of a colour partly brown and partly red, and the belly is white. The hinder feet adhere to the back part of the body, which has a poisonous smell. The tail is beset with extremely short hair, and is two fingers breadth in length; and the rest of the body is about three and a half. The eyes are black and small, and yet somewhat larger than those of Moles. The teeth are very small, and differ from those of other quadrupedes, as well in situation

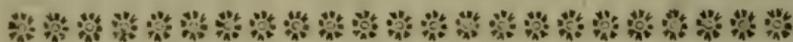
situation as shape. The two fore teeth are oblong, and have as it were two or three other exceeding small ones proceeding from them; which, however, cannot be seen, unless a person looks for them very carefully. There are five other teeth on either side, whereas a Common Mouse has but four; each of which likewise is divided into two or three.

It is a greedy poisonous animal, and seems to be an enemy to all other creatures whatever. The Cats indeed will hunt and kill them; but never eat them, because, as it is supposed, they would certainly die if they did. They do a great deal of mischief to vines, and are seldom taken unless in cold weather, when they repair to houses, gardens, and stables. They have a very slow pace, and are very crafty in taking their prey. It is said that they are very fond of the carcass of a Raven; and when one happens to be dead in the fields, great numbers gather about it; at which time they may be easily killed. It is remarkable, that the upper jaw of this animal is much longer than the lower, and that it wants the blind gut. It differs from the Common Mouse in being less, in having a snout like a Hog, and in having more toes, for there are five on each foot; in having lesser eyes, shorter ears, and being of a blacker colour. Their claws are also longer, and white; but the feet are shorter; and lastly, the nippers, or fore teeth, join to the grinders.

The TAMANDUA GUACU has been treated of in a former chapter; but there is another of the same kind, called the lesser ANT BEAR; which is of the size of an *American Fox*, or a little larger. The length of the body is one foot, of the neck two inches, of the head five, and of the tail ten. Each leg is four inches long, and the feet are of the size of those of a Monkey, and are divided into four fingers or toes, of which, the two middle most are the largest; but the feet behind have five toes.

The head is acuminate, round, and represents a sharp cone, a little bent downwards. The mouth is black, narrow, and without teeth; the ears are erect, being near an inch long, and the eyes are little and black. The tongue is round like a bodkin; it is eight
inches

inches long, and lies in a sort of a channel in the lower part of the mouth. The hair is hard, shining, and of a whitish yellow colour all over the body. On the back and tail it is longer, and on the lower parts of the belly it is chiefly mixed with black. The tail is without hair near the end, and with it he can hang on the boughs of trees like some sorts of Monkeys. There are two black stripes on each side which run from the neck above the shoulders towards the back, and meet together near the end. He can hold any thing very strongly with his fore paws; and when he is touched with a stick he will sit on his backside like a Bear. He sleeps all day with his head under his neck and fore legs; but he roves about in the night. The flesh smells like that of a Fox; for which reason it is not eaten. The hide is very thick.



C H A P. XVIII.

Of Animals of the BAT Kind.

THE BAT, or FLITTERMOUSE, in *Latin* VESPERTILIO, has by some been placed among birds, because it has wings and flies. However, it has no feathers, nor bill, nor does it lay eggs, and therefore ought to be reckoned among quadrupeds. Besides, except the wings and flying, it has nothing in common with birds; whereas it agrees perfectly well in all things else with four footed animals. Nor is there greater reason why a Bat should be reckoned of the bird kind than a Winged Lizard; and that there is such is beyond all manner of doubt in the *East Indies*.

The COMMON BAT, both with regard to the shape of the body and size, is like a Mouse; and likewise in the hair and skin. Authors are not agreed in the number of the teeth; for *Belon* affirms, it has eighteen in the lower jaw, and sixteen in the upper; but *Adrovandus* makes twenty-four in all, namely, twelve in each jaw. *Clusius* again says, there are six
on

on each side in the upper jaw, and seven in the lower; and that those before are longer than the rest, and are very white. However, this description of *Clufus*, is not taken from the Common Bat, but from a large one that came from abroad. The wings of this were twenty-one inches long, and nine broad.

The FLYING CAT of the *East Indies*, is a sort of a Bat, and has wings that are covered on the inside as well as the out, with fine soft hair of a reddish grey colour. The head is more like that of a wild Cat than a Dog, though the muzzle resembles that of the latter. The ears are of a middle size, the eyes are large and shining, and the downy wings are different from the Flying Dog; for the fore feet as far as the short and crooked claws, together with the tail, are joined to the membranous wings; infomuch, that all parts assist their flying. The breasts of the female are large and round, and the membranous wings seems to be dentated on its edges; but the inner surface is less downy, and not of so deep a yellow as the outer. These animals fly as low as the Common Bat and much like them.

The wings are membranaceous, or cutaneous, covering the whole body, and are connected to the feet. At the joint of the wings, not far from the fore feet, it has hooks, by which it adheres to walls or trees. In some the mouth is more obtuse or blunt, and comes near to the shape of that of a Cat; and in others it is long and narrow, and greatly resembles that of a Fox.

It delights in dark places and caverns under ground, where it lies hid all the winter. The time of its flying is only in the evening while the twilight continues. It feeds upon Flies of several kinds, and catches them while they are upon the wing. Some authors affirm, that the young ones adhere to the body of the dam, while they continue small, and are carried about with her. They are never more than two, and she has only two teats to give them suck.

The BATS near the river of the *Amazons* in *South America* are very large, and will suck the blood of Horses, Mules, and even men themselves when they sleep

sleep carelessly in the fields. At *Borja*, and several other places they have entirely destroyed the large cattle that were brought thither by the jesuits, as *Condamine* affirms. These may be supposed to be the same kind as those of *Brazil*, where they are as large as Crows, and are said to be very fierce, biting violently with their sharp teeth.

The BATS on the coast of *Malabar* in the *East Indies* are of several sorts; among which there is one so large, as *Nieubhoff* affirms, that their wings, when spread abroad, are as long as a man can reach with both his arms. They have red heads and necks, with black bodies, and are shaped like a Fox. They are extremely nimble, and have very sharp teeth, with naked wings like those of the common Bat. These are connected to their legs and tails, in such a manner that they can neither walk nor stand. However, to supply this defect they have a kind of hook on each wing, of the thickness of a man's finger, wherewith they fasten themselves to the branches of trees.

There are vast multitudes of these animals in the woods, so that it is no difficult matter to kill them; but this does not make them fall off the trees, for they will continue hanging there after they are dead. There is no possibility of taming them, for if they are taken alive, they will bite their own wings and flesh as far as they can reach. Two of these may be set to fighting, and then they never leave off till one is dead. They will drink the palm wine out of the vessels that are set to catch it till they are drunk. They delight in hollow trees, and commonly bring forth two young ones at a time. The *Indians* eat their flesh, which however is disliked by the *Europeans*.

In the island of *Java*, in the *East Indies*, the Bats are about the size of a Pigeon, and live in the woods; however, if the chamber windows are left open in the night time, they will get in and draw blood from the persons that are asleep. The *Javanese* account their flesh a dainty.

In *Johanna*, and other islands near *Madagascar* in *Africa*, the Bats are as large as Weasels, and are as fierce as those already mentioned. At *Rodriguez* their
bodies

bodies are of the size of a large Pullet, and each wing is two feet in length. They never light upon trees, but hang upon them by hooks with their heads downwards; for this reason they do not fall from the trees when killed, as was just observed of the Bats of *Malabar*. They fly about in the day time like other birds; carry their young ones about with them, and never forsake them till they can fly; and they have always two at a time. When they are seen at a distance hanging upon trees, any one would take them rather for fruit than Bats. The *Dutch* in the island of *Maurice* are fond of their flesh, and prefer them to the finest game; but others are not of the same opinion.

The GREAT BAT of *Madagascar* is three feet nine inches in breadth when the wings are extended; and differs from our Bats in wanting a tail, which leaves the wings quite separate, whereas in ours they are webbed to the tail. The snout is black, and it has strong sharp teeth; the top of the head, the neck, and all round the breast, are of a reddish fox colour; but the under side of the body is of a lighter brown. The hinder legs have each five toes armed with strong claws, and the legs forward, or rather the wings, have the first toe detached from the webs with a strong claw thereto, which perhaps is the same as in the former descriptions were represented as hooks. The second toe is not detached from the web on the inner side, and yet there is a claw at the extremity. The three remaining toes are webbed together on each side.

The JAMAICA BAT differs from the *English* in having a small flap on the nose, and in wanting a tail, for a web or skin fills up the space between the hinder legs. The head and body are covered with short fur, or hair, like that of Mice, of a dun colour beneath, and a little inclining to a reddish brown on the upper sides. The bows which extend the wings are nothing more than the fore legs reaching beyond the usual length, and webbed like the feet in water fowl. The small toe, and the four larger are distinct in what is called the wing, and the former is short, with a claw, that it may fix itself to any place; the *English* also have the like. The hinder feet are like those of Mice, and they have

have small sharp teeth rather like those of Cats than Mice. The webs, both in the *English* and this, are of a dark dusky colour above and beneath; but the bones of the legs and wings, which extend the membrane, are covered beneath with a dusky flesh coloured skin. There is another Bat with exceeding long ears with shorter ones within them; and that likewise differs from the former in having little hollows at the points of the wings.

The FLYING DOG, so called, is a sort of a Bat, that is found in the island of *Ternate*, which does not differ from a common Bat only in its large size, and in having a head in the shape of that of a Dog. The fore feet are very long, and have five toes, which help to extend the wings; the fifth toe is like a thumb, and distinct from the rest, but it is armed with a sharp crooked claw, with which it hangs to any place at pleasure. The feet behind have also five toes, armed with crooked sharp claws; but there is no tail, and the female brings forth two at a time,

There is another FLYING DOG of a lesser sort, for the length of the body, from the top of the head to the vent, is only five inches and a half. The ears are short and pointed, but it has no tail. When the membrane that serves them to fly is stretched out, it is about two feet wide from one end to the other; and the whole body is covered with brown hairs, except the upper part of the neck, where they are red.

The FLYING DOG of *New Spain* is another kind of a Bat, that delights in desert places, and particularly among decayed old trees. The head is oblong, the ears long, broad, and upright, and the muzzle large, armed with great teeth; the nose is bent downward in the manner of a horn, and the wings are made like those of the former, but they are larger every way.



American Sloth 321.



African Sloth or Potto 322.

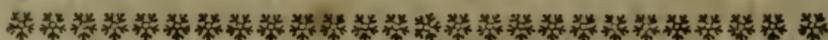


Armadillo 311.



A Sort of Lizard 332.





C H A P. XIX.

Of the SLOTH, or SLUGGARD.

THE SLOTH is a very uncommon animal, and is of a particular kind, there being no other like it. That of *South America* is of the size of a Fox, being fourteen inches long from the neck to the tail; and the circumference of the body is nearly equal to the length. The neck is about three inches long and four thick, including the hair. The fore legs are seven inches long, and the hinder only six. The feet are flat like those of Bears or Monkeys, but very narrow; and from the joint to the nails are three inches in length. They have three nails on each paw, which on those before are two inches and a half long, and on those behind two, of a whitish yellow colour; and bending downwards.

The head is small and roundish, beset with short reddish hair, and the mouth is not large. The snout or muzzle is like that of a Monkey, it being blunt and smooth, with flat nostrils, and the mouth is always full of slaver. The teeth are not large, they being like those of a Lamb. The nose is smooth, high, and black; and the eyes are small, black, and sleepy; but it is without ears. The tail is about an inch and a half long, and it is beset with thick hair all over the body about two inches long, and of an ash colour, like that of a Badger, but softer, and mixed with white. The back is of the lightest colour, and down the middle of it there is a black or brown list. The hair is so long on the neck that it looks like a mane hanging down on each side.

It is the most sluggish animal in the world, and is usually seen on a tree, upon the fruit, bark, and leaves of which it feeds. Upon even ground it cannot proceed forward above fifty paces in a day. It never drinks, and has a shrill sort of a voice, almost like a kitten. The characteristics of this animal are its
 slow

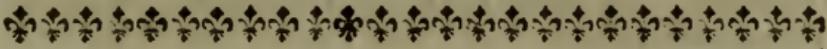
slow pace, its having the fore feet longer than those behind, and three claws on each foot.

There is another animal of this kind in *Africa*, which upon the coast of *Guinea* is called a POTTO. *Bojman* affirms, that this cannot move above ten paces in a day ; and that it has the most horrid aspect of any animal in the world. The fore feet are very like hands, and the head is strangely disproportioned. The hair of the young ones is of a pale mouse colour ; but that of the old is red, and looks more like wool than hair. The annexed figure is taken from the life, and will give a more lively idea of it than any description.

The SLOTH of *Ceylon* is improperly so called, for he is not so slow in his motions as the former, though he is not so nimble as a Monkey. It has only two toes on the fore feet, and three on those behind, which are terminated with strong crooked claws. The ears are hid under the hair, and it has no tail. The whole body is covered with flesh coloured hair, which is deeper on the back, and inclining to a bright ash colour under the belly. The muzzle or snout is longer than that of the *American* Sloth. The female brings forth its young without hair ; it has a mouth resembling that of a little Dog, and the body resembles that of a Dog-headed Monkey. The ears are short and round like those of Apes. The mother of this young one is described by *Seba* in the following manner. The thighs and legs are as hairy as those of a Bear, it being very thick, and curled like wool. The fore feet have but two claws, which are long and crooked at the end ; but those behind have three. It has the same cry as the Sloth of *America*, and the colour of the female is of a deep grey all over the body, only the belly is of a light grey. The ears are flat, and close to the head, like those of men, and are covered with hair. Between the two fore legs there are two breasts, but neither the male nor female have any tail.

Linnæus mentions an animal in *Surinam*, which is never found out of the torrid zone ; the claws of its fore feet are like sickles, and it makes use of them to climb up trees. Its cry is like that of a Kitten. As he does
not

not give any further description of it, it is hard to say whether this is the same as that already described, or not.



C H A P. XX.

Of Sanguineous Animals which breathe through the Lungs, and which lay Eggs.

THE FROG, in *Latin* RANA, is of two kinds, the LAND FROG and the WATER FROG. This last is an amphibious animal with a naked skin, and is narrow before, but broad behind, where there are strong muscles to enable it to leap. It has five toes united together with a membrane, that it may swim more commodiously.

The lungs of a Frog consist of membranous bladders, which, by their shape and protuberances on the outside, have some resemblance to a pine apple. Within they are like a honey comb, and divided into cells in the same manner. These do not grow flaccid as in other animals ; but remain tense as long as the Frog pleases.

It is a very active animal, and can abide under water, without wanting air, for a considerable time ; for Dr. *Brown* of *Norwich* kept a Frog tied by the foot under water, for several days together, without killing it. From whence it appears that these cold sort of animals have not much need of air to maintain life.

When the belly and breast are opened, and all the inward parts taken out, together with the heart, it will continue to leap about for some time as if nothing at all was the matter with it. However, if the nerve which goes to any of the feet is cut in two, the use of that member is immediately lost.

This is a singular kind of an animal, especially with regard to generation. It seems indeed to agree with fish that bring forth spawn ; and yet in many things it differs from them. The spawn of a Frog appears in the shape of a black point, or globe, covered
with

with a whitish, mucilaginous, and viscid liquor, surrounded with a membrane which is extremely thin. This globe is, properly speaking, the foetus of the Frog, and the liquor about it is supposed to serve for its nourishment.

Mr. *Ray* takes this globe to be the egg of the Frog, which includes a young one ; for when it is broken, or opened, it will come out in the form of a Tadpole. The viscid liquor still continues about it, which perhaps feeds the Tadpole for some time ; till at length, the water getting into it, it assumes the shape of a cloud, and swims at the top of the water, being no longer fit for nourishment. This is commonly called and mistaken for Frog's spawn. However, it still serves for a retreat to the Tadpoles when they are weary with swimming about, as *Swammardam* observes.

This black globe answers to the spawn of spinous fish ; or rather to the eggs of some sort of insects ; for the foetus of a Frog does not proceed from the globe in the form of a Frog, but of a Tadpole, and afterwards attains the figure of a Frog by little and little. That of a fish proceeds from the spawn in the form of a fish, nor does it ever after change its external appearance ; but the spawn of a Frog differs from that of a fish as well as that of an insect, on account of the jelly that surrounds it, and it serves for nourishment at first, as before mentioned.

According to the most accurate observation of Mr. *Waller* in the *Phil. Transactions*, it appears that the round black globe is covered with two sorts of liquor ; for that nearest to the globe is clear and transparent, and is contained in a membrane ; but that on the outside is muddy and mucous. The transparent liquor serves for the nourishment of the Tadpole for some time, and answers to the white of the egg in birds. The Tadpoles when this membrane is broken, are found to adhere with their mouths to part of it ; and when they get free from it they immediately sink to the bottom of the water, never being able to get to the top afterwards while they continue in that form.

Besides Frogs agree with fish of the spinous kind in their not coupling ; but the milt of the male mixes
with

with the spawn of the female after they are excluded ; however, authors are of different opinions with regard to the generation of Frogs.

The SMALL TREE FROG, or GREEN FROG, is distinguished from other kinds by its small size, and green colour, and by its sitting on the leaves of trees. In *Germany* and *Switzerland* they are frequently seen upon trees and shrubs in the evening, and sing in such a manner, that they may be sooner taken for birds than Frogs ; for their noise is nothing at all like croaking. A surgeon in *Germany* kept one of these Frogs eight years in a glass vessel, covered with a net. In the summer time he gave it fresh grass to feed upon, and in the winter hay a little moistened. He likewise now and then put Flies into the glass, which it would follow with an open mouth, and was very dexterous in catching them. In the winter when the Flies were difficult to be found, it fell away and grew very lean ; but in the summer when they were plenty, it soon grew fat again. It was kept in a warm room, and was always lively and ready to take its prey ; however ; in the eighth winter when there were no Flies to be found, it fell away and died. It is not certain how long it might have lived, if it had had proper nourishment ; and yet we know enough to prove that it is a long lived creature.

The FROGS of *Martinico* in the *West Indies*, are the most beautiful to look upon of any in the World. They are of a grey colour, with yellow and black spots or stripes. They never frequent watery places, but live in the woods, where they make a loud noise in the night time, which some say, is like the barking of Dogs.

Some of them are above a foot in length, without including the thighs, which are large and fleshy. The *French* affirm their flesh is white, tender, and delicate ; and when they dress them they throw nothing away but the heads. They fricafy them like chickens ; and they observe, that new comers take them for such. The Negroes go and hunt them in the night time with lighted sugar canes that have passed through the mill. They imitate the noise or croaking of these Frogs,
which

which never fail to answer them, and draw towards the light. When the Negroes are near enough they knock them down with a stick, and prevent their getting away.

Father *Tertre* observes, that they bring forth their young in old hollow trees; and that they first emit a white froth of the breadth of a man's hand; upon which they lay six, eight, or a dozen eggs, sometimes more and sometimes less, of the size of coriander seeds, and of an orange colour. It is uncertain whether they sit upon them or not; however, it is well known that they continue near the place where they lay their eggs, till they are hatched. Some would have them to be Toads, but without any just reason; for they have the shape of Frogs, and will leap to the height of a man; besides, all the *French* inhabitants eat them, and are very fond of them as above observed.

There are several sorts of Frogs in *Carolina*; the most remarkable of which is the BULL FROG that is so called, because he bellows exactly like that beast. This is the admiration of strangers, for they cannot think what is the matter when they hear these creatures make that noise, and yet can perceive no cattle from whence it should proceed. They are very large, insomuch, that my author observes, he has seen as much meat on one, as on a Pullet. *Catesby* observes, he is of a deep brown colour, with a great number of dark spots mixed with a greenish red. The eyes are brown, the iris yellow, and under the eyes there are round ears, covered with a thin membrane.

There are also small green Frogs which sit upon trees like the *European* abovementioned; but what sort of a noise they make is not said. The COMMON LAND FROG, is almost like a Toad; however, he does not crawl, but leaps about. Frogs, and perhaps all other animals that lie as if they were dead, at some seasons of the year, in holes, caverns, and other secret places, are very probably obliged to it on the account of want of nourishment, and through the violence of cold, rather than any other cause. This is partly confirmed from the relations of those who have seen Frogs
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in the middle of the winter alive and brisk in springs, where the water has been warm. The Green Frog is reckoned among the venemous and noxious animals.

Seba has taken notice of several sorts of foreign Frogs, as the the AMERICAN FROG, which has a bladder on each side the lower jaw, that in the hot days is full of air. It croaks at the setting of the sun, and is of a bright reddish colour with deep red spots, and large claws like the leaves of scurvy grass.

The SURINAM FROG, is of a brightish yellow colour shaded with red; and it feeds on young Frogs. Another *Surinam* Frog, is smaller, and of a reddish ash colour marbled with bright red. There is likewise another that is spotted.

The BRASILIAN FROG, is of a reddish ash colour, with red warts on the skin; the head is large, and like that of a Toad; but it multiplies its kind like a Common Frog. *Catesby* takes notice of a *Carolina* Frog, that would swallow sticks lighted at one end, which makes him suppose that he fed upon Fire Flies; the body is large like that of a Toad, but he leaps like a Frog. The colour is variegated with grey, brown, and dusky brown.

The AMERICAN SEA FROG, is of a prodigious size, and according to *Seba*, the fore feet as well as those behind, are a quarter of a yard in length; and the whole body, except the head, is of an ash coloured brown, marked with great and small spots that look like warts of a faint greyish colour below, and of a yellowish ash colour on the top. The back, and the space between the shoulders rise in a bump, and seem to be separated from the other parts by whitish lines. On the fore feet, there is a kind of armour of a bright ash colour, speckled with black, which seems to be fastened on with glue. The head is barred with small reddish streaks, and the eyes are large and sparkling; the ears are round, short, and but little covered; the tongue is large, and the fore part of it adheres to the lower jaw. The fore feet are divided into four toes, each of which consists of four joints; the toes on the hinder feet are large, armed with claws, and appear

like the toes of little children, only they are connected together by a thin membrane. This Frog seems to delight equally in the water and on the land.

A TOAD is larger than a Common Frog, and has a thick body, a broad back, and a turgid belly, with rough lips, but no teeth; it does not leap, but crawls along. The skin is beset with numerous and unequal tubercles, which render it very rough. The colour is very disagreeable, it being of a dirty colour on the back, and spotted on the belly. It creates a sort of a horror in most people that behold it, which probably is from an instinct of nature; it being a very venomous animal. Its aspect, pace, and the places it haunts, which are dark, hollow, nasty and stinking, seem to shew that it is a very noxious creature. Thus we see that all sorts of flowers and plants of a dangerous nature, may be known by the shape and colour of their leaves, flowers, and fruit; for they have such a disagreeable and melancholly look, that few can be mistaken in their properties, who have given themselves time to examine things of this kind at all. Likewise with regard to animals, we seem to abhor naturally those of the noxious kind; for instance, who can behold a Serpent for the first time and not shiver with dread, endeavouring at the same time to get away from it.

A Toad feeds in the same manner as Frogs, that is, upon insects, Earth Worms, and Snails. Some say, they feed on the moisture that proceeds from the earth; which is not at all improbable; for Toads have been found in the middle of the trunks of trees, and in rocks, when they have been cut in two, and consequently they can have had no other nourishment than the moisture of the tree or stone; though it is very certain they must have continued there a number of years, unless we allow of equivocal generation.

There are several sorts of Toads mentioned by *Klein*, 1. The Toad of *Brazil* called AQUAQUA, is covered with a sort of pearls, and is not very common, the head is triangular, with pointed fringes almost like a bishop's mitre, and the eyes are full of fire; the colour of the skin is of a reddish brown, and beset

befet with grains of a bright red; from the nose along the back to the vent, there is a white streak, and the thighs are marked with yellow; the feet are crenated and covered with grains, which resemble pearls.

2. The TOAD of *Brazil* with a granulated body, is by some thought to be of the same kind with the former; but it is of a bright red and covered with red grains both above and below. It has five toes on the fore feet, whereas the former has but four; and the hinder part is larger than that of other Toads.

3. The AMERICAN TOAD, is small, spotted, and almost white; but the spots are black and brown; the head is short, and the hinder part large according to *Seba*, from whom we have taken the description of this, as well as those that follow.

4. The HORNED PRICKLY TOAD of *Virginia*, is a monstrous animal, it being thick and short, with sharp horns on the head near the eyes, which stand out of the head. The skin above and below is of a yellowish ash colour, variegated with darkish grey lines; and along the back there is a broad white streak speckled with black. The body is rough with a sort of prickles, and the feet are fringed; the toes are made almost like mens fingers, and there are four in number on the fore feet, and five on those behind, which are connected together by a membrane. The mouth is large, the tongue thick and broad, and there is a black spot on each side the head on a white ground.

5. The TOAD *without a head*, is said by *Klein*, to be of three kinds, which are all different, equally venomous, and of an oval shape. They are natives of *Africa*, and their particular characteristic is, that the head cannot be distinguished from the body, but by the eyes; but they are all covered with a fine skin. These are also mentioned by *Seba*.

6. The BRASILIAN TOAD named AQUAQUAQUAN, has a round body, which is fleshy, and of a reddish yellow colour, marked with brown spots, and granulated black specks. The spots are disposed like flames, the neck is short, and underneath with a sort

of a necklace. It has four toes on the forefeet, and five on those behind, which are like those of a Goose.

7. The PIPA is a Toad of *Surinam*, and is much larger, and more venemous than those of *Europe*. *Ruyfch* affirms, that the young ones are bred in the back of the male, where the female lays her eggs; but *Seba* seems to be certain, that they are lodged in the back of the female.

It has a flat broad body, and a round small head, with a large mouth, which terminates in a point like the muzzle of a Mole, and turns a little up; from whence it appears that this animal seeks for its food in the ground like Hogs. The skin of the neck forms a sort of a wrinkled collar, and the eyes are small. The back seems to be covered with small round eyes, placed at an equal distance. These are so many eggs covered with shells, and they sink deep into the skin. They are of a reddish shining yellow colour, and the spaces between them are full of small warts resembling pearls. The fore legs are slender as well as the feet, which have four toes each, armed with small claws. The thighs behind are thick and fleshy, and are terminated with oblong feet, cloven into five pretty large pointed claws connected together to the very ends by membranes, like those of Geese.

8. The ASH COLOURED TOAD is a native of *America*, but is very uncommon, and there are white callosities along the back. The eyes are large, and the belly seems to be as hard as marble.

Klein affirms, that there are eight sorts of Toads in *Prussia*, which differ in some respect or other, and they are all venemous. 1. The largest is six inches and a half long, and of a very black colour, and its head is awry. The nose is elevated with bunches or swellings from the nostrils, and which are continued along the back to the vent. The eyes are also placed awry, and each foot has five toes partly joined together by a membrane, which makes some think it is amphibious. They make holes at the bottom of old walls like Moles, and delight to be under the earth in marshy

marshy grounds. Where this is met with, no Frogs, Weasels, Polecats and the like, are ever seen.

2. The SPOTTED TOAD, is full of brown spots upon an ash coloured ground, and it has four toes before and five behind, with large shoulders, and short legs, that are dragged along the ground when it moves

3. The BLACKISH BROWN TOAD is the most common, and frequents meadows and gardens. It hides itself in the ground in the winter season.

4. The TOAD of *Caves and Cellars*, is so full of a sort of salival fluid, that when it is thrown into the fire it proceeds from the mouth, and pores in such a manner as to resist the violence of the flames, for the space of a minute. The colour is a mixture of brown, black, and yellow, and the legs are slender.

5. The fifth sort has a triangular head placed between the shoulders, and the body seems to be well nourished. The spine of the back appears as if it was broken, and there is a red dirty streak along the back. It hunts small birds and Butterflies, which it leaps to catch, for which reason it ought rather to be placed among Frogs than Toads.

6. The FROG HEADED TOAD, is handsomer than the rest, but is very venemous, and it can stop insects with its breath, and particularly Spiders, on which it feeds. It is of a red brown colour, and in some lights appears to be green. It walks very swift, and has five toes on each foot.

7. The seventh is longer than the former, and has a sort of a capuchin. It is a little prickly, and the head is short; it swells when touched with a stick, and then seems to be the colour of rusty iron, though it is commonly like that of washed flesh, except under the belly, where it is of a whitish grey, speckled with black.

8. The HORNED TOAD, has two short horns on its head, at the bottom of which the eyes are placed. It opens its wide mouth in a terrible manner, and the feet are of a bright ash colour fringed, and variegated with brown; but the rest of the body is of a dusky brown.



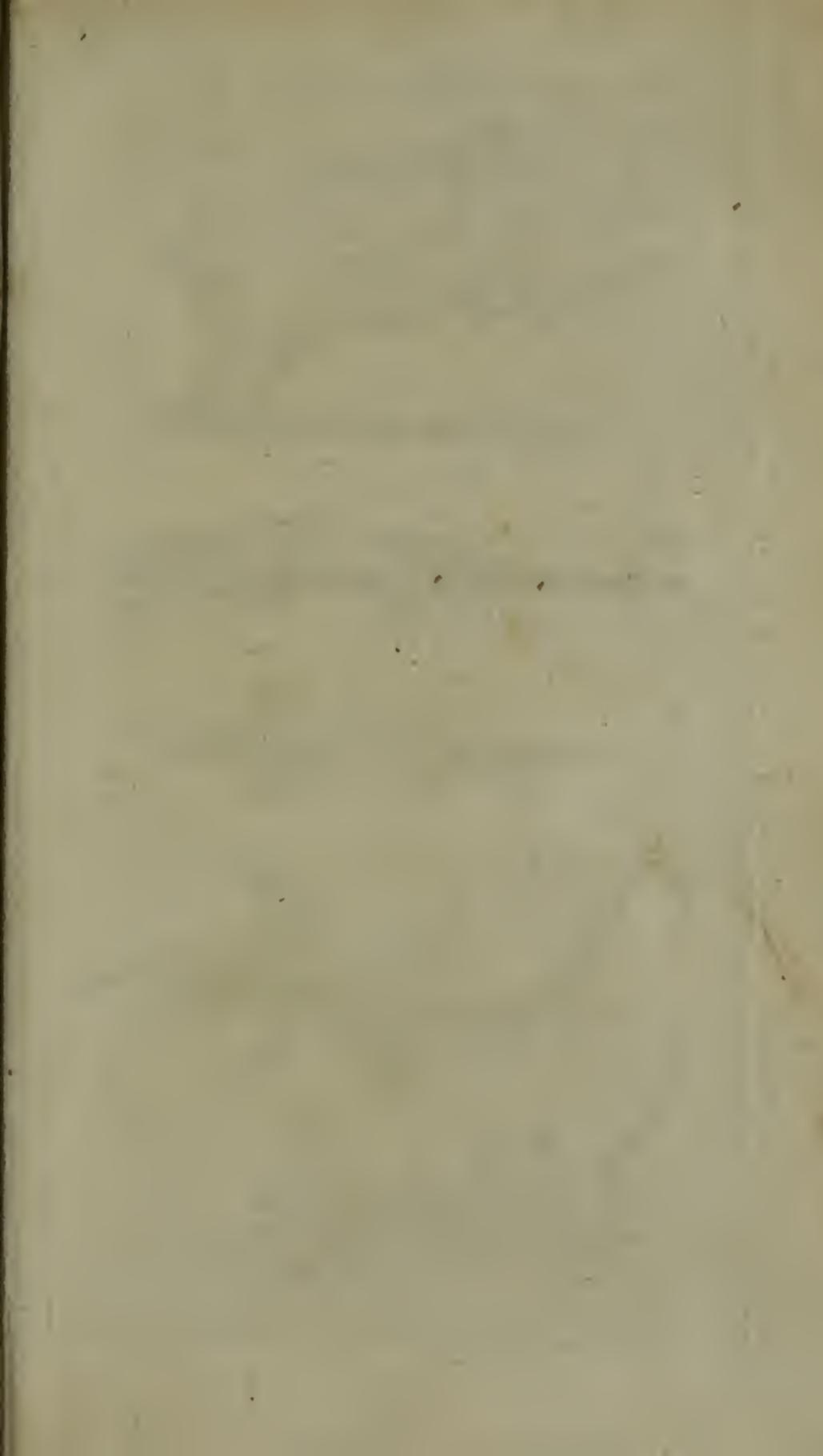
C H A P. XXI.

Of LIZARDS.

ALIZARD is a quadrupede, with a long tail, whose young are all produced from eggs. However, these are not all laid like those of a Tortoise, and yet they may be truly and properly so called, notwithstanding some are hatched within the body of this animal, and the young ones are brought forth alive.

The greatest of all the animals of the Lizard kind, is the CROCODILE, which is to be met with in various parts of the world; but those that have made the most noise, were first taken notice of as haunting the river *Nile* in *Egypt*. The manner of taking Crocodiles in *Siam*, is by throwing three or four nets across a river at proper distances from each other; that if he breaks through the first he may be caught by one of the others. When he is taken he flounces his tail with great force, which they suffer him to do, till his strength is exhausted. Then they approach him with their boats, and pierce him with their weapons in the most tender parts, till he is weakened with the loss of blood. When he has done stirring, they begin with tying up his mouth, and with the same cord, they attach his head to his tail, which last they bend back like a bow. However, they are not contented with this, but for their greater safety they tie his fore feet as well as those behind, to the top of his back. These precautions are not useless, for if they were to omit them, the Crocodile would soon recover so much strength, as to do a great deal of mischief.

The *Siamese* call the Crocodile TAKAY, and the *Portuguese* LAGARTO, which in their language signifies a Lizard. There are none but small ones brought into *England* in comparison of those to be met with in the countries where they breed. One that was dissected at *Siam*, an account of which was sent to the
Royal

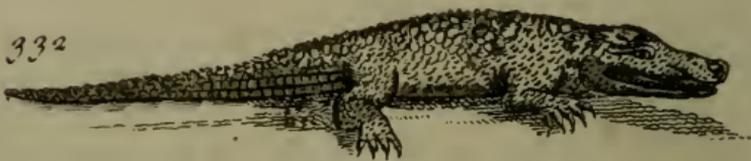


Chamaeleon?

364

*Crocodile?*

332

*Tockay*

355

*Purse-bellied Crocodile.*

339

*Thorn-tail'd Lizard.*

334



Royal Academy at Paris, was eighteen feet and a half long, of which the tail was no less than five feet and a half, and the head and neck above two and a half. He was four feet and nine inches in circumference where thickest.

The hinder legs, including the thigh and the paw, were two feet and two inches long; the paws, from the joint to the extremity of the longest claws, were above nine inches. They were divided into four toes, of which three were armed with large claws, the longest of which was an inch and a half; and seven lines and a half broad at the root. The fourth toe was without a nail, and of a conical figure; but was covered with a thick skin like shagreen leather. These toes were united with membranes like those of Ducks, but much thicker.

The fore legs had the same parts and conformation as the arms of a man, both within and without; but they were somewhat shorter than those behind. The hands had five fingers, the two last of which had no nails, and were of a conical figure, like the fourth toe on the hind paws. The head was long, and had a little rising at the top; but the rest was flat, and especially towards the extremity of the jaws. It was covered with a skin which adhered firmly to the skull and to the jaws. The skull was rough and unequal in several places; and about the middle of the forehead there were two bony crests, about two inches high. They were not quite parallel, but separated from each other in proportion as they mounted upwards.

The eye was very small in proportion to the rest of the body, and was so placed within its orbit, that the outward part, when shut, was only a little above an inch in length, and run parallel to the opening of the jaws. It is commonly said, that a Crocodile continues to grow as long as he lives, which perhaps may be true, otherwise it would be very hard to conceive, how an animal that proceeds from so small a beginning as an egg, could grow to such an immense size; for many of them are about twenty-five feet in length. However, this is not true with regard to his eyes, for they never grow after they are come to a certain bigness.

The eye was covered with a double eye lid; that within was folded in the great corner, and had an horizontal motion towards the tail; however, it covered the eye without hindering the sight, for it was very transparent. The iris was very large in proportion to the globe of the eye, and was of a yellowish grey colour. The pupil was included in two arches of unequal circles, which cut each other; and that next the nose was the least. Above the lesser angle of the eye the ear was placed, which opened from above downwards, as if it were by a kind of a spring, by means of a thick, solid, cartilaginous substance. This membrane had some resemblance to an eye lid when it was shut, which caused some of the ignorant *Siamese* to suppose that this animal had four eyes.

The nose was placed in the middle of the upper jaw, near an inch from its extremity, and was perfectly round and flat, being two inches in diameter, of a black, soft, spongy substance, not unlike the nose of a Dog. The nostrils were in the form of a *Greek* capital Σ , and there were two caruncles which filled and closed them very exactly, and which opened as often as he breathed through the nose. The jaws seemed to shut one within another by means of several apophyses, which proceeded from above downwards, and from below upwards, there being cavities in the opposite jaw to receive them. They had twenty-seven dog-teeth in the upper jaw, and fifteen in the lower, with several void spaces between them. They were thick at the bottom, and sharp at the point; being all of different sizes, except ten large hooked ones, six of which were in the lower jaw, and four in the upper. The mouth was fifteen inches in length, and eight and a half in breadth where broadest; and the distance of the two jaws when opened as wide as they could be was fifteen inches and a half. The skull, between the two crests, was proof against a musket ball, for it only rendered the part a little white that it struck against. It has usually been said, that a Crocodile can only move the upper jaw; but this is a mistake, for they can move the lower like other animals.

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The colour of the body was of a dark brown on the upper part, and of a whitish citron below, with large spots of both colours on the sides. From the shoulders to the extremity of the tail he was covered with large scales of a square form, disposed like parallel girdles, and were fifty-two in number; but those near the tail were not so thick as the rest. In the middle of each girdle there were four protuberances, which became higher as they approached the end of the tail, and composed four rows, of which the two in the middle were lower than the remaining two, forming three channels, which grew deeper the nearer they came to the tail, and were confounded with each other about two feet from its extremity.

The skin was defended with a sort of armour, which however, was not proof against a musket ball, contrary to what has been commonly said. However, it must be acknowledged, that the attitude in which it was placed might contribute not a little thereto; for, probably, if the ball had struck obliquely against the shell it would have flown off. Those parts of the girdles underneath the belly were of a whitish colour, and were made up of scales of divers shapes. They were about one sixth of an inch in thickness, and were not so hard as those on the back.

The gullet was large in proportion to the mouth, and a round piece of wood would readily go down it that was seven inches and upwards in diameter. The stomach had little remarkable; but the guts were seventeen feet and ten inches in length. The rectum, which could hardly be distinguished from the rest but by its thickness, was seventeen inches long, and there was not the least appearance of any blind gut. The liver consisted of two lobes of a triangular figure, but the left was less than the right, and terminated in a point. The spleen was of an oval figure, and was four inches and a half thick, and not quite three inches broad. The pancreas was of the consistence of hard fat, and of a white colour, with a small tincture of bright red. It was very thick about the middle, and thin at both extremities.

The windpipe was above four inches in circumference, and was divided into two near the lungs; and from the throat to this fork was fifteen inches. The tongue consisted of a thick, spongy, soft flesh, and was connected very strongly throughout the whole extent to the lower jaw, and filled up the cavity in it very exactly. Upon this account some travellers have affirmed, that a Crocodile has no tongue. It was covered, as well as the palate, with a yellow rough skin, which lay pretty loose and wrinkled on the tongue. The heart was of the size of that of Calf, of a bright red colour, and of a pyramidal shape; the deaf ears were likewise much of the same bigness. It had likewise two ventricles, contrary to what has been asserted by some writers. There were two passages for the blood out of the right ventricle, whereof the first was by the great artery, and the second by another blood vessel of the same consistence with the great artery. The kidneys were seven inches and a half in length, three and a half broad, and one and a half thick. They were placed on each side the loins on a bed of soft fat. There was no bladder, and therefore the urinary passage from the kidneys terminated in the strait gut, where there was a very large vent to discharge the urine. The excrements had a most horrible smell, which confirms what travellers have said of the smell of the Crocodile, which may be perceived at a great distance; and consequently the place where these animals lurk may be easily known.

There were sixty-two vertebræ in the spine of the back, which though very closely united, had, however, a sufficient play to enable this animal to bend like a bow to the right and left.

Many travellers have asserted that a Crocodile has a strong smell of musk, which may probably be the nauseous scent above complained of; because the same thing has been said of the Pecary, or *American Hog*; which, Mr. *Ray*, from the testimony of his senses, affirmed to be the odour of musk. This creature lays eggs of the size of those of a Goose, to the number of sixty, which she covers over with sand, and leaves to be hatched by the heat of the sun. They are

are to be met with in the rivers *Nile*, *Niger*, and *Ganges*, besides most other large rivers in the southern parts of *Asia*, *Africa*, and *America*; especially, if Mr. *Ray*'s opinion be true, that the Crocodile and the Alligator are the same animal.

The ALLIGATOR is by the *Brasilians* called JACERE, and by the inhabitants of *Congo* CAYMAN. *Marcgrave* affirms that this animal has no tongue, but only a membrane that lies within the cavity of the lower jaw; which, however, has the shape of a tongue, but cannot be raised up. This agrees with what was said above in the description of the Crocodile. The eyes are large, round, clear, and grey, with a black pupil. The fore legs are shorter and weaker than those behind, and there are five toes or fingers thereon, whereof three are armed with nails; but the two others are without. The hinder feet are larger and thicker, and have only four toes, whereof that which lies outward has no nail.

In that half of the tail near the end, there is a fin standing upright, which reaches to the point, and serves to govern him in swimming like that of fish. Mr. *Ray* takes notice of the mistake of several authors of credit, who have asserted that the upper jaw only is moveable; whereas the contrary appeared to Dr. *Grew* from the structure of the bones, which he examined in the skeleton of a Crocodile belonging to the *Royal Society*.

Condomine observes, that throughout the whole course of the river of the *Amazons* Alligators are very common; and that it is usual to see them twenty feet long. They will lie whole hours, and even days, stretched out in the sun, and motionless; insomuch, that one not used to them, might mistake them for trunks of trees covered with a rough and dry bark. In the times of an inundation they sometimes enter the cottages of the natives; and there have been several examples of their taking a man out of a canoe in sight of his companions, without their being able to lend him any assistance.

Dampier, who had opportunities of observing these animals, is of opinion, that the Crocodile and
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the Alligator are distinct creatures. He says he never saw any above seventeen feet long, and they were as thick as a small Colt. They are shaped like a Lizard, are of a dark brown colour, and have large heads and very long jaws. Their teeth are very strong, especially two that are considerably long, and are placed at the very end of the under jaw, on each side one, and there are holes in the upper jaw to receive them, for otherwise they could not be kept within the mouth. The head, back, and tail, are covered with pretty hard scales, joined together with a very tough skin. Over the eyes there are two hard scaly knobs, as big as a man's fist; and from the head to the tail, along the ridge of the back, there are plenty of hard knotty scales, not unlike those of fish, which are so united to the skin that they cannot be taken off except with a sharp knife. From the ridge of the back towards the sides, along the belly, which is of a dusky colour like a Frog, there are many of these scales; but they are not so substantial, nor placed so thick as on the back.

The flesh smells very strong of musk, especially four kernels or cods, which are always found about them. Two of these are placed in the groin, near the thigh, and the other two at the breast, one under each fore leg, and about the bigness of a Pullet's egg. Those that catch them often take out these, and having dried them, wear them in their hats for a perfume. The flesh is seldom eaten, except in cases of necessity, on account of its strong scent.

He farther observes, that a Crocodile has none of these kernels, and that his flesh has neither the taste nor smell of musk, and therefore is esteemed better food. He is of a yellow colour, and has no long teeth in the under jaw, as those just mentioned. The Crocodile's legs are also longer, and when he runs on shore he carries his tail above the ground, and turns the tip of it round like a bow. Likewise the knots on the back are much higher and firmer than those of the Alligator; and they likewise differ as to the places where they are found.

At the island called *Grand Cayman* there are Crocodiles, but no Alligators. Likewise at *Pines*, near *Cuba*, there

there are abundance of Crocodiles, and both these and the Alligators are called Caymans by the *Spaniards*. The eggs of both are alike, and are of the size of those of a Goose, but much longer, and are good eating; however, those of the Alligator have a very musky taste. It is fond of flesh as well as fish, and will live either in fresh or salt water.

After all, supposing the difference between a Crocodile and an Alligator, to be true in all respects as related in the above account, it does not from thence appear, that the Crocodiles of *America* and those of *Africa* are precisely the same, especially with regard to the colour; for if the *American* Crocodile is of a yellow colour, as *Dampier*, who has seen great numbers of them, has asserted, it must needs be quite different in that particular, not only from those of *Africa*, but likewise from the Crocodiles in the river *Ganges*, *Siam*, and other parts; and perhaps if the above author had given a more particular description of them, some other things might have been taken notice of in which they differ from each other.

The CROCODILE with a Purse in his Belly, and a Snout like the Beak of a Gooseander. The open purse or pouch is in the middle of its belly, and seems designed by nature to receive its young ones in time of danger; which circumstance, and the extream slenderness of its snout, distinguish it sufficiently from all other Crocodiles. In all other respects it has the marks common to Alligators and Crocodiles; namely, a particular strong, square scaliness on the back, which in the young ones appear distinct and regular; but in the old become knobbed and rough, like the bark of an old tree; and in having small round and oval scales on the sides, which in the young ones are no bigger than rape seed. Likewise the belly is scaled to all appearance, a little like the laying of bricks in a building. It has fins on the outsides of its fore and hinder legs, in the same manner as other Crocodiles have; and it has also the great distinguishing mark of the Crocodile kind, *viz.* two rows of fins on the upper side of the tail, which begin extreamly small at the setting on of the tail, and increase gradually as they advance towards the middle, where

where they become one row, and so continue to the end. The tail is roundish at its beginning; but from the middle, where the two rows of fins become one, it is flat like an oar. The fore feet have each of them five toes, but the hinder have only four, which is also a mark of the Crocodile; for all the lesser Lizards, says Mr. *Edwards*, that I have observed, have five toes on each of their hinder feet. In the fore and hinder feet, the third and fourth toes are only webbed together. The eyes are very prominent, and seem to be so contrived, that they may be carried above the water, while the rest of the animal is wholly under it, in order perhaps to watch its prey on the surface of the water, or on the banks and shores of rivers. The head is covered with several scales, and the snout is finely creased transversely. This species of the Crocodile was never described, or taken notice of by any author except Mr. *Edwards*, who gave the figure of this from a young one, sent from *Bengal* in the *East Indies* to Dr. *Mead*.

The TAIL BEATER, called CAUDI VERBERA and CORDYLUS in *Latin*, is a sort of a Lizard which is found in several parts of *Europe*; particularly in the south part of *France*. It is larger than a Green Lizard, has a round tail, and exceeding hard scaly rings round the body.

The TAPAYAXIN, or the ORBICULAR LIZARD, is an inhabitant of *America*, and particularly *New Spain*. The body is roundish and flat, not unlike a Turbot; only it is very small, being no more than four inches in length, and about as much in breadth. It has no bones, but gristles, and is always cold to the touch. It has a very slow pace, and does not care to move forward even when it is disturbed.

The head is exceeding hard, with prickles rising up in the form of a garland. He is not at all afraid of men, but rather delights to be handled by them; and to be carried about. When he is used rough, or any way hurt, especially about the eyes or head, he throws out drops of blood to the distance of three paces; which is the more wonderful, because no animal that we know of does the like. The *Spaniards* formerly were used to
dry

dry this creature, and reduce it to powder, supposing it to be good to ease and cure venereal pains. It delights in cold mountainous places, where it is very easy to be found. Some place this among the Toads.

The LIZARD of *New Spain* taken notice of by *Seba*, has the upper part of the body covered with small scales, of a bright chestnut colour, on which there are broad blackish streaks, two on the back, and two on the sides of the belly; there are also two others that reach to the thickest part of the tail, which is forked, and divided into two parts. The spine of the back is very sharp, and a row of small teeth run along it as far as the fork of the tail. The upper part of the nose is covered with fine scales, and the forehead is speckled with black. The nape of the neck is of a deep brown, marked with three transverse whitish stripes, in which are black specks. The tongue is thick and short, and the eyes large and shining. It has no swelling under the throat, but its skin is loose and wrinkled. The mouth is bordered outwardly with small scales, and within it is furnished with small teeth. The thighs and paws are covered with small scales.

The AMEIRA is a very large Lizard of *Surinam*. It is very beautifully spotted, and the forehead is covered with small scales of various colours, namely, white, black, and red, lying on a whitish ground. The rest of the body is blue, marbled with black and white, and speckled with pale red spots as well as the legs; but the feet are yellow, armed with black claws, and the tail is long and blue, consisting of rings to the very end, and spotted with black and red.

The ARGUS, is the name given to an *American* Lizard, so called because the skin is full of eyes, except the head and tail, which, with the belly, are of a pale blue, mixed with black.

The ASCOLOTL is a sort of a Water Lizard, found only in the lake that surrounds the city of *Mexico*. Some would have it to be a fish, though it is without scales, and furnished with four legs. It is as thick as a man's finger, and a palm in length, marked with small spots under the belly. From the middle of the body to the tail, which is long and slender, it grows gradually

ally less; the feet serve for swimming, and are divided into four toes, like those of Frogs. It has a very large head, and the flesh tastes like that of an Eel.

The COMMON EFT, or NEWT, is a Lizard, with a blunt oval snout; and nearly of the colour of rusty iron. He has five very small toes, with nails thereon, as well on the fore, as hind feet. That which answers to the fore finger in men is the longest, and the thumb is a little below it. There are various kinds of these in *England*, particularly the Earth Newt, with a belly spotted with black; the Earth Newt is in shape like an Eel, which delights in Heaths; the Little Brown Earth Newt, which is exceeding rare; the Brown and Black Water Newt; and the Yellow Scaly Earth Newt; but of this I shall give a more particular description.

The YELLOW SCALY EARTH NEWT, is one of the kinds of Lizards to be met with in *England*, and may be sometimes seen in frosty weather on the sunny side of old hedges; in the bottoms whereof they have their holes, which they recover so nimbly, that it is a hard matter to surprize them. In the length, and general make of their bodies, they resemble a Common Newt; but in some things they are different from all animals of the Lizard kind, unless they have been imperfectly described. Their colour on the back and tail is of a dirty yellow, and they are blue under the throat and most part of the belly. Its tail is round, and it skips about like a Squirrel, raising its head up very high when it runs; whereas the tails of Common Efts are always flat, and they lie still when discovered, or crawl but little. Besides, the back of the Eft, or Newt, is covered with a tough membrane; but in these the back and tail are all over scales. These, especially on the tail, lie in oblong squares, like the the tiles, or shingles of a house, only they have wider joints at some certain distances than elsewhere. In this it agrees pretty well with the green Lizard, or Lignorio, of *Bologna*; only in the colour and magnitude it is quite different.

The GREEN LIZARD, so called from its colour, is larger than the common sort. It delights in warm countries,

countries, for which reason it is common in *Italy*. In the summer time they get upon trees, where they make a noise like the croaking of Frogs.

The Lizard called TARANTOLA at *Naples* and *Rome*, has a rough skin of an ash colour, and is more fleshy and thicker than other Lizards. It is to be met with in the ruins of old buildings and walls, and is very common near *Naples* and *Rome*. It is of a very disagreeable aspect, and strikes the beholders with a sort of dread; for its appearance betrays a very malignant nature. When Mr. *Ray* first saw one, he shuddered as it were by instinct. However, some affirm it is a very harmless animal, and are of opinion, that the horror, with which it affects mankind, is chiefly owing to its ugliness and filthy aspect. They likewise add, that they never lie in wait to hurt any person; and that when any one has been bit by a Tarantola, he receives no other damage from it than from a common hurt.

The INDIAN LIZARD called SENEMBI and IGUANA, is an amphibious animal of the shape of a common Lizard, and with a skin partly of an ash, and partly of a brown colour. The head, body, and tail, are about five feet in length, and the body is fifteen inches in circumference. The skin is covered with small scales like those of Serpents, but somewhat more strong and rough. From the end of the tail there is a row of prickles, which in the middle of the back are an inch in length, but grow less as they approach nearer the head and tail. The eyes seem to be but half opened, unless when he is angry; for then they appear large and sparkling. Both his jaws are full of very sharp teeth, and in some sense resemble those of a sickle. His bite is dangerous, though not venomous; for his teeth cut like a razor, and he keeps such fast hold that there is no making him loose it till he is killed.

The male has a skin hanging under his throat which reaches down to his breast, and when he is displeased, he makes it swell like that of a Pigeon, called a cropper. The top of the head is livid, and is carbuncled like the throat of a Turkey Cock. The fore paws are less by one third than those behind,
and

and have five toes on each, which are all armed with very sharp claws. The tail, as well as the paws, is very fleshy, but all other parts seem to be lean. He has a large belly, and all the internal parts are like those of a perfect animal. The heart is of a middle size, the liver large as well as the gall bladder, which is full of green and extremely bitter bile; he has likewise a very long spleen. The ribs are lined on the inside with flakes of fat, as yellow as gold, which is used in the *West Indies* to cure weakness in the nerves. It is also of great use to prevent edge tools from rusting, which otherwise would be unavoidable in those parts.

The males are one third larger, and more strong than the females. When they see a man they put themselves in a bold posture, and have a very dreadful look. The colour of the skin is a mixture of ash colour and brown as above; but the breast and head are beautifully spotted. The females are all over green, and they seem to be much more fearful than the males. *Marcgrave* affirms, that those which he saw of this kind, were green with black and white spots beautifully disposed, and that the whole body was covered with scales. This was doubtless the female which he described, and perhaps he had never seen a male. They couple in *March*, and then, tis not safe to come near the female, because at that time the male never fails to attack those who give them the least molestation.

In this season it is usual to hunt them along the sides of the rivers; for after they have been feeding, which is very early, they go and settle on the branches of trees, which hang over the water. Though this animal seems to be very cunning when on the ground in running and taking care of himself, yet when he is on a tree, he is the most stupid creature that can be imagined; for the noise of a canoe will not affright him, and he will lie so still that the hunter may put a noose about his neck without any trouble. If his head is too low they hit him a blow over the nose with a stick, and then he lifts up his head, and suffers the halter to be put about his neck.

About

About *May* the females come down from the mountains, and go to the sea side to lay their eggs, the males bearing them company. For this reason there are more taken from *May* to *August* than at any other time of the year. The number of their eggs are from thirteen to twenty-five; but they do not lay them at a time. They are about the size of pigeons eggs, but a little longer; and the shell is white and soft like wetted parchment; they have no white, and never grow hard with boiling. The *French* pretend they are much better tasted than Pullets eggs; and that they are proper to mix with all sorts of sauces. They make a hole in the sand in which they lay their eggs, and then they cover them carefully over, and so leave them to be hatched by the heat of the sun. When they are pursued by a Dog they will leap into the rivers, and continue there for some time, and upon that account they are numbered among the amphibious animals.

These Lizards are very hard to be killed, for they will receive above an hundred strokes on the head and yet continue alive; but it is an easy matter to kill them when the secret is known. This is done by thrusting a sharp pointed stick into their nostrils, which will bring away a few drops of blood, and then they expire; or it may be brought about by driving a nail, or even a large pin into the middle of the head, for then they will immediately die. They live a long while without eating or drinking, much in the same manner as Tortoises.

The *French* who make little scruple in eating all kind of animals, are very fond of the flesh of these Lizards; and pretend that when they are fricaseed, that they eat as well as chickens. A good Lizard is enough to serve four men, though never so hungry; but the females are always more tender, more fat, and better tasted than the males. *Labat* informs us, that what is said above of the eggs, is not exactly true; because as he affirms, they are hatched soon after they are excluded.

The IGUANA of *Surinam* is a Lizard, with a large skin under his throat, and a row of teeth, or thorns,
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on the upper part of the body. It is like the former in shape and colour, but it differs in the teeth on the tail, which are very small, and the bag under the throat is folded at the corners. The back, and sides of the belly are brown, mixed with blue, and the neck is sprinkled with blackish spots; above the sides, the colour is more bright, and the whole trunk of the body is covered with very thin scales; the thighs, legs, and feet, are of a dull blue, and the toes are of a chestnut colour, armed with sharp crooked claws; the scales on the belly are of a bright blue.

The IGUANA of *Ceylon*, is an amphibious animal, and leaps into the water like a Frog. It can raise the row of thorns on its body quite upright, and it consists of a series of large prickly teeth, of a pale blue, which reaches from the back to the tail, which is long, and terminates in a point. The head is large, thick, and rough, with warts or tubercles over the eyes. The forehead is covered with blue scales, and the eyes are large and sparkling. The ears are bordered round about with small eminences that rise like eye-lids. The jaws are armed with small teeth, and underneath there are small prickly scales of a bright blue. The under part of the body is covered with large scales, encircled with broad whitish streaks; the belly is of a very pale blue. The female is like it in shape, but there is a double row of teeth on the back, and on the side of each, there is another that is small. They reach as far as the thighs, where they disappear, the colour is blue, traversed with whitish streaks, which runs across the belly and its large tail, the scales of the belly are of a dull blue.

The IGUANA of *Formosa* is like the *American* Iguana, except in colour. The scales under the body are of a dusky grey; but the head, bag under the throat, hinder thighs, paws, and tail, are encircled with large streaks of a bright grey. The head is variegated with scales of a bay, brown, greyish, and ash colours. On the bag under the throat there are small teeth on the fore part, and the top of the back is armed with large prickles that reach to the tail, which

which grow gradually less. This animal is very innocent, and the flesh is looked upon as a rarity.

There is another in the island of *Formosa* less than the former, that has a row of teeth that runs from the top of the neck to the middle of the tail; the bag under the throat is connected to the lower jaw, and that, with the head, belly, legs, feet, and tail, are of a deep blue; the back is covered with thin small scales of a dunnish grey.

The IGUANA of *New Spain*, is armed on the back with large teeth or prickles, which is covered with small thin scales of a rhomboidal form, and of a greyish and reddish colour, undulated with bay brown. The head, and the bag under the throat, are of a bright grey; and the bag which hangs down very low, is marked like marble, and spotted and speckled here and there; under the ear on the side of the lower jaw, which is armed with small teeth, there is a sort of a white button like a flat wart. The tail is thick at the root, long, and slender at the end.

According to *Lawson*, there are GREEN LIZARDS in *Carolina*, that are harmless beautiful creatures, with a little bladder under their throats, which they fill with wind, and empty it again at pleasure. They are of a most glorious green, and are very tame; for they will resort to the walls of houses in the summer time, and will stand gazing at a man without any concern or fear. This seems to be of the same kind, as the green Lizards abovementioned so common in *Italy*.

The BRASILIAN LIZARD, called TEJUGUACU and TEMAPARA by the natives, is for shape and in several other respects like the Senenbi; but it differs in having a blacker skin beautifully spotted with white, and near the tail there are six white prickles. Likewise the tail is thicker near the root, and there are no prickles on the back. The outward toe of the hind feet is more distant from the rest and shorter; to which may be added, that the tongue is cloven, red, and smooth, and he can dart it out of his mouth to the length of a man's finger like a Serpent. He is fond
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of raw eggs, though he can live a great while without food, some say, seven months. *Marcgrave* affirms, he has made the experiment, and that he kept one as long without meat before he died. It has been observed by *Pliny*, that if the tails of Lizards and Serpents are cut off, they will grow again, which *Marcgrave* in some sense has found to be true; for if any one by treading on the tail of this Lizard had caused part of it to fall off, it would grow again to the length of two inches.

The TARAGUIRA is a Lizard of *Brazil*, and is about a foot long. The body is round, and covered with triangular ash coloured scales. It has no crop under the chin, and the back is smooth. It delights in gardens, and to be near houses; when it sees any thing it nods the head in a very surprising manner, and is very quick in running from place to place, making strange motions with its body; whenever it sees a man sleeping, and a Serpent or any other venomous animal coming near him, this Lizard never fails to wake him, that he may avoid the danger.

The AMEIVA is a Lizard of *South America*, and is in all respects like the former, except his forked tail. However, *Mr. Ray* is of opinion, and that upon good grounds, that there is no quadrupede with a forked tail in the world; and that when any such has been seen, he must have been a monstrous production.

The TARAGUICO AYCURABA is another *Brazilian* Lizard, and is a kind of Taraguira, being like it in all things, except the small triangular scales on the tail; but the extremity of the tail is covered with flat scales, and is marked with four brown spots. The back, and more especially the head, are full of brown spots, which are placed in the manner of waves.

The AMERICIMA, so called by the *Brazilians*, is a small Lizard of about three inches long, and of the thickness of a Swan's quill. The body is almost of a square form, and covered with greyish scales. The sides, head, and legs, are covered with brown scales, and the tail with blue. They are all bright and shining, and very smooth to the touch. The legs and feet are shaped like those of the *Senembi*; but the toes
are

are no thicker than Hogs bristles. They are thought to be of a venomous kind.

The CARAPOPEBA, so called by the *Brazilians*, is from three to five inches long, and is looked upon as a venomous animal. The shape is like that of other Lizards, and the whole body is of a liver colour, with small white spots, and on the tail there are white lines. There is here and there a little yellow mixed; and it has eyes that shine like glafs.

The ASCALABOS is an *American* Lizard, spotted like a Tiger; it has a slow pace when any man comes near it, for it is not at all afraid, nor does any harm. The body is covered with small round scales of a deep brown colour, but spotted with white. All the scales on the upper part of the body appear like rows of pearls, and behind the neck which is of a pale yellow, there are a sort of teeth which are supported by two rows of double scales. The head is of a triangular shape, and is remarkable for its eye-brows, which are not unlike those of a Camelion, though its head is more like that of a Lizard. The eyes are sunk in the head, and are surrounded with small scales like pearls, and the ears are covered with a membrane. Under the throat there is a loose skin, and the scales of the thighs and feet are large, and as it were marbled. There are five toes on each foot, with short claws, and on the tail, which is covered with pretty large scales, there are prickles like the teeth of a saw, which have their rise on the back. The scales on the belly are large and whitish.

The TAJAN DEVIL, so called by the *Dutch*, is a Lizard of the island of *Formosa*; but why it has that name is hard to say, unless it be on account of its sharp claws; for he does no mischief to any; for when he is attacked he will sooner die than defend himself. He is about an ell long, and twenty inches broad, with scales like a fish. He is a very fearful animal, more especially with regard to a man, for to avoid him, he will hide himself in the earth; but if he has not time he will roll himself up like a ball. He feeds upon Pismires.

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The TEJUNHANA of *Marcgrave*, is a Lizard of *South America*, and is about as thick as a man's finger, with an acuminate head. The tail is round, about six inches long, and almost as sharp at the point as a needle. The head is covered with a scaly skin; but the back, sides, and the outward part of the legs, are invested with a skin as soft as silk. The tail is covered with very small square scales; but the throat and the bottom of the belly with large ones. The head is brownish, and the back and sides are curiously painted with brown and green lines, mixed with small green and black spots, which run according to the length of the body. The upper part of the tail is of the colour of old Bees wax, but the lower part is mixed with white; likewise the throat and the lower part of the belly are white, with blood coloured spots.

The ANOLIS, is a Lizard of the *Caribbee* islands, and no doubt, may be met with in various places on the continent of *America*. It is about a foot or a foot and a half in length, and when they are largest, they are never so thick as a man's arm. Their belly is of a greyish ash colour, and the back reddish with blue stripes. The head is full of spots, like that of several other Lizards; but the snout is more slender. They always hide themselves in the ground, except in the hottest part of the day, when they come out and feed on the bones of fishes that are thrown by the inhabitants out of doors; they sometimes feed upon grass, but are most fond of pot-herbs. When any one is killed, the rest fall upon him, tear him to pieces, and eat him.

The FLY-EATERS of the *West Indies*, are no thicker than a man's finger, and nearly as long. The males are green, and the females grey, but not so big by one third as the males. They feed upon Flies, which they follow with so much eagerness, that they will leap from the tops of trees in pursuit of them. It is one of the most patient animals in the world, for it will lie still for half a day together without stirring in expectation of seeing a fly; which as soon as it does, it leaps upon it and devours it.

In

In some of the leeward islands, these small Lizards are so numerous, that there is hardly a tree but what has several thereon; and even all the houses are so full, that there is scarce any place free from them. This is a great grievance to the *Romish* priests, because they will very often leap upon the communion table when they are saying Mass, in pursuit of Flies.

The ROQUET, so called by the *French*, is another small Lizard bred in the *West Indies*. They never exceed a foot in length, and are all of a grey colour, with a sharp chine spotted with black. They carry their tails raised up in the shape of a bow; whereas other Lizards let theirs drag upon the ground. They are very active, brisk, and play a thousand gambols about a man that is eating; and will come and pick up the crumbs which fall from his hands. They burrough in the earth, and devour the eggs of other Lizards, and of Tortoises.

The MEXICAN LIZARD with a comb on the hind part of his head, has a sort of a bag hanging on the lower jaw, which serves as a repository for its food till it is wanted. This bag, as well as the feet, tail, and all the rest of the body, is covered with small light blue scales, placed in the form of lozenges. Each side of the head, round the ears, and the neck, are marked with whitish spots, and the back is more pale than the other parts, variegated with white as far as the middle of the tail, which is very large. The comb is likewise of a brightish blue.

There is another AMERICAN LIZARD, which was brought from *St. Jago de Cbeli* to *Cadix*, which has a long bag under its neck, hollow within, and which swells prodigiously when it is attacked. Its beautiful head is covered with large scales of a sea green colour, variegated with red streaks. The tail is surrounded with yellowish rings spotted with black, and the eyes are large and sparkling, the ears red, and placed behind the jaws; and at the top of the head there are two oblong ash coloured tubercles, covered with thin scales. The upper part of the body to the root of the tail, is of a grass green colour, with spots

of various shapes, and of a red poppy colour; likewise the legs and thighs are painted in the same manner. The feet are covered with large scales, and are divided into five toes, armed with crooked claws. The tail of this Lizard is generally forked; but in this, there were a sort of lateral branches, which are very uncommon. The upper end is covered with thin, small, oblong scales, and consists of rings of about a fingers length each; but the lower end is slender, and from this the blunt excrescences proceeded. The female is like the male, only the bag is smaller, and the tail single.

The MABOUYA is a Lizard bred in the *Caribbee* islands, and perhaps in many other parts of *America* that are not too cold. They are not very large, but they are the most deformed and ugly of any of this kind. They never grow to a foot in length; and when their tail is cut off, they exactly resemble a Toad. Their toes are flat, broad, and round at the ends; but so disproportionable, that they seem like bits of cloth divided at random with a pair of scissars. At the end of each, there is a small claw like the sting of a Wasp.

They generally perch upon the branches of trees, and sometimes get upon the tops of houses, being seldom seen on the ground. They are generally disliked by the inhabitants, which perhaps may be on account of their ugliness. They will indeed, when they are angry, fly upon a person and stick close to him; but it was never known that they hurt or bite any body. In the night they sometimes make a terrible noise, which is looked upon as a sure prognostick of the change of weather. All the other small Lizards make a whistling kind of noise in the night time, but chiefly when it rains.

Another WEST INDIAN LIZARD, is by some called SCHINK, because they suppose it to be like the *Egyptian* animal of that name, in which however they are mistaken. Others give it the name of MABOUYA, the same as that of the former. Others again term it the EATRHI PIKE, because they fancy it resembles
a river

a river Pike when the legs are cut off. They are more fleshy than other Lizards, and have a thicker tail; but their legs are so short that they can only creep along the ground. Their skins are covered with a vast number of small scales like those of Serpents; but they are of a yellow and silver colour, shining as if they had been rubbed over with oil. It is pretended that the flesh is good against poisons, and the wounds made with venomous arrows, provided it is eaten moderately, for it dries up the humours more than that of other Lizards.

There is another sort that delights in marshy places, and is frequently found by those who cut ditches and gutters to draw off the water. It is an ugly animal about seven inches in length, and the back is covered with black spots, with a few that are grey between them. They shine as if they had been anointed with oil, and the lower part of the belly is scaly, but not so much as the back. The colour of the skin is of a paleish yellow; and the head is little and acuminate. The mouth is pretty wide, and armed with exceeding sharp teeth; but the eyes are little, and yet they cannot bear the day light. As soon as they are taken out of the ground, they immediately endeavour to get in again by digging the earth like a Mole with their hard crooked claws. They do a great deal of damage to gardens and orchards, by gnawing the roots of trees and plants; besides their bite is accounted venomous, and perhaps as much so, as that of the most dangerous Serpent.

The LARGE WEST INDIAN GREEN and SPOTTED LIZARD, is above a foot in length, and the head, legs, sides, and under part of the body are of a fine green; the top of the head is covered with broad scales, and the sides and under part of the head with smaller. It has a sort of necklace under the throat, and it thrusts out a black forked tongue from its mouth; likewise the ear hole, which is pretty far behind the eye, is black. The upper side, except the head and the tail, is of a dark brown, covered with very small scales like studs, and variegated with

yellowish lines crossing each other, and forming a kind of net work. On each side from the fore legs to the hinder there are fine blue oval spots, each of which is surrounded with a dusky colour. The tail is covered with longish scales, which run round it in regular rows to its end, that are all of a dark brown with a greenish cast. The belly has broad transverse scales running across it; and there are five toes on each foot, with small sharp nails. The hinder feet seem to have a thumb, and four distinct fingers.

The SPOTTED LIZARD *with a forked tail*, is near ten inches in length, and has a forked tongue like other Lizards. The top of the head is covered with broad scales of a whitish ash colour; and the sides of the head, the neck, sides of the body, legs and feet, are all greyish; the eyes are black; the under chap reddish, and the ears are open holes. There are two black spots upon each shoulder, and the middle of the back is marked with green throughout its whole length; but it is broadest on the rump, and ends in a point between the shoulders. The sides are marked with oval loose spots, as well as the outer sides of the hinder legs; but the belly, and part of the under side of the tail, are chequered with fine blue squares, separated from each other with a darker blue or black. The tail, as far as it is single, is blue on its upper side; but the parts of both tails from the joining to their ends, are of a brownish ash. There are five toes on each foot. Mr. *Edwards* thinks, that the having two tails is accidental when the old one has been hurt or trod upon; for he supposes, that either mortifies or withers away. It is very common about old walls. Mr. *Edwards* has since seen another Lizard with a forked tail three times as big as this.

The THORNED TAILED INDIAN LIZARD, is above seven inches in length; its head and legs are of a dusky green, and the upper side of the body is dusky, spotted and clouded with light ash colour; but it differs from other Lizards chiefly in its tail, which is covered with large scales standing out in sharp points in an uncommon manner. The middle row of scales

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on the upper part does not fall over those next to the side, but the side rows fall over the middle row, which is remarkable. The tail is of a brownish green, and lighter below than above.

In *Carolina* there is one called the SCORPION LIZARD, though it has no resemblance to a Scorpion. It is very large, and is of a dark copper colour with an orange belly. It is very nimble in running up trees, or on the ground, and is accounted a very venomous animal. It seems to have a greater number of teeth in the mouth and throat than any creature of this kind.

The GREEN LIZARDS of *Carolina*, are harmless and beautiful animals, and have a little bladder under their throat which they fill with wind, and evacuate the same at pleasure. They are of a most glorious green, and very tame; they resort to the walls of the houses in the summer season, where they will stand gazing at a man without any concern or dread.

The TOC-KAY, is a kind of Lizard that is very common in the kingdom of *Siam*; and is twice as large as the Green Lizards of *France*. He takes his name from his cry, in which he pronounces these two syllables Toc-kay very distinctly. It is so very loud that he may be heard at the distance of one hundred paces very plainly. This animal generally gets upon trees and the walls of houses, which he does very dexterously. The inhabitants affirm, that he is very venomous, which may be true enough; but then he is not at all dangerous, for he was never known to bite mankind.

The top of the body is covered with a skin like shagreen, and waved with a mixture of red and blue; likewise the upper part of the body is full of conic points, or prickles of a pale blue. The lower part is covered with scales of a pearl colour, spotted with red. He is above two foot in length, of which, the tail is almost half; and its girth is a little above two inches and a half. The head is of a triangular figure, and that part which joins to the neck, is an inch and

a half broad, and a little above an inch thick. The rest of the body has much the same proportions as that of the Green Lizard, except the feet, which are made for climbing, and for running upon smooth places; for this reason the toes are armed with sharp crooked nails; and likewise each toe is lined with a certain number of small pellicles, parallel to each other, and perpendicular to the membrane of the foot, by the means of which, he can run along the most polished bodies with speed and ease.

The sight of the eye is like that of a Crocodile, and appears through an aperture one third of an inch wide; and the eyes are so prominent, that they seem to come half way out of the head. At some distance from the eyes, there is an oval cavity which is pretty deep and forms the ear, and whose diameter is about half that of the eye.

The heart lies in the middle of the thorax and between the fore legs, but in the pericardium there is no water; immediately below are the lungs divided into two lobes about the middle of the body. The liver seems to proceed from the basis of the heart, and passing between the lungs, is connected much more by its left lobe to the left side, and covers all the upper part of the stomach. The thorax is separated from the lower belly by a membranous diaphragm, which probably contributes a little by its motion to the dilatation of the lungs, and consequently helps him to form that extraordinary cry abovementioned. The stomach is very long in proportion, and becomes cartilaginous about half an inch above the pylorus. The substance is very white, but that of the small guts reddish. The cæcum or blind gut of one that was opened, was full of small whitish transparent Worms, a quarter of an inch in length, and as thick as a horse-hair. The lungs are nothing else but a very fine transparent membrane full of vesicles to hold the air; and the windpipe is short, strait, and wide, being very proper to produce a deep sound.

The *Indian* Lizard called BUEGELUGEY, is almost four *Roman* feet in length, and nine inches in cir-

circumference. The length of the head and neck as far as the fore feet, are about eight inches, and the trunk of the body from the fore to the hinder feet, is nine. The tail is slender ending in a point, and is two feet four inches long. The colour is brown, with blueish white spots of different sizes and shapes, and dispersed over the whole body without any regularity. The skin is covered with scales, which are round on the head and neck, square on the back, and oblong on the tail.

The mouth is large in proportion to the head, and the teeth small, sharp before, and blunt behind. The fore feet though pretty thick and brawny, are less and shorter by one half than those behind, which are covered with larger scales. The toes are very long and unequal, armed with crooked sharp yellowish claws; and the scales of the belly are twice as large as those on the back, in which it is different from all other Lizards.

Clusius gives us the figure of another Lizard, three feet in length, and nine inches in girt. The LIZARD of *Ceylon*, is of a greyish ash colour, with the head of a Camelion, and is said to be much addicted to fighting. One of these is kept as a rarity in the *Musæum* of *Leyden*.

The SKINK, or LAND CROCODILE, is about the size of a Green Lizard, and of the thickness of a man's thumb. It is of an ash colour, and scaly, with a short round tail, oblong head, a sharp snout, and feet like hands, with five toes, armed with claws. The mouth is large in proportion to the body, and is furnished with red and white teeth; the belly is large and full, and the four legs are about an inch long. It is a native of *Arabia*, *Egypt*, and the adjacent countries; and feeds upon aromatic flowers. The flesh of this animal is an ingredient of *Venice* treacle.

The SEPS, or the CHALCIDICAN LIZARD of *Aldrovandus*, is rather a Serpent than a Lizard, though he has four small legs, and paws divided into feet. The fore legs are very near the head, and those behind

next to the vent of the excrements ; but they are useless with regard to walking. Some are about three feet long, and thick in proportion, with a large head, and a pointed muzzle. The skin is sometimes of an ash-colour, and sometimes reddish, marbled with white spots. That which Mr. *Ray* saw was small, and had parallel black lines along the back, running lengthways. The eyes and ears are small, and he has four crooked teeth, as also a short sharp tail. The whole body is covered with scales, and the belly is white mixed with blue. The lungs are divided into two lobes, and in proportion to the body are of a considerable length, as well as the liver. *Columna* took fifteen young ones out of the body of a female, of which some were wrapped in a transparent pellicle, and others were quite naked. However, Mr. *Ray* thinks, that this was of a different kind from that which he saw ; for it was much larger, being two feet long, and of a brass colour with black stripes ; which, however, was not so long as those found on the mountains of *Syria*, which are three feet in length and above.

STELLIO, the SWIFT or SPOTTED LIZARD. The spots on the body of this Lizard are not like stars, as the name seems to import ; but they are round and small in some parts, and placed in no regular order. They are much larger, and more distinct on the back than on the tail. It gets into the holes of walls and lives upon Spiders ; and it is said to cast its slough like Serpents every year. The bite is not mortal, but it stupifies the senses, and requires volatile remedies to cure it. It is found in *Thrace*, *Sicily*, and *Syria*.

The EARTH SALAMANDER is like a Green Lizard, except in the head and belly, which are thicker. It has likewise a shorter tail, of a black colour, spotted with red ; and appears as if it was a little polished. The muzzle is sharp, the eyes large, and the toes furnished with pretty large claws. It walks more slowly than the common Lizard, and delights in cold places ; for which reason perhaps it is so commonly met with among the *Alps*.

Some

Some affirm that the WATER SALAMANDER and this are of the same kind; however, it is certain that they differ in the tail, which is flat and broad in the Water Salamander, and round in the other. The Water Salamander is by some called the Water Eft; and there are various kinds of them taken notice of by authors. One of these, which is the common sort, has a thick body, and an oval blunt tail, and the hinder feet are at a great distance from those before. Another sort of Salamander is long and slender, with a thicker head in proportion to the body, and a longer and sharper snout than the former. Likewise the fore and hinder legs are nearer together. A third sort has a thicker tail, more blunt at the end than either of the former; and the feet before and behind are nearer each other. It has been commonly said that a Salamander will live in the fire, but this is found to be a fable.

There is an odd shaped foreign SCALY LIZARD taken notice of by *Clusius*, as well as by *Bontius* and *Beslar*. It is commonly above an ell and a half long, and yet the head, for it has no neck, from the top of the snout, is but three inches distant from the fore feet, which is very remarkable. The trunk of the body from the fore to the hinder feet is but eleven inches long; but the tail, from the hinder feet to the point, is an ell and one eighth. The whole body, except the throat and lower part of the belly, is covered with broad, large, stiff scales; but those on the neck, and upper part of the head, are not above half an inch long; whereas those on the middle of the body are two inches long, and an inch and a half broad. Likewise those on the tail grow gradually less and less till they come to the point. Those on the sides of the tail are quite different from the rest, for they are hollow, and as it were double. The under part of the tail is covered with three rows of scales less than those on the upper part. The fore feet are shorter than those behind, and their upper parts are covered with scales. The lower part, as well as the feet, are beset with black shaggy hair.

The feet are furnished with four claws, of which the second is much the largest, being an inch long, thick, crooked, and black; but the rest are white. The hind legs are covered with scales as far as the feet, which are only covered with hair; they have likewise four claws each, but less than those before. The throat and lower part of the belly is beset with hair; and it is said to be a very mild and tame animal. The authors who have described this Lizard, have not mentioned the countries in which it is to be found.

The FLYING INDIAN LIZARD perches upon fruit trees, and feeds upon Flies, Ants, Butterflies, and other small insects. It is a very harmless creature, and never hurts either man or beast. *Gentil*, in his voyage round the world, affirms, that he has seen these Lizards at the island of *Java* in the *East Indies*. He observed they flew very swiftly from tree to tree, and, having killed one he could not but admire the skin, which was painted with several beautiful colours. It was a foot in length, and had four paws, like common Lizards; but its head was flat, and had a small hole in the middle. The wings were very thin, and resembled those of a Flying Fish. About the neck were a sort of wattles, not unlike those of Cocks, which gave it a very agreeable look. He intended to have preserved it in order to bring it into *Europe*; but it was corrupted by the heat before the close of the day; however, one of these were preserved in spirits, and brought to *London* some years ago, and was in the possession of Mr. *Charlton* of the *Middle Temple*.

The AMERICAN FLYING LIZARD has cartilaginous wings, covered with a very tough skin, and like the fins of fish. The colour is a reddish ash, marked with bay brown oblong spots, running obliquely towards the edges; the thighs of the fore feet make part of the wings; but the hinder feet, or paws, are free. The tail is long, slender, spotted with brown, and marked with small speckles on each side on the upper end; above and below it is covered with thin small scales.

The

The AFRICAN FLYING LIZARD, has the upper part of the body of a sky blue colour, covered with small oval scales; and the wings are strongly connected to the body of the trunk and thighs, and extend from the fore to the hinder feet in the manner of a fan, and will open and shut. The upper part of the wings is variegated with brown, black, and white spots, terminated with a border that runs all round the wings. In other respects it is like a common Lizard, and has a long pointed tail. On the head there are two tubercles like little horns, and the eyes are shining and full of fire; the muzzle terminates in a point, and the tongue is small and thick like that of a Salamander. The teeth are very small, and the pouch, or crop, is strongly connected to the lower jaw and neck. It is a very harmless animal, and feeds upon flies and small worms.

The CAMELION, whose name signifies a Little Lion, is of the Lizard kind; but it is very hard to say why he has been so called. *Gesner* says, that in some things he resembles a Lion, without saying what. *Pannarolus* would have it that his tail is crooked at the end like that of a Lion; but in reality it is not so in any of these animals. *Licetus* believes that this name was given him because, like a Lion, he hunts and devours other animals; but what these should be, except flies, it is very hard to say.

The Camelion is a quadrupede, and proceeds from an egg like the Crocodile and Lizard, which it pretty much resembles, except in the head and back, which are not so flat as in those animals. They likewise differ from him in running faster with their short legs than the Cameleon can with his long ones. He delights to sit upon trees more than upon the ground, because, as some pretend, he is afraid of Serpents from which he cannot run away.

Belon has observed two kinds of Cameleons, one of which is to be met with in *Arabia*, and the other in *Egypt*; to which *Faber Lynceus* adds a third, that is the *Mexican*; but those from *Egypt* are the largest of all; for those of *Arabia* and *Mexico* are generally but six inches

inches in length, whereas the *Egyptian* are nearly a foot long.

The head of a large Cameleon is almost two inches long, and from thence to the beginning of the tail it is four inches and a half. The tail is five inches long, and the feet two and a half. The thickness of the body is different at different seasons; for sometimes from the back to the belly it is two inches, and sometimes but one; for he can blow himself up and contract himself at pleasure. This swelling and contraction is not only of the back and belly, but of the legs and tail.

These different motions are not like those of other animals, which proceed from a dilatation of the breast in breathing, and which rises and falls successively; but they are very irregular as in Tortoises, Lizards, and Frogs. The Camelion has continued as it were blown up for two hours together, and then he would grow less and less insensibly; for the dilatation was always more quick and visible than the contraction. In this last state he appeared extremely lean, and the spine of the back was sharp, and all his ribs might be told; likewise the tendons of the arms and legs might be seen very distinctly.

It is generally supposed that a Camelion puffs himself up by means of the air which he breathes; but how it should pass from the lungs into the whole habit of body is a great difficulty. However, it only gets between the skin and the muscles, for the muscles themselves are never swelled. The same thing happens to Frogs, whose skin fits round the body like a garment; for it is only connected to the flesh by small threads, and by membranes in which are a sort of bladders, into which the air may be probably introduced.

The skin is very cold to the touch, and notwithstanding he seems so lean, there is no feeling the beating of the heart. The surface of the skin is unequal, and has a grain not unlike shagreen, but very soft, because each eminence is as smooth as if it was polished. Some of these are as large as a middling pin's head on the arms, legs, belly, and tail, but on the shoulders and head they are of an oval figure, and a little larger. Those
under

under the throat are ranged in the form of a chaplet, from the lower lip to the breast. Some on the head and back are amassed together in clusters, with spaces between them, on which are almost imperceptible spots of a pale red and yellow colour; as well as the ground of the skin itself; which plainly appears between these clusters. This ground changes colour when the animal is dead, becoming of a greyish brown, and the small spots are whitish.

The colour of all these eminences, when the Cameleon is at rest in a shady place, is of a blueish grey, except on the claws, where it is white with a little yellow; and the spaces between the clusters is of a pale red and yellow as was before observed. But when he is in the sun all parts of the body which are affected with the light, become of a greyish brown, or rather of a tawny. That part of the skin which the sun does not shine on, changes into several brighter colours, which form spots of the size of half ones finger. Some of these descend from the spine half way on the back; and others appear on the sides, arms, and tail. They are all of an isabella colour, from a mixture of a pale yellow and of a bright red, which is the colour of the ground of the skin.

When the sun has done shining, the first grey colour returns by little and little, and spreads all over the body, except the bottom of the feet. Sometimes he becomes all over spotted with brown spots of a greenish cast. When he is wrapped up in a white linen cloth for two or three minutes his natural colour will become much lighter; but not quite white as some authors have pretended. This experiment serves to prove, that a Cameleon will assume a light colour as well as any other, though the contrary has been asserted by different writers.

The head of a Camelion is not unlike that of a fish, it being joined to the breast by a very short neck, covered on each side with cartilaginous membranes, resembling the gills of fishes. There is a crest directly on the top of the head, and two others on each side above the eyes, and between these there are two cavi-
ties

ties near the top of the head. The muzzle is blunt, and not much unlike that of a Frog; at the end there is a hole on each side for the nostrils, but there are no ears, nor any sign of any.

The jaws are furnished with teeth, or rather with a bone in the form of teeth, which he makes little or no use of, because he lives upon swallowing flies and other insects, without chewing them. The form, structure, and motion of the eyes, have something very particular, for they are very large, being almost half an inch in diameter. They are of a globous figure, which may be easily seen because they stand out of the head; and are not sunk in it, as some authors have affirmed. They have a single eye-lid like a cap, with a hole in the middle, through which the sight of the eye appears, which is of a shining brown, and round it there is a little circle of a gold colour. This eye-lid has a grain like shagreen, as well as the other parts of the skin; and when the rest of the body changes colour, and assumes spots of different shapes, those on the lid always keep the same form, though they are tinged with the same colour as the skin. But the most extraordinary thing relating to the eyes is, that this animal often moves one when the other is entirely at rest; nay, sometimes one eye will seem to look directly forward, and the other backward; and one will look up to the sky when the other regards the earth.

That part of the body which is called the trunk, and comprehends the thorax and the belly, in a Camelion is almost all thorax with little or no belly. The four feet are all of a length, and the only difference between them is, that those before are turned backwards, and those behind forwards. There are five toes on each paw, which have a greater resemblance to hands than feet. They are all divided in two, which gives the appearance of two hands to each arm, and two feet to each leg; and though one of these parts have three toes, and the other but two, yet they seem to be all of the same size. These toes lie together under the same skin as in a mitten; however, their shape might be seen through the skin. With these paws the Camelion can lay
hold

hold of the small branches of trees in the same manner as a Parrot. When he is about to perch he parts his toes different from birds, because he puts two behind and two before. The claws are little, crooked, very sharp, and of a pale yellow, proceeding but half way out of the skin, while the other half is hid beneath it. His walk is slower than that of a Tortoise, and he seems to move along with an affectation of gravity. He seems to seek for a proper place to set his feet upon, and when he climbs up trees he does not trust to his feet like Squirrels, but endeavours to find out clefts in the bark, that he may get a surer hold.

His tail is like that of a Viper when it is puffed up and round; for otherwise the bones may be seen in the same manner as on the back. He always wraps his tail round the branches of trees, and it serves him as it were instead of a fifth hand. Some have said that the entrails of this animal are like those of a man, only there are neither spleen nor bladder. However, there are several other differences, as appeared in that which was dissected by the *Members of the Academy at Paris*.

When the skin that covered the breast and belly was removed, there appeared membranes that joined the ribs together instead of intercostal muscles; but they were so thin that the entrails might be seen through them, and near the liver they were of a green colour. The liver was of a reddish brown, and divided into two lobes, between which the gall bladder lay of the size of a pea. The stomach lay under the liver, and seemed to be nothing but a continuation of the gullet, which was a little larger in the belly, and was of the same colour and substance as the gullet. There was no appearance of any spleen, and the kidneys were two bits of flesh lying along each side of the spine, in the region of the loins. They did not adhere so close to the back as to be mistaken for muscles. They were about an inch long, and one sixth of an inch broad.

In a small one that was opened, there were a dozen eggs found of the size and shape of peas, full of a yellow

low thick liquor. Most of the parts, namely, the stomach, liver, and guts, were supported and sustained by a very strong membrane, and a ligament, which descended into the lower belly from the sword-like cartilage. There were also others which proceeded from the same place, and were transparent, and joined to several more of different shapes. These in reality were nothing else but vesicles of the lungs, as appeared from blowing into the windpipe. There were several others, which did not appear till they were filled with wind, and then they resembled the bladder of a Carp. These membranes thus distended with wind were a little transparent, and very thin; but they were strengthened with fibres that lay like net work upon them.

The heart was very small, it being but a quarter of an inch long; but its ears were very large, especially the left, and they were somewhat of a redder colour than the heart itself, which was but pale. The tongue was almost an inch long, and a quarter of an inch broad; it was round, and a little flattish near the end; it consisted of white solid flesh, and was open at the end like the trunk of an Elephant. It was joined to the os hyoides by means of a tube in the form of a gut, which was six inches long, though but a line thick, and it was of a nervous substance within, and covered with a membrane without. The use of this was to thrust the tongue out of the mouth for catching of insects, on which this animal lives; and it is wonderful to see with what swiftness it darts its tongue at a Fly, which it never misses. All the ancient writers, as well as many of the moderns, have affirmed a Camelion lives only on the air; the contrary of which might have easily been known by opening the stomach, which is always found full of insects.

Cornelius le Brun, in his *Travels through Asia*, informs us, he has had four Camelions in his possession at once, and he affirms they changed their colours four times in half an hour, without any evident reason. But he adds, their most constant colour is a beautiful green spotted with yellow, and sometimes with brown.

They

They often assume a grey, or rather a mouse colour, and sometimes again that of a Mole.

The MEXICAN CAMELION is of a very odd shape, the back being crooked, and the body thick; the head is adorned with a kind of crest, or triangular bony crown, bordered with small tubercles like so many pearls, some of which are also on the nose and forehead. The breast and all the under part of the body seems to be beset with a sort of teeth like saws, that reach as far as the tail, which is curled at the end. The back and belly are of a dark ash colour, but the sides are of a yellow pale ash colour, and covered with small round reddish scales. The female generally carries her tail turned upwards like a Pug Dog; but that of the male is not curled so much.

The AMBOYNA CAMELION has the tail turned upwards, and it has a sort of a crown on its head quite different from that of the former, for it resembles a sort of a capuchin, such as the fishermen wear in *Holland*. This crown is pretty flat, and covered with scales that look like pearls, as well as the throat and the rest of the body, where, however, they are more small. The eyes are large, and surrounded with a ring, with spokes like a coach wheel. The spine of the back and tail are round and arched, and the joints may readily be perceived. The body is covered with small scales of a brownish ash colour, but those on the head, legs, and tail are a little lighter.

The CAMELION of *Ceylon* is somewhat of a saffron colour, and all the scales rise like pearls, which on the upper part shine pretty much. The crest or crown is unlike those of the former two, for it is covered with large convex scales, and bordered very curiously with round buttons. The snout is very large, and blunter than in other Camelions; the throat is also large, and the tongue long, which it can thrust out pretty far, and draw it in again. The under part of the body, from the lower jaw to the vent, is full of small teeth or prickles, made like a saw. It lives, like the Ant Bear, upon Ants that come upon his tongue when it is thrust out.

The AFRICAN CAMELION is blackish, but the teeth, or prickles on the back, are white, It is the largest of this kind, and its tongue, when thrust out, resembles a Neat's tongue turned upside down, being flat and rough underneath. The prickles, which are like a harrow, are extremely white, and surrounded with a blackish streak. The upper part of the body, the head, and tail are painted with a bright ash colour in the form of flames. The legs are long and slender, and the feet thick, consisting of five toes, at the end of which are small sharp crooked claws.

The CAMELION of the *Cape of Good Hope* is mottled with white and blue, and the greatest part of the tail is of a bright ash colour. The crest or crown is flat, oblong, and dentated at the edges, extending from the point of the snout to the neck, where it is folded like the collar of a coat. It assumes the colours that are next it, appearing blue, yellow, and green, &c. by turns.

The MAGNIFICENT LIZARD of *Seba* is a female, and is extremely remarkable for its beautiful colours; the whole body is covered with small scales, variegated with black, white, and red, and the fore part of the head is marbled so curiously as not to be imitated by art. All the other parts of the body seem to vie with this for the beauty of the colouring, and the delightful disposition of the spots. They are very harmless animals, and never offer to bite those that handle them; nor are they at all venomous. This was known to be a female by her bending her tail upwards.

The male of the former has white spots in the shape of flowers, and the whitish spaces between them are very small, having the appearance of brass. However, there are no other colours besides than a jet black and splendid white; but they are beautifully mixed, even to the end of the tail and toes. The tongue is long and forked like those of Serpents, but is somewhat broader. There is another, which besides flowers, or eyes, as some call them, that run cross the back, have scales all over the other parts, that might be mistaken for pearls. Those on the upper parts are brown, with
a black

a black speck in the middle; but those on the belly, except the black spots, are as white as snow, and adorned with streaks of a bright chefnut colour, which extend to the upper part of the body, and the tail is circled with white rings according to *Seba*.

The FURROWED LIZARD is furnished with small furrowed scales, and the back is radiated with furrows like so many streaks, which are partly blackish, and partly of a pale blue. The thighs and legs are spotted with black, and the belly is of a pale blue, covered with large scales speckled with black.

The ORIENTAL SPOTTED LIZARD is of a brown copper colour on the upper part, with a large thick head of not so deep a colour, and covered with uniform scales. There are the like on the thighs and paws; but on the rest of the body and tail they are very small. The eyes are large, and the aperture of the ears is of a pale red. From the head to the end of the tail there a sort of teeth, which are most remarkable on the shoulders and tail. Along the back, towards the sides of the belly, there are three rows of white radiated spots, and the articulations of the feet and toes are marked with white spots.

There are several LIZARDS of *Ceylon* taken notice of by *Seba* in the following order. The *first* is very pretty spotted like a Tiger, and all the upper part of the body is covered with fine scales, marked with beautiful whitish spots, upon a reddish ash coloured ground. There is the same variegation on the thighs, legs, and tail; but the lower part of the body is covered with scales marked with large white spots, as well as the head and neck; however, the end of the tail is of a reddish ash colour. The animal is harmless, and it lives on herbs, worms, and snails.

The *second* makes an agreeable appearance, and has very pretty scales of a dark reddish colour. The head and neck are variegated with streaks of a shining white, and the back, as far as the tail, is adorned with spots and streaks of different sizes. All the lower part of the belly, the thighs, legs, feet, and toes, are spotted like a Tiger.

The

The *third*, called the LAZY LIZARD, is very harmless, and is remarkable for having his testicles without the body, contrary to what is usual in these animals, and they are placed near the anus. The back is finely mottled with white and a mixture of bay brown; and the belly is of a reddish yellow. It is covered with thin oblong scales, ranged in streaks, and marked with white variegations inclining to a yellowish ash colour, as well as the under part of the tail. The under part of the neck and thighs is furnished with curious rhomboidal scales, mottled in a delightful manner.

The *fourth* LIZARD of *Ceylon* was a female, which *Seba* has caused to be drawn on her back, to shew the disposition of the eggs after her belly was opened. They were connected to two membranes joined together. The eggs were separated from each other by a distinct membranous covering, and towards the sternum they were attached to a common strong membrane. Another laid her eggs one by one till all were deposited in a soft place, after which she hid them all under a delicate covering, and then she left them to be hatched by the heat of the sun. The belly is of a bright ash colour, covered with rhomboidal large scales, as well as the hinder part of the hind paws, but of a different shape. The under part of the neck and fore paws are speckled with red. Before the anus between the thighs, and in the midst of several small scales, there are three large whitish scales in the shape of trefoil. Here the tail begins, and it is composed of rings, and covered with scales to the end, each of which is marked with a red spot. The upper part of the body is marked with spots of a deep brown colour, and the skin is thick and tough.

The *fifth* is a small pretty Lizard of a yellowish green colour, and variegated with bay brown spots. The *sixth* is also a small Lizard, with two whitish streaks on the back, which reach from the mouth to the thickest part of the tail. The scales are small, thin, and of a shining chefnut colour, and the eggs are of the size of small peas.

The

The *seventh* is spotted with white and black, and the scales are small, thin, and of a bright ash colour, speckled with black. The head is adorned with whitish specks, and all the paws are divided into five toes. The *eighth* is spotted like a Tiger, and has a forked tail. This is composed of rings, and is divided into two parts, the lowermost of which terminates in a round blunt bottom, which is a great curiosity. The whole body, not excepting the legs, feet, and claws, is spotted like a Tiger. The head is covered with very pompous scales, and the upper part of the body is of a pale blue, sprinkled with brown spots, and small thin scales; the sides are of a deep chestnut colour, variegated with white spots like stars; there is likewise a streak on each side that separates the back from the belly.

The *ninth* is a CRESTED LIZARD, with dentated teeth on the back, that reach as far as the tail, and are formed by scales that rise up. On the Head there is a crest like that of Camelions, and the throat is bordered with pretty large scales of a bright brown, and spotted like the skin of a Tiger, only the spots are of a deep red bay colour. The legs are long and slender, and adorned with bright bay scales. The eyes are large with yellowish circles, and the crest and dentations of the back are of the same colour.

The *tenth* has a wide mouth, and a whitish belly, covered with very oblong scales, that join in the middle like a future. The base of the Tongue is connected to the bottom of the mouth, and it is forked at the end. The lower jaw is furnished with several pointed teeth, but there is none in the upper; though there are many Lizards that have teeth in both jaws.

The BLUE LIZARD *of the Island of Java*, has all the upper part of the body of a fine blue, set off with white spots on each side the belly, the hinder thighs and the tail. The head is radiated with three whitish streaks, that run from the mouth and eyes to the ears, which are deeply hid in the head. This last is oblong and pointed, and the back is covered with small blue scales, which are smaller on the tail and legs. The scales

scales on the belly are rhomboidal, and of a greyish ash colour. It is said to feed upon Rats and Mice. Some travellers say, that there are many Lizards in the island of *Java*, that come into the houses, which are of a white and tawney colours, and are very familiar with the inhabitants, they being very harmless good natured animals.

The LIZARDS of *Africa* taken notice of by *Seba*, are, 1. The yellow Lizard, speckled all over with black. 2. The brownish black Lizard, with large thick scales, and clumsy feet. 3. The Lizard with a sort of a faded blue cloak over his body, which is crossed with blackish irregular streaks. The scales are small but rise in tubercles, resembling pearls. The thighs and legs are marked with blackish round spots, and the large tail terminates in a point; but it is beset with scales like the teeth of a saw. 4. The Fillemot Lizard, has a very large streak on the back surrounded with a border, and the other part are spotted with black, except the head, which is covered before with vast tawney scales. 5. The amphibious Lizard, has a very short tongue and legs, with a short broad tail, and is by some taken to be a kind of a Salamander. The scales of the male are purple, mixed with black spots, and there are also little white marks. Along the back from the head almost to the end of the tail, the scales rise up in dentations, and there are red and white spots on the belly, that makes it look like marble, whose ground is of a bright yellow. The female has no dentations on the back.

6. The LIZARD *with a prickly tail*, has a large head like a terrestrial Salamander, with a thick short tongue. The top of the head is covered with large handsome scales, but the eyes are small, and hid under the upper eye-lids, which are of a very lax texture. The scales on the upper part of the body and legs, are of a pale blue, but on the sides they are more of a lead colour; besides one half of the body is prettily streaked, and the thighs and paws are striped with chestnut. The tail is covered with oblong pointed dentated scales, that seem to be united by articulations.

The

The female has a less head, and a shorter tail than the male.

7. The GUINEA LIZARD, is all over blue, except some whitish streaks on the back. The head is small, but covered with large scales, and the neck, belly, thighs and feet, are furnished with small scales of rhomboidal shape. The tail is circled with thin rings, variegated almost like marble. 8. The Prickly Lizard of the *Cape of Good Hope*, is armed all over with very sharp prickles, that adhere to extremely thick scales. They are terrible to look at, but do no manner of harm to mankind. The scales are brown and green, waved with black.

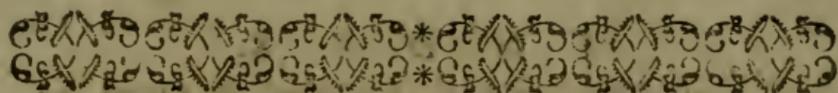
9. The MOTTLED LIZARD of *Nigritia*, is armed all over with prickles, and the colour is a deep red bay, mixed with white. The head is the only part that is smooth, and without white. 10. Another Lizard of *Nigritia*, is covered on the upper part with thin, small, deep grey scales, speckled with white; but the other parts are furnished with larger. The scales on the forehead are bordered with white, and on the top of the head there is a thick broad scale or shell of rhomboidal figure, bordered all round with white, and speckled above with small whitish scales. The belly is whitish variegated with grey.

Linnaeus in his last edition of *Systema Naturæ* has forty-two Lizards, of which he gives the characteristics, and which are so short, they would give but little satisfaction to an *English* reader: As for instance, the *Orbicular Lizard* beforementioned, is called by him *Lacertus cauda tereti brevi, trunco subgloboso, supra Muricato*, that is, *the Lizard with a round short tail, and a subglobular body, prickly on the upper part*. He sometimes distinguishes them by the lines on the back, as the Lizard with a long round tail, and two yellow lines on the back, interspersed with black specks; that with the long round tail, and eight streaked lines on the back; and that with the longish round tail, and a brown back, streaked with five yellowish lines. The *Senembi* and *Iguana*, he distinguishes thus, The Lizard with a long round tail, a dentated future on the
back

back, and the crest of the throat denticulated; to which he adds this remark, *Capitur linea loquari; Caro omnium sapidissima siphiliticis noxia*, which means that it is taken with a snare, and has flesh extremely well tasted, though it is bad for those that have the *French disease*.

This specimen is sufficient to give the reader some idea of the work, one volume of which is lately published, and contains 823 pages in octavo. It treats of quadrupedes, birds, fishes and insects, and is brought to that length by inserting the names by which they are called by other authors, and the pages where they are to be found. *Linæus* is undoubtedly a great genius, and has taken prodigious pains to be acquainted with the nature of animals, vegetables, and minerals; and yet in some things he seems to be deficient. He says, the *Europeans* have long yellowish hair and blue eyes, which may be true of the *Swedes* and *Danes*, but not of the inhabitants in general. His words are *Europæus pilis flavescens prolixis, oculis cæruleis*. Among monstrous people, he reckons the inhabitants of the *Alps* for their smallness, and the *Patagons* for their largeness. Now if the *Swiss* are inhabitants of the *Alps*, we are certain this observation is not true in general: And as for the *Patagons*, that is the people near the *Straits of Magellan*, it is true, that they were at first represented as giants; but Sir *John Narborough*, and all sober seamen that have visited these parts of late contradict that report, and affirm they are of the same size as other men. Among the monstrous people he reckons the slender *European ladies*. *Juncæ puellæ abdomine attenuato*: *Europææ*. Whether slender waisted, which must be meant by *abdomine attenuato*, is improperly expressed, must be left to the critics; but be that as it will, I think this circumstance rather deserves a jocular than a serious remark.

The End of the First Volume.



T H E

I N D E X.

A

A Gutti, or Acuti, 298
African Goat, wild,
54
Alligator, 337
Alpine Mouflon, 294
Americans, native, 152
Americans of North Carolina, 155
Antelope, 50
— Anatomy of, 51, 52
Americans of the Isthmus of Darien, 156
Ant-Bear or Eater, 241
Anta, 106
Anolis, a sort of Lizard, 350
Animals, ruminating, 23
Ape, 115, 116. See Monkey
— Anatomy of, 116
Açuiquis, a Brazilian Monkey, 122
Armadillo, Indian, 311
— of Margrave, 308
— South American, 309
— of Guiana, 311
— African, 311,
— Weazle-headed, 312
Arabian Camel, 109
— Anatomy of, 111
Arabs 109
VOL. I.

Afs, 16,
— African or Zebra, 20
— wild, 18
Afs flesh, its properties, 19
Asses, Syrian, 18
Assyrian Goat, 54
Axis, a sort of Deer, 72

B

Bactrian Camel, 110
Badger, 249
Badger of Surinam, 352
— stinking, 245
— white, 232
Baboon, 118
Barbary Cow, 42
Baris, a sort of Monkey, 130
Baruyroussa, an East-Indian, hog, 82
Bats, 310
Bats of the river of the Amazons, 317
Bats of Malabar, 318
Bats of the island of Java, 318
— of the islands near Madagascar, 318
— great, of Madagascar, 319
— of Jamaica, 319
Bear, 190
Bear, white Greenland, 196
T Bear,

I N D E X.

- | | |
|---|--|
| <p>Bear, North American, 192
 — Sea, 214
 — Hunting, 194
 Bear, Anatomy of, 191
 Beeve, 25
 Beeve, Siberian, 42
 Beeve, age of, how known,
 26
 Beeves, where largest, 30
 Beaver, 375
 — American, 246
 — Anatomy of, 278,
 279
 Beaver, white, 280
 Beaver, European, 280
 Beaver, hunting, 283
 Bezoar Goat, 53
 Bison, American, 40, 41
 — 36, 40
 — how caught, 37
 Bloodhound, 227
 Boar, 75
 — wild, 78
 — Anatomy of, 76
 Bonafus, a kind of Beeve,
 37
 Bocaque, a sort of rabbit,
 266
 Brock, 242
 Bucelaphus, 55
 Buck, 62
 Buck, Roe, 72
 Buffalo, 38
 — American, 40
 — East-Indian, 39
 — of the Cape of
 Good hope, 140
 — Little Indian, 39
 Bugee, a sort of Monkey,
 124
 Bull, 25
 Bull Frog, 326</p> | <p>Bull-beef, its nature, 33
 Bull-dog, 226
 Bunsing, 245
 Burattians a people, 167
 Butter, its properties, 34</p> <p style="text-align: center;">C</p> <p>Caitaia, a Brasilian Mon-
 key, 122
 Calf, lungs of, their pro-
 perties, 35
 Calves, marrow, its pro-
 perties, 36
 Calves feet, their proper-
 ties, 35
 Camel, Arabian, 109, 111
 — Bactrian, 180
 — Turkman, 109
 Camel Sheep, 114
 Camelion, 361
 — Anatomy of, 364
 — Mexican, 367
 — of Ambryna, 367
 — of Ceylon, 367
 — African, 368
 — of the Cape of Good-
 hope, 368
 Camelopardalis, 74
 Cagui, a sort of Monkey,
 120
 — lesser, 120
 Caribou, a sort of Deer,
 67
 Ca cajou, a sort of Cat,
 68, 187
 Californians, a people, 157
 Carigoy, 240
 Castor, 275
 Capi-bara, 187
 Car, common, 189</p> <p style="text-align: right;">Cat,</p> |
|---|--|

I N D E X.

Cat, wild, 188
 — a mountain, 86
 — North American, 188
 Cats of the Cape of Good-
 hope, 188
 Cat, Pole, 256
 — Civet, 233
 — red wild, 129
 — of the wood, 189
 — Tyger, 189
 — Syrian, 189
 — Cyprus, 189
 --- Anatomy of, 189, 190
 --- Civet, anatomy of, 134
 --- flying, 317
 Catus pardus, 186
 Cavia-Cobaya, 297
 Cayman, 337
 Cheese, its properties, 35
 Chimpanzee, 128, 129
 Coati, 236
 Coati-mondi, 238
 — Anatomy of, 238
 — of Brasil, 242
 — Anatomy of, 243
 Conepatl, a sort of fox,
 245
 Cow, 25
 Cow, Barbary, 42
 Cow Beef, its properties,
 33
 Cow, Sea, 108
 Cow's urine, its virtues, 23
 Cow's milk, its properties,
 33
 Cricetus, of Gesner, 293
 Crocodile, 332
 — purse-bellied, 339
 Cur-dog, 128
 Cuguacu, a Brazilian Goat,
 73

D

Danish dog, 226, 227
 Deer, 62
 Deer, Rain, 70
 ——— anatomy of, 71
 Deer Moose, 64
 ——— Spanish, 62
 ——— Virginian, 61
 ——— South American,
 62
 Doe, 62
 Dog, 224
 Dog, flying of New Spain,
 320
 Dog, flying, of Tarnate,
 340
 Dogs, wild, of Congo, 229
 — of the Cape of Good-
 hope, 229
 Dog, Sea, 203
 ---- Danish, 226
 Dormouse, greater, 292
 ——— lesser, 293
 Dromedary, 110

E

Earth-pike, 352
 Eft, 342
 Elephant, 96
 ——— Anatomy of, 98
 ——— teeth, 97
 ——— trunk, 103
 Elephant, sea, 194
 ——— bones of, 104
 Elk, 63
 ---- red Russian, 63
 ---- of the Cape of Good-
 hope, 68
 ---- horns of, 64

I N D E X.

Esquimaux, a people, 149
 Ermine, 355
 Ewe, 43

F

Fawn, 62
 Ferret, 255
 ——— Indian, 234
 Fitchet, 256
 Flitter-Mouse, 316
 Fly eaters of the West Indies, a sort of lizards, 350
 Flying cat, 317
 Flying-dog of Ternate, 320
 ——— of New Spain, 320
 Foumart, 253
 Fox, 230
 ——— Anatomy of, 232
 ——— of Carolina, 233
 ——— of Macassar, 233
 Frog, land, 323
 ——— water, 323
 ——— anatomy of, 323, 324
 ——— green, 324
 ——— bull, 326
 Frogs of Martinico, 325
 Frogs, land, of Carolina, 326
 ——— American, 327
 ——— of Surinam, 327
 ——— Brasilian, 327
 ——— sea, American, 327

G

Gazel, African, 53, 54
 Gazel, Indian, 53
 Gennet, 259
 Giants, antediluvian, 172
 Glis, 301
 Glutton, *Preface*

Goat, 46
 ——— Assyrian, 54
 ——— of Natolia, 55
 ——— little American, 47
 ——— of New Spain, 47
 ——— Indian, 47
 ——— red Tartarian, 47
 ——— mountain Tartarian, 47
 ——— Abyssinian, 48
 ——— wild Ægyptian, 48
 ——— stone, 48
 ——— wild African, 54
 ——— shamoy, 48
 ——— Lybian, 50
 ——— Bezoar, 53
 ——— domestick of the cape of Good-hope, 56
 ——— blue, 56
 ——— spotted, 56
 ——— wild of the cape of Good-hope, 57
 ——— diving, 57
 ——— of the size of a hare, 57
 ——— Greenland, 74
 Greyhound, 227
 Greenlanders, a people, 148
 Grey, 249
 Guanaco, 114
 Guereba, a sort of Monkey, 120
 Guinea-pig, 296
 ——— anatomy of, 297

H

Hare, 262
 ——— anatomy of, 263
 ——— of Java, 264
 Har-

I N D E X.

- Harlequin-dog, 227
 Hart, 58
 Hay, a sort of Monkey, 122
 Hartshorn, its virtues, 61
 Hedgehog, 304
 ——— anatomy of, 305, 306
 ——— Siberian, 307
 ——— of Malacca, 307
 ——— American, 307
 Hind, 58
 ——— of Sardinia, 60
 ——— anatomy of, 60
 Hippelaphus, a sort of elk, 69
 Hippopotamus, 94
 Hog, 75
 — musk, 82
 — water, 107
 — East-Indian, 81
 — Guinea, 81
 Horse, 1
 ——— wild, 10
 Horses, of the Cape of Good-hope, 10
 ——— Chinese, 10
 ——— Tartarian, 10
 Horse, sea, 94
 Horses, Polish, 10
 ——— wild Tartarian, 10
 ——— American, 10
 Horse, anatomy of, 10
 Hottentots, a people, 159 to 164
 Honour, 227
 ——— blood, 227
 Hyena, 185
- I
- Jackall, 222
 Jareta, or Ounce, 186
- Ibex, 48
 Ichneumon, 260
 Iguana, Indian, 343
 ——— of Surinam, 345
 ——— of Ceylon, 346
 ——— of Formosa, 346
 ——— of Surinam, 347
 Indian Gazel, 53
 Indians, a people, 168
- K
- Kid, 46
- L
- Land spaniel, 228
 Lamentin, 208
 Lap-dog, 226
 Lagarto, 332
 Laplanders, a people, 147
 Leming, 300
 Lizard, green, 342
 ——— named Tarantola, 343
 ——— Indian, called Senembri, 343
 ——— Brasilian, termed Taraguira, 348
 ——— Brasilian, called Taraguico 348
 ——— green, of Carolina, 347
 ——— Brasilian, 347
 ——— named the tail-beater, 340
 ——— of New Spain, 341
 ——— large, of Surinam, 341
 ——— American, called Argus, 341
 ——— water, called Af-colotle, 341
- Lizard,

I N D E X.

- Lizard, American, with a bag under its neck, 351
 — West-Indian, called Skink, 352
 — West-Indian green and spotted, 353
 — Spotted with a forked tail, 354
 — Indian, with a thorny tail, 354
 — Scorpion, 355
 — green, of Carolina, 355
 — called Tok-kay, 356
 — anatomy of 356
 — Indian, termed Bulgelugui, 356
 — of Ceylon, 357
 — Chalcidican, 357
 — spotted or swift, 358
 — scaly of Clusius, 359
 — Indian flying, 360
 — American flying, 360
 — African flying, 361
 — magnificent, 368
 — furrowed, 369
 — oriental spotted, 369
 — of Ceylon, spotted like a tyger, 369
 — of Ceylon, with dark reddish scales, 369
 — lazy of Ceylon, 370
 — of Ceylon, with deep brown spots, 370
 — of Ceylon, yellowish green, 370
 — of Ceylon, spotted with white and black, 371
 — of Ceylon, with a wide mouth and whitish belly, 371
 — blue of Java, 371
- Lizard yellow African, 372
 — African brownish black, 372
 — African, with a faded blue cloak, 372
 — African, of a fillemot colour, 372
 — African, amphibious, 372
 — with a prickly tail, 372
 — blue Guinea, 373
 — mottled, of Nigritia, 373
 — Brasilian, called Carapopeba, 349
 — South American, termed Ameiva, 348
 — Brasilian, called Americima, 348
- Leopard, 182
 Llama, 115
 Lynx, 184
 — of Brasil, 186
 Lyon, 174
 — anatomy of 175, 176, 177
 Lyon, sea, 217
 Lyones, 178
- M
- Maboya, a lizard of the Caribbee islands, 352
 Macaquo, a monkey of Angola, 122
 Manatee, 208
 — of Kamskatka, 209
 — anatomy of, 210
 Maki, 132
 — ash-coloured, 139
 — black, 133
- Maki,

I N D E X.

- Maki, fomewhat like a squirrel, 134
 — brown, 134, 135
 Mankind, 136
 — anatomy of, from 136 to 146
 Man of the wood, 26
 Manguft, 301
 Mare's milk, 10
 Maritacaca, 246
 Martes, 257
 Martin, 257
 Martlet, 257
 — anatomy of, 257
 Marmout, 294
 — Bahama, 296
 — American, 296
 — Polish, 296
 Marmofa, 303
 Maffiff-dog, 226
 — Dutch, 226
 Milk, fugar of, how made and its virtues, 34
 Mix, a fort of pole-cat, 325
 Monkey, 115
 Monkey, of Malacca, 130
 — beardlefs of Clufius, 125
 — bearded of Clufius, 125
 — of Condamine, 117
 — little black, 118
 — of Angola, 122
 — bearded, 123
 — of Guinea, 123
 — Indian, 124
 — green, 131
 — pig tailed, 131
 Monkey of St. Jago, 131
 Mole, 313
 Mole anatomy of, 134
 Maki, 132
 Maucauco, black, 133
 — like a squirrel, 134
 — brown, 134, 135
 — afh-coloured, 135
 Mongoos, 132
 Moose-deer, 64
 Moose, black, 67
 Morfe, 205
 Mofchelaphus, 55
 Moufe, 291
 — field, 291
 — field great, 292
 — tree, 301
 Muffon, 45
 Mufimon, 45
 Muik-rat, 290
 — Animal, 107

N

- Naked dog, 228
 Negroes, a people, 158
 New 342
 — Earth yellow-fcaled, 342
 Noician moufe, 393
 Norway moufe, 300
 Nut moufe, greater, 298

O

- Onager, 18
 Onza, 186
 Oposium, 246
 Orang-Outan, 126, 127
 Orang Outan, 129
 Orignal, 64
 Oftiacks, a people, 166
 Otter, 219
 — anatomy of, 220, 221

Bra-

I N D E X

Otter, Brasilian, 222

Ounce, 186

Ox, 25

Ox, anatomy, 27

Ox-beef, its value, 31

Ox-gall, its properties, 32

P

Paca, 299

Pacos, 115

Panther, 182

— American, 183

Papio, a sort of baboon,
124

Peruvians, native, a people,
153

Pecary, 82

— anatomy of 84

Phoca, 204

Pig, 75

— Guinea, 296

Pointer, Spanish, 228

Pole-Cat, 256

— American, 256

Pongi, a sort of Monkey,
120

Porcupine, 267

— anatomy of, 269

— of Hudson's-Bay,
274

— of the Cape of
Good hope, 274

— East-Indian, 271

— American, 271

Possum, 246

— its peculiar property,
247

— three sorts of them,
248, 249

Potto, 322

Pug dog, 226

Q

Quequehatch, 252

Quojas-morrou, 126

R

Rabbit, 264

— of Bahama, 265

— Brasilian, 266

Rabbits of Carolina, 266,

— of the isthmus of Darien,
268

Rabbit-dog, 227

Racoon, 236

Racoon of Carolina, 237

Rain-Deer, 70

— anatomy of, 71

Ram, 44

Rat, 290

— Musk or Muscovy, 290

— African, 303

— of Pharaoh, 260

— water, 290

— wood of Seba, 304

Rell, 301

Rennet, what, 36

Rhinoceros, 90

— African, 91

— horn of, 93

— flesh of, how valued,
93

Roe-Buck, 72

Roe Deer, 72

— of North America, 72

— of China, 73

Roquet, a sort of Lizard,
351

S

Sable, 259

Salamander, earth, 358

Sala-

I N D E X.

- Salamander, water, 359
 Samoides, a people, 150
 Seal, 203
 Sea-Elephant, 94
 Sea-Calf, 204
 Sea-Bear, 214
 Sea-Horse, 305
 — flesh of, how valued,
 95
 — Greenland, 205
 Sea-Cow, 208
 Sea-Dog, 203
 Sea Lion, 217
 Setting-Dog, 128
 Sheep, English, 43
 — broad-tailed, 44
 — African, 45
 — of Angola, 45
 Shrew, or Shrew-Mouse,
 314
 Shamoy-Goat, 48
 Shock-Dog, 228
 Shoe-Goose, 183
 Siberians, a people, 169
 — Beeve, 42
 Sijah-Gush, *Preface*
 Skink, 357
 Sloth, 321
 — African, 322
 — of Ceylon, 322
 Sluggard, 321
 Sow, 71
 Sow, wild, 79
 Spanish-Deer, 62
 South-American Deer, 62
 Spaniel, water, 228
 — land, 228
 Squirrel, 284
 — black, 286
 — variegated, 286
 — large grey Virginian,
 286
 Squirrel Fox, 286
 — flying American, 286
 — flying Siberian, 287
 — flying of Klein, 387
 — ground, 288
 — of New Spain, 288
 — Brasilian, 289
 — Barbary, 289
 — white Siberian, 286
 Stag, 58
 Stags, Chinese, 59
 Stag of New Spain, 59
 Stags of Mexico, 59
 Stag, North-American, 59
 — Sardinian, 60
 Stags horns, their virtues,
 61
 Stello, 358
 Stoat, 255
 Stone Goat, 48
 Strepficeros, 45
 Sucuitiro, or Sucutario, 105

T

- Tagan-Devil, a sort of Li-
 zard, 349
 Tajuca, 81
 Takay, 332
 Tamandua-guaca, 241, 315
 Tapeti, 266
 Tapiereete 90
 Tartarian., a people, 165
 Targazirians, a people, 168
 Tatu, 308
 — of the West-Indies, 308
 — weazle-headed, 312
 — of Nieuhoff, 312
 — Apera, 310
 Tatuete, 310
 Terrier, 226

Tibi

I N D E X

- Taibi, 249
 Tiger, 179, 180
 — American, 181
 — African, 182
 Tiger-Wolf 223
 Tejunhana, a sort of Lizard, 350
 Toad, 328
 — ash coloured, 330
 — horned prickly, 328
 — headless, 329
 — Brazilian, called Aquaquaquum, 329
 — of Brasil, 328
 — of Surinam, 330
 — American, 329
 — of Brasil, with a granulated body, 329
 — Prussian, 330
 — spotted Prussian, 331
 — blackish brown, 331
 — of caves and cellars, 331
 — triangular-headed, 331
 — frog-headed, 331
 — with a capuchin, 331
 — horned, 331
 Tumbler, a sort of dog, 227
 Turkish dog, 228
 Turkman-camel, 109
 Turks, a people, 170
 Tungufans, a people, 167
- U
- Unicorn, 22
 Urchin, 304
 Urus, a sort of Beeve, 36
- Uzquiepatl, a sort of fox, 345
- V
- Veal, its properties, 45
 Vicuna, 114
 Virginian Deer, 62
 Virginians, native, a people, 154
- W
- Walruis, 205
 Warree, an American hog, 89
 Wampoofe, 66
 Want, 313
 Wanderow, a Ceylon Monkey, 124
 Water-hog, 107
 Water spaniel, 228
 Weather, 44
 Wild afs, 18
 Wild boar, 78
 — flesh of, how valued, 81
 Wild sow, 79
 Weazle, 253
 — white, 255
 — African, 389
 Wild African Goat, 54
 Wisent, 36
 Whey, its properties, 34
 Wolf, 197
 — anatomy of, 198
 — North-American, 199
 — sea, 201
 — tyger, 223
 Wolverin, 252
- Z
- Zebra, 20

