

The SEALS, the WALRUS, and the MANATI.

LET us assemble, for a moment, all the quadrupeds into one group, and let the intervals or ranks represent the proximity or distance between each species. Let us place in the centre, the most numerous genera, and on the flanks those which are least numerous. Let us confine the whole within narrow bounds, that we may have the more distinct view of them; and we shall find, that it is impossible to round this inclosure. Though all quadrupeds are more closely connected together than to any other being, yet several of them make prominent points, and seem to fly off in order to join other classes of animated nature. The apes make a near approach to man. The bats are the apes of birds, which they imitate in their flight. The porcupines and hedge-hogs, by the quills with which they are covered, seem to indicate that feathers are not confined to birds. The armadillos, by their scaly shells, approach the turtle and the crustaceous animals. The beavers, by the scales on their tails, resemble the fishes. The ant-eaters, by their beak or trunk without teeth, and the length of the tongue,

Plate CXXIII.



CANADIAN OTTER.

claim an affinity to the fishes. In fine, the seal, the walrus, and the manati, are a separate corps, and make a great projection, with a view to arrive at the cetaceous tribes.

Seal, *walrus*, and *manati*, are rather generic than specific denominations: Under the seal we shall comprehend, 1. The *phoca* of the ancients, which is probably that we have represented in the figure. 2. The common seal, or sea-calf. 3. The great seal, of which Mr. Parsons has given a figure and description in the *Philosophical Transactions*, No. 469. 4. The very large seal, or *sea-lion*, described and painted by the author of Anson's voyage.

Under the name *walrus*, we comprehend the animals commonly called *sea-cows*, or *sea-horses*, of which we know two species, the one found only in the northern, and the other in the southern seas; the last is called *dugon* or *Indian walrus*. In the last place, under the term *manati*, we comprehend the animals called *lamantins*, or *sea-oxen*, in St. Domingo, Cayenne, and other parts of South America, as well as the *lamantin* of Senegal, and other parts of the coast of Africa, which appears to be only a variety of the American kind.

The seal and walrus are more nearly allied to the quadrupeds than to the cetaceous animals; because they have a kind of fore-feet. But the manati, which have only two fore-feet, resemble the cetaceous tribes more than the quadrupeds.

Both

Both differ from other animals by a singular character: They alone can live equally in air and in water; and, consequently, they alone merit the appellation of *amphibious*. In man, and the other terrestrial viviparous animals, the *foramen ovale* of the heart, which permits the fœtus to live without respiration, closes the moment after birth, and remains shut during life. In the seal and walrus, on the contrary, it is always open, though the mothers bring forth their young on land, and respiration commences immediately after birth, as in all other animals. By means of this perpetual aperture in the *septum* or partition of the heart, which allows a communication of the blood from the vena cava to the aorta, these animals enjoy the privilege of respiring, or not, at their pleasure. This singular power is common to the whole of them: But each possesses peculiar faculties, which shall be pointed out, as far as we have been able to learn, in the history of the particular species.

THE SEALS*.

IN general, the seals, like man, have a round head; a broad muzzle, like the otter; large high placid eyes; small or no external ears,

* In several European languages, these animals have received the denomination of *sea-calves*, *sea-dogs*, *sea-wolves*, and *sea-foxes*.
being

being only two auditory passages on each side of the head; whiskers round the mouth; teeth similar to those of the wolf; the tongue forked at the end; a fine neck; the body, hands, and feet covered with short and pretty coarse hair; no apparent arms, but rather two membranes or skins, investing five fingers, and terminated by five claws; two feet without legs, and perfectly similar to the hands, except that they are larger, and turn backward to unite with a very short tail, which they accompany on each side; a long body, like that of a fish, but thick at the breast, narrow at the belly, without haunches, crupper, or thighs. The structure of this animal is so strange, that it served as a model, upon which the imagination of the poets framed the Tritons, Sirens, and Sea-gods, with a human head, the body of a quadruped, and the tail of a fish. The seal, in effect, reigns in this mute empire, by his voice, his figure, his intelligence, and his talents, which are common to him with the inhabitants of the land, and render him so superior to the fishes, that they seem not only to belong to another order of beings, but to a different world. This amphibious animal, though his nature be very distant from that of our domestic animals, is susceptible of a species of education. He is reared by keeping him often in water; he is taught to give a salute with his head and his voice; he comes when called upon, and exhibits

bits several other marks of intelligence and docility*.

His brain and cerebellum are proportionally larger than in man. His senses are as good as those of any quadruped; and, consequently, his sensations are equally vivacious, and his intellect equally active: Both are exhibited in the gentleness of his manners, his social dispositions, his affection for the female, his attention to his offspring, and in the expressive modulation of his voice, which is superior to that of any other animal. He is also endowed with strength † and weapons of defence. His body is large and firm, and his teeth and claws are sharp. Besides, he enjoys advantages which are peculiar to him. He is neither afraid of cold nor of heat. He lives indifferently on herbs, flesh, or fish. He inhabits, without inconvenience, water, land, and ice. He, along with the walrus, alone deserves the epithet of *amphibious*. He

* Vituli marini accipiunt disciplinam, voceque pariter et vultu populum saluant: Incondito fremitu somine vacati respondent; *Phil. Hist. Nat. lib. ix. cap. 13.*—A Dutch sailor had tamed a seal-calf to such a degree, that it performed a hundred monkey tricks; *Voyag. de Mylius, tom. iii. p. 113.*

† On the coasts of Canada, we often heard, during the night, the voice of the sea-wolves, resembling nearly that of cats making love; *Hist. de la Novo. Franc. par l'Escurbut. p. 600.*—When we reached the island of Juan Fernandez, we heard the sea-wolves crying day and night; some of them bleated like lambs, and others barked like dogs, or howled like wolves; *Winds Rogers, p. 206.*

alone

alone has the *foramen ovale* of the heart open*; and, consequently, he alone can dispense with respiration, the elements of air and water being equally agreeable to him. The otter and beaver are not really amphibious, since air is their proper element; and, as they are deprived of this aperture through the septum of the heart, they cannot remain long under water, but are obliged either to leave it, or to raise their heads above it, in order to respire.

But these great advantages are balanced by imperfections still greater. The seal is a kind of crippled animal. His arms, thighs, and legs, are almost entirely shut up within his body. Nothing appears without, except his hands and feet, which are, it is true, divided into five fingers; but these fingers are not separately moveable, being united by a strong membrane; and these extremities are rather fins than hands and feet, a kind of instruments adapted for swimming, and not for walking. Besides, the feet are directed backward, like the tail, and cannot support the body of the animal,

* As the seals are destined to remain a long time in the water, and as the transmutation of the blood through the lungs cannot be performed without respiration, they have the *foramen ovale* open, as in the fetus, which never requires. It is an aperture which makes a communication between the right ventricle of the heart and the left, and allows the blood to pass directly from the cave into the aorta, instead of the long winding course of the lungs; *Hist. de l'Acad. des Sciences, tom. i. p. 84.*

which,

which, when on land, is under the necessity of trailing itself like a reptile *. This motion must be painful; for his body being unable to bend in the form of an arch, like the serpents, in order to obtain different points of support, and to advance by means of the reaction of the ground, the seal would remain fixed in the same place, were it not for his hands and tail, which he attaches to whatever he can lay hold of, and uses them with such dexterity, that he mounts very quickly upon a high shore, upon a rock, and even upon a board of ice, though slippery and steep †.

He

* The sea-wolves on the coast of Canada, which some call *sea-calves*, are as large as big dogs. They keep almost perpetually in the water, never removing to any distance from the margin of the sea. These animals rather crawl than walk; for, when out of the water, they only slide along the sand or mud.——The females bring forth their young upon rocks or small islands. They live upon fishes, and are fond of cold countries; *Voyage de la Resolution*, tom. ii. p. 45. * The seals are as big as calves, the head of them like a dog, therefore called by the Dutch the *sea-hounds*. Under each shoulder grows a long thick fin: These serve them to swim with when in the sea, and are instead of legs to them when on the land for raising their bodies up on end, by the help of these fins or flumps, and so having their tail parts drawn close under them, they rebound as it were, and throw their bodies forward, drawing their hinder-parts after them; and then again rising up and springing forward with their fore-parts alternately, they lie tumbling thus up and down all the while they are moving on land † *Dampier's Voyage*, p. 89.

† The sea-calves have very sharp teeth, with which they cut a slick as thick as a man's arm. Though they appear to be lame behind, they climb the boards of ice, upon which they sleep.——The sea-calves which frequent the coasts are fatter, and yield more oil, than those that inhabit the ice.——

We

He walks more rapidly than one should imagine, and, though wounded, he often escapes from the hunters by flight *.

The seals live in society, or, at least, great numbers of them frequent the same places. The north is their natural climate, though they can live in the temperate zones, and even in warm climates; for we find some of them upon the coasts of almost every European sea, not excluding the Mediterranean. They are likewise seen in the southern seas of Africa and America †. But they are infinitely more numerous in the northern seas of Asia, Europe ‡, and America; and

We sometimes find numbers of sea-calves upon such high and precipitous boards of ice, that it is astonishing how they should be able to climb them; *Deſcript. de la Pêche de la Baleine, par Zorgdrager*, p. 193.

* I gave several strokes of my sword to a sea-calf, which prevented it not from outrunning me; and it plunged into the water, from which I never saw it rise again; *Recueil des Voyages du Nord*, tom. ii. p. 130.

† The sea-calves are frequent in the northern parts of Europe and America, and in the southern parts of Africa, as about the Cape of Good Hope, and at the Straits of Magellan: And though I never saw any in the West Indies, but in the Bay of Campeachy, at certain islands called the Alceranes, and at others called the Deserts; yet they are over all the American coasts of the South Seas, from Terra del Fuego, up to the Equinoctial line; but, to the north of the Equinox again, in these seas, I never saw any, till as far as 21 north lat. Nor did I ever see any in the East Indies; *Dampier's Voyage*, p. 90.

‡ In mari Bothenico et Finnico, maxima vinulorum maritorum sive phocorum multitudo reperitur; *Ol. Mag. de Gen. Septent.* p. 163.——On the west coast of Greenland, we

and they are also very common in Magellan's Straits, the island of Juan Fernandes*, &c. In different climates, the species varies in size, colour, and even in figure. We have seen some of these animals alive, and are possessed of several stuffed skins. From this number we have selected two for the engraver. The first is the common seal † of our ocean, of which there are several

and many sea-calves, but very few about Spitzbergen. — The largest sea-calves are generally from five to eight feet long, and they furnish the best oil. — They are as fond of sporting on the ice as on land; and whole flocks of them are sometimes collected on the same board of ice. — The sea-calves are chiefly taken between the 74th and 77th degree, upon the western borders of the ice. They are also taken every year in Davis's Straits, and near Nova Zembla; *De Repts. de la Pêche de Baleines, par Germaine Zengedroger, vol. i. p. 193. translated from the German by M. le Marquis de Montmaill.*

* The seals come to the island of Juan Fernandes in the month of September to bring forth their young. They are then so fierce, that, instead of retiring from man, they advance in order to bite him, though armed with a bludgeon. . . . The margin of the sea is sometimes covered with them to the extent of more than half a mile; *Woods Rogers.*

† Common seal with large black eyes; large whiskers; oblong nostrils, flat head and nose; tongue forked at the end; two canine teeth in each jaw, six cutting teeth in the upper jaw, and four in the lower; no external ears; body covered with thick short hair; short tail; and five palmated toes on each foot, furnished with strong sharp claws. The usual length is from five to six feet. The colour is very various, dusky, brindled or spotted with white and yellow; *Pennant's Synopsis, of Quad. p. 339.*

Phoca; *Arch. Hist. Anim. lib. vi. c. xii. Oppian. Halicut. v. 376. Gysar. Pp. p. 830. Worm. Med. p. 289. Klein Quad. p. 93. Brisson, Quad. p. 162.*

Vitulus

several varieties. We have seen one which seemed to differ in the proportions of its body from the common kind; for its neck was shorter, its body longer, and its claws larger. But these differences are not sufficient to constitute a distinct species. The second is the seal of the Mediterranean and southern seas, which we presume to be the *phoca* of the ancients, and a distinct species; for it differs from the others by the quality of its hair, which is flowing and almost black, while that of the common kind is gray and coarse. It differs still more in the form of the teeth and ears; for it has a kind of small external ear, which the other wants: Its cutting teeth also terminate in two points, while those of the other are smooth and sharp-edged, like those of the dog, wolf, and other quadrupeds. Its arms are likewise placed lower or more behind. These differences, however, are perhaps only varieties depending on the climate, and not specific differences; especially as, in places where the seals abound, we find them larger and small-

Vitulus maris Mediterranei et oceanii; Reddiler. p. 453. 458.

Le veau marin ou loup de mer; Belon. p. 25.

Seal, sealie, or sea-calf, phoca five vitulus marinus; *Raii Synops.*

Quad. p. 189. Phil. Trans. vol. xvii. p. 120. tab. G. fig. 3.

Cafigack; *Cronst. Hist. of Greenland. vol. i. p. 123.*

Phoca vitulina, capite lavi lauriculato; *Lin. Syst. Nat.*

p. 56.

Sial; *Faun. Suec. No. 4.*

Le Phoque; *Buffon.*

Seal; *British Zoology, vol. i. p. 71.*

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er,

er, thicker and thinner, and of various colours, according to their sex and age *.

It was from a conformity, which, at first view, might appear slight, joined to some fugitive relations, that we judged this second or little seal to be the phoca of the ancients. We have been assured, that the individual in our possession was brought from India; and it is very probable that it came from the Levant. It was an adult; for it wanted no teeth. Its size was at least a fifth part less than that of the full grown seals in our seas, and two thirds less than those of the frozen sea; for it exceeded not two feet three inches in length,

* Canis ut hominē et equo, sic quoque vitulo marino occidit; *Olai Magus. de Grot. Sept. p. 165.*—The sea-calves are covered with short hair, of various colours: Some of them are black and white, others yellow, grey, and even red; *Descript. de la Pêche de Baleine, par Zuercher, p. 191.*—Near the bay of St. Matthew, in Magellan's Straits, we discovered two islands, where the sea-wolves were so numerous, that we could have loaded our five vessels with them in two hours. They were of different colours, and of the size of a calf; *Hist. des Navigat. aux Terres Australes, tom. i. p. 127.*—The sea-calves of Spitzbergen have their heads of different figures: Some of them are rounder, others longer and thinner under the muzzle.——They vary in colour.——Some of them are spotted like tigers; others are spotted with black and white: Some of them are yellow, others grey, and others red.——In some, the pupils of the eyes are of a crystalline colour, in others white, in others yellowish, and in others reddish; *Recueil des Voyages du Nord, tom. ii. p. 118.*—The skin of the sea-calf is covered with short hair of various colours. Some of these animals are white, as the whole of them are when first brought forth; and, as they grow up, some become black, others red, and others have a mixture of all these colours; *Charlevoix, tom. iii. p. 147.*

while

while that described by Mr. Parsons, though not an adult, as it wanted several teeth, was seven feet and a half. Now, the characters which the ancients ascribe to their *phoca*, correspond not with an animal of such magnitude, but apply to this small seal, which they frequently compare to the beaver and otter, animals that never can be compared with the large seals of the north. There is another relation, which, though false in its object, could never be attributed to our seals, or to those of the northern seas. The ancients, when treating of the *phoca*, tell us, that its hair waves, and, from a natural sympathy, follows the motions of the sea; that it lies backward when the tide ebbs, and forward when it flows *; and that this singular effect continues long after the skin has been separated from the animal. Now, this quality could never have been imagined with regard to our seals or those of the north; because the hair of both is short and stiff. But it agrees, in some measure, with the small seal, whose hair is waving, and much longer and suppler than that of the other kinds. In general, seals of the southern

* Pelles eorum etiam detractas corpori sensum aquarum retinere tradunt, semper adha maris recedente inbarrescere; *Plin. Hist. Nat. lib. ix. cap. xiii.*—Severinus asserts, that he saw this wonderful appearance; but he expresses it with such exaggeration as destroys its credibility. When the north wind blows, says he, the hairs which had been raised by the south wind, fall down so close, that they seem to disappear; *Mont. pour servir à l'Hist. des Animaux, part. i. p. 193.*

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have

have finer and softer hair than those of the northern seas*. Besides, Cardan affirms positively†, that this quality, which had been considered as fabulous, is found to be real in the Indies. Without giving more faith to Cardan's assertion than it deserves, it at least shows, that this quality is peculiar to the Indian seal. Perhaps the appearance, if it exists, is electrical; and both ancients and moderns, being ignorant of the cause, have ascribed the effect to the ebbing and flowing of the sea. But, however this matter stands, the reasons already given are sufficient to found a presumption that the small seal is the *phoca* of the ancients. It is likewise probable that it is the same with Rondeletius's *Mediterranean seal*‡, which, he remarks, has a body proportionally longer and thinner than the seal of the ocean. The large seal, of which Mr. Parsons has given a figure and description, and which was probably brought from the northern seas, seems to be a species distinct from the other two; for, though so young as to have hardly any teeth, it was more than double the magnitude of the common kind||.

M. Klein,

* At the island of Juan Fernandez, the sea-calves have a fur so fine, and so short, that I have seen nothing equal to it elsewhere; *Dampier*, vol. i. p. 118.

† Cardan de Subtilitate, lib. x.

‡ Rondelet. de Piscibus, lib. xvi.

|| Great seal, resembling the common, but grows to the length of twelve feet: (A gentleman of my acquaintance shot one of that

M. Klein*, as well as Mr. Parsons†, have said a great deal concerning this animal in a few words.

From

size in the north of Scotland.) That described in the Philosophical Transactions was seven feet and a half long; yet so young as to have scarce any teeth. The common seal is at full growth when it has attained the length of six. It inhabits the coasts of Scotland, and the south of Greenland; *Pennant's Synops. of Quad.* p. 341.

Ullak; *Craute's Greenland*, vol. i. p. 125.

* Klein de Quad. p. 93.

† This sea-calf was shewed at Charing-cross, London, in the month of February 1742. The figures given by Aldrovandus, Johnston, and others, being profiles, lend us into two errors: 1st, They make a cubit in the fore-limb, which is not visible in any shape from the surface of the body: And, 2^{dy}, make the posterior parts terminate in two fins, which, on the contrary, are actually webbed feet, like those of water-fowl, consisting of five toes, each having three articulations, and ending with nails of a darkish colour. The nails of the fore-paws are very considerable, being like the paws of a mole, contrived for crawling upon land, and partly for swimming, by a narrower web between each toe; but the hinder feet are extensive webs, serving alone to drive or row the creature in the waters. The animal, which was a female, died yesterday morning, Feb. 16, and the viscera were as follows: The stomachs, intestines, bladder, kidneys, ureters, diaphragm, lungs, great blood-vessels, and *patella*, were like those of a cow. The hairs of the whiskers are very long and clear. The spleen was two feet long, four inches broad, and very thin. The liver consisted of six lobes, each hanging as long and thick as the spleen, with a very small gall-bladder. The heart was long and sabby in its contexture general; having a large *foramen ovale*, and very great *columns coruscae*. In the lower stomach were about four pounds weight of stony pebbles, of which these I have the honour to lay before you are part; all which are sharp and angular, as if the animal chose of them that form for cutting the food. — The uterus is of the horned kind, each *ovum* being considerably thicker than the body,

From what has been remarked, it appears, that there are three distinct species of the seal: The small black seal of India and the Levant, the common seal of our seas, and the large seal of the northern ocean; to the first of which, all that the ancients have written concerning the *phoca* must be referred. Aristotle knew this animal; for he tells us, that it is of an ambiguous nature, an intermediate creature between aquatic and terrestrial animals; that it is an imperfect quadruped; that it has no external ears, but only two conspicuous auditory passages, and that it has a forked tongue, paps for suckling, and a small tail like that of the flag. But he seems to have been deceived when he says, that this animal has no gall-bladder. Mr. Parsons, indeed, acknowledges, that the gall-bladder of the large seal he has described was very small. M. Daubenton, however, found, in our seal, which he dissected, that the gall-bladder was proportioned to the size of the liver; and the Gentlemen of the Academy found a gall-bladder

body, or duct leading to them.——The *cuvria* are very large, being granulated on the surface with the *ova*, under a very thin membrane; and the opening into the tubes leading to the *corona* is a great hole. I have annexed a drawing of this part—as well as of the animal itself, which is thought perfectly like the original. The animal is viviparous, and suckles its young by the mamillæ, like quadrupeds, and its flesh is carnosus and muscular. This was very young, though seven feet and a half in length, having scarce any teeth, and having four holes regularly placed about the navel; *Phil. Transf. No. 469. p. 383.*

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in the seal they describe; but mention not that it was remarkably small.

Aristotle, besides, could have no knowledge of the large seals produced in the frozen sea; because, in his time, the whole north of Europe and of Asia were entirely unknown. The Greeks, and even the Romans, regarded France and Germany as their north. The Greeks, particularly, knew none of the animals peculiar to these countries. Hence Aristotle, who mentions the *phoca* as a common animal, can mean nothing else than the Mediterranean seal.

These three animals, though different in species, have many common properties, and ought to be regarded as of the same nature. The females bring forth in winter, and place their young upon a bank of sand, a rock, or a small island. They sit on their hind-legs*, to allow their young to suck; and they continue to nourish them in this manner during twelve or fifteen days, without removing them from the place of their birth; after which the mother carries them to the sea, and learns them to swim and to search for food. When fatigued, she places them on her back. As every litter consists only of two or three, her cares are not much divided, and their education

* The seals have two fins on each side the rump, which serve instead of a tail in the sea; and, on land, they sit on them, when they give suck to their young; *Dampier, vol. I. p. 82.*

is soon completed. Besides, nature has bestowed on these animals uncommon sagacity and sentiment. When assistance is necessary, they understand and mutually aid one another. The young know their mother in the midst of a numerous troop. They distinguish her voice, and, when she calls, they never fail to come*. We know not the period of gestation; but, if we judge of it from that of the growth, the duration of life, and the magnitude of the animal, it must be several months: It is some years before they acquire their full growth, and the duration of their life must be proportionally long. I am even inclined to believe that they live longer than is generally imagined, perhaps above a hundred years; for the cetaceous animals live much longer than the quadrupeds; and as the seal is the intermediate link between both, it ought to partake of the nature of the former, and, of course, enjoy life longer than the latter.

The voice of the seal has been compared to the barking of a hoarse dog: When young, it is clearer, and resembles the mewing of a cat. The young, when carried off from the mother, mew continually, and sometimes die of hunger rather than take the food that is offered to them. The old seals bark at those who strike them, and use every effort to bite and avenge themselves. In general, they are not very timid, and even

* Dampier, vol. i. p. 89.

show

show marks of courage. Instead of being afraid at lightning, or thunder, it seems to entertain them. During a tempest, they leave the water, and even the ice, to avoid the shock of the waves; and they come upon the land to amuse themselves with the storm, and to receive the rain, of which they are exceedingly fond. They have naturally a disagreeable smell, which is felt at a great distance, when numbers of them are collected in one place. When pursued, they frequently void their excrements, which are yellow, and diffuse an abominable odour. They have a great quantity of blood; and, as they are likewise loaded with fat, they are heavy and sluggish. They sleep much, and very sound*. They love to sleep in the sun, upon boards of ice, and upon rocks; and they may be approached without wakening them. This is the most common mode of seizing them. They are seldom shot, because, though the ball enters their head, they do not die suddenly, but spring into the water, and the hunter loses them. As they may be approached very near when asleep, or when at a distance from the sea, their motion being slow, they are assaulted with clubs and poles. They are very robust and tenacious of

* Nullum animal graviore somno premittit. Pinnis quibus in mari utuntur, humi quoque pedum vice serpunt; sursum deorsumque claudicantium more se moventes. . . . Capitur dormiens vitalis marinus, praefertim humano mucrone, quia profundissime dormit; Ol. Magn. de Gent. Sept. p. 165.

life.

life. 'They die not easily,' a traveller remarks; 'for, though mortally wounded, their blood almost entirely exhausted, and their skin taken off, they still live; and it is frightful to see them in this condition, weltering in their blood. We killed one which was eight feet long: After skinning it, and taking out most of the fat, notwithstanding all the blows it had received on the head and muzzle, it still endeavoured to bite, and even seized a cutlass with nearly as much vigour as if it had not been wounded. We afterwards thrust a sword across the heart and liver, from which there issued as great a quantity of blood as comes from an ox;' *Recueil des Voyages du Nord*, tom. ii. p. 117.

The hunting of these animals, though not difficult, is very profitable; for the flesh makes tolerable food*, and the skin is a good

* The second species of sea-wolves (*seals*) is smaller than the first (*seals*). They bring forth their young on land, on the islands, upon the sand, upon rocks, &c.—The savages make war with these animals. Their flesh is good, and their oil is used as a dainty at all their feasts. These sea-wolves come ashore at all seasons, and never retire far from the land. In fine weather, they are found sleeping or basking in the sun upon the sands, or upon rocks. In some places a band of two or three hundred of them may be seen on the shore.—They are easily killed.—All the materials for oil are collected about the bladder, into which the savages put it, after being melted. This oil is extremely good, and is employed for frying fish, and other purposes. It is as sweet and well flavoured as olive oil; and, when put into barrels, it leaves neither odour nor drugs; *Descript. de l'Amérique Septentr.*, par DuRoi, tom. ii. p. 255.

fur:

fur*: The Americans make a kind of balls of it, which they fill with air, and use as rafts†. From their grease an oil is extracted, which is finer and better tasted than that of the porpoise and other cetaceous fishes.

To the three species of seals already mentioned, we may perhaps add a fourth, of which the author of Anson's voyage has given a figure and description under the name of the *sea-lion*‡.

This

* Beside the grease of the sea-calf, its skin sells for three, four, or five shillings, in proportion to its size and beauty; *Descript. de la Pêche de la Baie de St. George*, p. 196.—Formerly great quantities of sea-wolves' skins were used as carpets; these are now unfashionable, and the skins are employed in covering chests and trunks. When tanned, they have nearly the same grain as Turkey leather. They are not equally fine; but then they are not so easily scratched, and preserve their freshness for a long time. They make very good boots and shoes which repel the water. Benches are likewise covered with them; and the wood falls sooner than the covering; *Hist. de la Nouvelle France*, par le P. Charlevoix, tom. iii. p. 147.

† Of their skins, a kind of balls are made, which, after being filled with air, are used as rafts or boats; *Voy. de Frezier*, p. 75.

‡ Leonine seal. The male has an arched projecting snout, measuring five or six inches below the lower jaw. The feet are short and dusky, with five toes on each, furnished with nails. The hind-feet have the appearance of great lacinated fins. It has large eyes, and great whiskers. The hair on the body is short, and of a dun colour; that on the neck a little longer. The skin is very thick. The length of an old male is twenty feet, and the greatest circumference fifteen.

Female. Nose blunt, tuberosus at the top; nostrils wide; mouth breaking very little into the jaws; two small cutting teeth below, two small, and two larger, above; two canine teeth

This animal abounds on the Magellanic coasts, and at the island of Juan Fernandes in the South Sea. The sea-lions resemble the seal, which is likewise very common in the same latitudes; but they are much larger. When they have acquired their full growth, they are from eleven to eighteen feet long, and from seven or eight to eleven feet in circumference. They are so fat, that, after piercing the skin, which is an inch thick, there is at least a foot of blubber, before we reach the flesh: One of them will yield five hundred pints of oil. They are, at the same time, very full of blood, which springs with great force when the animal is deeply wounded. Upon cutting the throat of an individual, two hogtheads of blood were collected, beside what remained in the vessels of the body. Their skin is covered with short hair, of a clear tawny colour; but their tail and feet are blackish. Their

teeth remote from the preceding; five grinders in each jaw; all the teeth conic; eyes oblique and small; auricles none; fore-legs twenty inches long; toes furnished with flat oblong nails; hind-parts, instead of legs, divided into two great bifurcated fins; no tail; the whole covered with short rust-coloured hair; length, from nose to the end of the fins, four yards; greatest circumference two yards and a half; Pennant's *History of Zool.* p. 348.

Sea-lion; Dampier's *Voyag.* vol. iv. p. 90. vol. iv. p. 15. Rogers's *Voyag.* p. 136. *Asia's Voyag.* p. 122.

Leo marinus Rafin siwutchu; Steller, *Nov. Com Petrop.* vol. II. p. 361. *Hist. Kamtschatka*, p. 120. Muller's *Exped.* p. 60.

Phoca leonina, capite antice cristato; Linn. *Syst. Nat.* p. 55.

Le lion marin; Buffon.

toes

toes are united by a membrane, which extends not to their extremity, and each of them is terminated by a claw. They differ from the common seals, not only in magnitude, but in other characters. The males have a kind of large crest or trunk, which hangs from the end of the upper jaw to the length of five or six inches. This part is wanting in the females, which, beside their being much smaller, at once distinguishes them from the males. Each male carries about him a troop of females, and allows no other male to approach. These animals are truly amphibious. They pass the summer in the sea, and the winter upon land. In this last season, the females bring forth, and produce but one or two at a time, which they suckle. A new born sea-lion is as large as a full grown common seal.

During all the time the sea-lions are upon land, they feed upon the herbage which grows on the banks of running waters. When not pasturing, they sleep in the mire. They are very indolent; and it is difficult to waken them: But they have the precaution of stationing males as sentinels round the places where they sleep; and these sentinels are said to give warning when danger approaches. Their cries are loud and of various tones. Sometimes they grunt like hogs, and sometimes snort like horses. The males often quarrel about the females, and inflict dreadful wounds with their teeth. The flesh of these animals

in length, and might weigh about two thousand pounds. The quantity of oil they yielded was amazing. The figure of their body approaches to that of the sea-calf; but their skin is thicker than that of an ox. The hair is short and coarse, the head disproportionally large, and the mouth remarkably big: The eyes are of a monstrous size. The muzzle resembles that of a lion, with terrible whiskers, the hairs of which are so stiff that they may serve for tooth-picks. About the end of the month of June, these animals repair to the island of Juan Fernandes, in order to produce their young, which they deposit about a gun-shot from the margin of the sea. There they remain till the end of September, without moving out of the place, and without taking any nourishment; at least, we never saw them eat. I observed some of them continue eight days in the same spot, and would not have abandoned it, if we had not frightened them. . . . At the island of Lobos, on the coast of Peru, we saw some sea-lions, and a greater number of seals*.

These observations of Woods Rogers, which correspond very well with those of the author of Anson's Voyage, seem still farther to prove, that the sea-lions feed upon herbage when they are on land; for it is by no means probable, that they pass three months without taking any nourishment, especially when suckling their young.

* Voyage round the World by Woods Rogers.

In the Collection of Voyages to the South Sea, there are many remarks concerning these animals: but neither the facts nor descriptions appear to be exact. For example, it is said, that, in Magellan's Straits*, there are sea-wolves so large, that their skin, when extended, was thirty-six feet wide; which is unquestionably an exaggeration. We are also told, that, in the two islands of Port Desire, these animals resemble lions in the anterior part of their body, having the head, neck, and shoulders garnished with a very long bushy mane†. This is still a greater exaggeration; for the sea-lions have only a little more hair on the neck than on the rest of the body; but this hair exceeds not an inch in length‡. It is farther remarked, that some of these animals are more than eighteen feet long; that many of them are only fourteen feet; and that, generally, they exceed not five§. This account would lead us to believe that there are two species, the one much larger than the other; because the author does not inform us whether this difference was owing to the difference of their ages, which, however, was necessary to prevent error. 'These animals,' says Coreal||, 'keep their mouths always open: Two men

* Navigation aux Terres Australes, tom. i. p. 168.

† Idem, tom. i. p. 221.

‡ Hist. du Paraguay, par le P. Charlevoix, tom. vi. p. 181.

§ Navigation aux Terres Australes, tom. ii. p. 11.

|| Voyage de Coreal, tom. ii. p. 180.

are hardly able to kill one of them with a spear, which is the best weapon to use against them. The female suckles four or five young, and drives away any other young ones which approach her: From this circumstance I concluded that the females bring forth four or five at a litter.* This conjecture seems to be well founded; for the seal described by Mr. Parsons had four paps, situated in such a manner as to form a square, in the centre of which the navel is placed. I thought it proper to collect all the facts relative to these animals, which are very little known. It were to be wished that some sensible traveller would furnish us with a proper description of them, and particularly of their internal parts, as the stomach, intestines, &c.; for, if the testimony of voyagers could be relied on, we should believe that the sea-lions belong to the class of ruminating animals; that they have several stomachs; and, consequently, that their species is far removed from that of the seal, or sea-calf, which certainly has but one stomach, and ought to be ranked with the carnivorous tribes.

The WALRUS*, MORSE, or SEA-COW.

THE denomination of *sea-cow*, under which the walrus is most generally known, has been

ill

* The arctic walrus, with two great tusks in the upper jaw, pointed downwards; four grinders on both sides, above and below;

ill applied*; for the animal it denotes has no resemblance to a cow. The name *sea-elephant*, which others have given it, is better imagined, because it is founded on a conspicuous character: The walrus, like the elephant, has two large ivory tusks which proceed from the upper jaw; and its head, if it had a trunk, would have a great resemblance to that of the elephant.

below; no cutting teeth; five palmated toes on each foot; a round head; small mouth; very thick lips covered above and below with pellucid bristles as thick as a straw; small fiery eyes; two small ossicles instead of ears; short neck; body thick in the middle, tapering towards the tail; skin thick, wrinkled, with short brownish hairs thinly dispersed; legs short; five toes on each foot, all connected by webs, and small nails on each; the hind-feet very broad; each leg loosely articulated; the hind-legs generally extend on a line with the body; tail very short; penis long; the length, from nose to tail, sometimes eighteen feet, and ten or twelve round in the thickest part. The tusks have been sometimes found of the weight of twenty pounds each; *Pennant's Synops. of Quad.* p. 336.

Mors, the Russian name of this animal.

Walrus, morse, Rosmarus; *Worm. Mus.* p. 289. *Rait Synops.*

Quad. p. 194. *Lait.* p. 41. *Jahrb. de Pöschel.* p. 160.

tab. 44.

Sea-horse, or morse; *Marten's Spitzberg.* p. 107. 182. *Egede's*

Greenland. p. 82.

Sea-cow; *Croatan's Greenland.* vol. i. p. 125.

Odobenus. La vache marine; *Briffen Quad.* p. 30.

Tricheus rosmarus, dentibus lanariis superioribus extensis;

Linn. Syst. Nat. p. 49.

* The name *sea-cow*, as well as *sea-calf*, has perhaps been derived from this circumstance, that the walrus and seal sometimes cry like the lowing of a cow or calf: 'Ipus,' says Pliny, speaking of the seals, 'in somno mugitus, unde nomen vituli;' *Nb. ix. cap. 15.*

The walrus not only wants this instrument, which serves the elephant for an arm and hand, but it has not the use of its arms and legs, which, as in the seals, are inclosed within the skin, the hands and feet being alone free. The body is long, swelled before, narrow behind, and every where covered with short hair. The fingers of the hands and feet are enveloped in a membrane, and terminated by sharp short claws. Thick hairs, in the form of whiskers, surround the mouth. The tongue is furrowed. The walrus has no external ears; so that, if we except the two large tusks which change the form of the head, and the want of cutting teeth both above and below, it resembles the seal in every other article: It is only much larger and stronger. The largest seals exceed not seven or eight feet. The walrus is generally twelve; and some of them are sixteen feet long, and eight or nine in circumference. Both animals inhabit the same seas, and are almost always found together. They have many common habits: They live equally in water or on land: They both climb upon boards of ice: They suckle and manage their young in the same manner: They live on the same food, and equally associate in large troops. But the species of the walrus is not so much diversified as that of the seal. Neither does it stray to such distances, but is more attached to its proper climate; for it is seldom seen any where

where but in the northern seas. Hence the ancients were acquainted with the seal, but had no knowledge of the walrus.

This animal is mentioned by most voyagers who have frequented the northern seas of Asia*, Europe,

* We find the tusks of the walrus in the environs of Nova Zembla, and in all the islands, as far as the Obi. They are said to be frequent about Jeniki, and they were seen formerly as far as Faisda. We again meet with them at Schalaginikoi, and among the Schuktschi, where they are very large. . . . It is probable that these animals are numerous from this place to the river Anadir; for all the tusks sold at Jakutsk are brought from Anadirskoi. The tusks of the walrus are likewise found in Hudson's Straits, where they are a Russian ell in length, and as thick as a man's arm. Their ivory is equally good with that of the elephant's tusks; *Voyage du Nord*, tom. vi. p. 7. — At Jakutsk, I saw some teeth of the walrus which were a Russian ell and a quarter, and others an ell and a half in length. They are commonly broader than thick, and are about four inches wide at the base. . . I never heard that, in the neighbourhood of Anadirskoi, the walrus was hunted or fished to procure its teeth. On the contrary, I was assured, that the inhabitants found these teeth on the low shores, detached from the animal; and, consequently, that there was no occasion for killing the creatures. . . I have frequently been asked, whether the walrus of Anadirskoi was a different species from that found in the west passage of the frozen sea, because the teeth brought from the east coast are much larger than those which come from the west. . . It appears that the walrus of Greenland, and that on the west of the frozen sea, have no communication with those found on the east of Kollima, about the point of Schalaginikoi, and still farther, near Anadirskoi. Neither do those of Hudson's Bay seem to join those of Tschuktschi. . . It is universally agreed, however, that the walrus of Anadirskoi differs neither in size nor figure from that of Greenland, &c.; *Voyage de Goulin en Sibirie*, tom. iii. p. 148. — Note, M. Gmelin has not resolved this question, though

Europe, and America*. But as Zorgrager appears to speak of it with greater intelligence than any other author, I shall here give a translation of what he has said on this subject, which was communicated to me by the Marquis de Montmirail †.

‘ In Horifont and Klock bays, the walrus and seals were formerly very numerous; but few of them now remain. . . . During the heat of summer, both of them resort to the neighbouring plains, and are sometimes seen in troops of one or two hundred, particularly the walrus, who can continue there for several days running, till hunger forces him back to the sea. These animals have a great resemblance to the seal; but they are stronger and larger. Like the seal, they have five toes; but

though I think it may be answered in a satisfactory manner. He remarks, that these animals are neither hunted at Anadiskoi, nor on the eastern part of the frozen sea; and, consequently, no teeth are brought thither but those of the creatures who die a natural death. Of course, it is not surprising, that teeth, which have acquired their full growth, should be larger than those of the Greenland walrus, which is often killed when young.

* On the coasts of North America, we saw sea-cows, called also *bafts* with the large teeth; because they have large tusks, as long as the half of a man's arm. . . . No ivory can be finer; and they are found on Sable island: *Descript. de l'Amerique Septentr. par Devis, tom. ii. p. 257.*

† *Descript. de la Pêche de la Baleine, et de la Pêche du Groenland, &c. par Corneille Zorgrager,*

‘ their

‘ their claws are shorter, and their head thicker, rounder, and stronger. The skin of the walrus, especially about the neck, is an inch thick, wrinkled, and covered with very short hair of various colours. His upper jaw is armed with two tusks of half an ell, or an ell in length, which are hollow at the root, and grow larger as the animal advances in years. The walrus is sometimes observed to have but one tusk, having lost the other by fighting, or by age. This ivory is generally clearer than that of the elephant; because it is harder and more compact. The mouth of the walrus resembles that of an ox, and is garnished above and below with hollow pointed hairs, about the thickness of a straw. Above the mouth are two nostrils, through which these animals blow the water, like the whale, without, however, making much noise. Their eyes are sparkling, red, and inflamed during the heat of summer; and, as they cannot then endure the impression made by the salt water on their eyes, they continue more willingly on the land in summer than in any other season. They are very numerous about Spitzbergen. . . . They are killed on land with lances. . . . They are hunted on account of the profit derived from their teeth and grease. Their oil is nearly as much esteemed as that of the whale. Their teeth are of more value than the whole oil they yield. The internal part of the teeth, especially

‘ especially when large, the substance of which
 ‘ is harder and more compact than that of the
 ‘ smaller ones, is more precious than ivory.
 ‘ When a pound of the smaller kind is sold for
 ‘ a florin, a pound of the large brings three,
 ‘ four, and often five florins. A middle sized
 ‘ tooth weighs three pounds . . . and an
 ‘ ordinary walrus furnishes half a ton of oil.
 ‘ Hence the whole animal brings thirty-six
 ‘ florins, eighteen for the two teeth, and as
 ‘ much for the oil. . . . Formerly, vast troops
 ‘ of these animals were found on land. But
 ‘ our vessels, which go annually to the whale
 ‘ fishery, have so terrified them, that they have
 ‘ retired to the most sequestered places; and
 ‘ those who remain never venture upon land in
 ‘ troops, but continue in the water, or dispersed
 ‘ among the boards of ice*. When a walrus
 ‘ is met with upon the ice, or in the water, a

* The number of these animals must be greatly reduced, or rather, most of them have retired to unknown coasts; for we find, in the Collection of Voyages to the North, that, in the year 1704, near Cherry Island, in the latitude of 65 degrees 45 minutes, the crew of an English vessel fell in with a prodigious number of these creatures, all lying near each other; that out of more than a thousand, of which this troop consisted, the sailors killed only fifteen; but that they found as many teeth as filled a ton—that, on the 13th of July, they killed a hundred more, of which they carried off only the teeth—that, in 1706, another English crew killed seven or eight hundred in six hours; in 1708, more than nine hundred in seven hours; in 1710, eight hundred in a few days; and that a single man slew forty with a spear.

‘ strong

‘ strong harpoon is darted at him, which not
 ‘ unfrequently slips upon the thick, hard, skin.
 ‘ But, when pierced, the animal is dragged with
 ‘ a cable toward the helm of the boat, is slain
 ‘ with a strong spear made for the purpose, and
 ‘ afterwards brought to the nearest shore, or to
 ‘ a flat board of ice. He is generally heavier
 ‘ than an ox. The fishers begin with taking off
 ‘ his skin, which being of no value, is thrown
 ‘ away*. With a hatchet, they separate the
 ‘ two teeth from the head; or, to prevent the
 ‘ teeth from damage, they cut off the head, and
 ‘ boil it in a cauldron. The blubber is afterwards
 ‘ cut into long slices, and carried to the ship. . .
 ‘ It is equally difficult to follow the walrus by
 ‘ rowing as the whale, and the harpoon is often
 ‘ darted in vain; because the whale is more
 ‘ easily pierced, and the harpoon does not slip
 ‘ so readily. . . The walrus is often struck three
 ‘ times, with a strong sharp spear, before his
 ‘ hard thick skin is pierced. It is necessary,
 ‘ therefore, to strike him in a place where the
 ‘ skin is well stretched. For this reason, the
 ‘ fishers aim at the eyes of the animal, which
 ‘ obliges it to turn its head, and stretch the

* Zorgdrager seems to have been ignorant that a very good leather is made of this skin. I have seen strong coach braces made of it. Anderson, after Oter, says, that girths, and ropes for boats, are also made of this skin; *Hist. of Greenland*, tom. ii. p. 100.

‘ skin

' skin of the throat or breast. Then the blow
 ' is given in this place, and the spear is quickly
 ' retracted, to prevent the creature from seizing
 ' it with his teeth, and wounding his assailant,
 ' either with his teeth, or even with the spear,
 ' which sometimes happens. The attack upon
 ' a small board of ice never lasts long; because
 ' the walrus, whether wounded or not, throws
 ' himself quickly into the water; and, there-
 ' fore, attacking him upon land, is always prefer-
 ' red. . . . These animals are found in unfre-
 ' quented places only, as in the island of Mofsen,
 ' behind Worland, in the land surrounding
 ' Horisont and Klock bays, in retired plains,
 ' and banks of sand, where vessels rarely ap-
 ' proach. Even those which are there met
 ' with, instructed by the persecutions they have
 ' suffered, are so much on their guard, that they
 ' keep always near the water, to facilitate their
 ' retreat. This fact I experienced on the large
 ' bank of sand behind Worland, called *Risf*,
 ' where I fell in with a troop of thirty or forty.
 ' Some of them were on the very margin of
 ' the water, and others at no great distance from
 ' it. We stopped some hours, without landing,
 ' in hopes that they would advance farther into
 ' the plain. But, as this stratagem did not suc-
 ' ceed, we landed with two boats to the right
 ' and left of them. Almost the whole of
 ' them were in the water the moment we put
 ' our

' our feet on the land; so that our hunting was
 ' confined to the wounding of a few, which
 ' likewise instantly darted into the sea. . . .
 ' Before being persecuted, these animals ad-
 ' vanced far upon land; so that, in high tides,
 ' they were at a great distance from the water;
 ' and, when the tide ebbed, the distance being
 ' increased, they were easily assailed. . . . We
 ' marched in front of these animals to cut off
 ' their retreat from the sea. They saw all these
 ' preparations without betraying any symptoms
 ' of fear; and each hunter often killed one of
 ' them, before it could regain the water. We
 ' made a barrier of the dead carcases, and left
 ' some of our men in ambush to slay those
 ' which remained. We sometimes killed three
 ' or four hundred. . . . From the prodigious
 ' quantity of teeth scattered over the ground,
 ' it is obvious that these animals must have for-
 ' merly been very numerous. . . . When
 ' wounded, they become furious, striking from
 ' one side to the other with their teeth. They
 ' break the arms, or drive them out of the
 ' hands of their assailants; and, at last, burning
 ' with rage, they place their head between their
 ' paws, or fins, and allow themselves to tumble
 ' into the sea. . . . When very numerous, they
 ' grow so audacious, that, in order to secure
 ' one another, they surround the boats, and
 ' endeavour to overset them, by striking or
 ' piercing

'piercing the planks with their teeth. . . . In fine, this elephant of the sea, before he became acquainted with men, was afraid of no enemy; because he had learned to conquer the rapacious Greenland bear, which may be ranked among the number of sea-robbers.'

By adding to Zörgdrager's remarks those which are to be found in the Collection of Voyages to the North *, and others that are scat-

* The sea-horse (*walrus*) resembles the sea-calf (*foal*), except that he is much larger; for he is of the size of an ox. His paws, both before and behind, like those of the sea-calf, have five toes; but the claws are shorter. His head is likewise larger, rounder, and harder, than that of the sea-calf. His skin, especially about the neck, is fully an inch thick. Some of them are covered with mouse-coloured hair, and others have very little hair. They are generally so infested with scabs and excoriations, that one should imagine they had been flayed, especially about the joints, where the skin is much wrinkled. In the upper jaw they have two large tusks, which sometimes exceed two feet in length. The young ones have no tusks; but they grow as the animals advance in years. . . . These tusks are more esteemed than the finest ivory; they are solid within, except near the roots. . . . The opening of their mouth is as large as that of an ox; and, both above and below the lips, there are several bristles, which are hollow within, and as thick as a straw. . . . Above the whiskers, there are semicircular nostrils, through which they throw out water, like the whales, but with much less noise. Their eyes are situated high above the nose, and they are as red as blood. Their ears are not far from their eyes, and resemble those of the seal. Their tongue is at least as large as that of an ox.—Their neck is so thick, that it is with difficulty they can turn their head, which obliges them to move their eyes almost continually. Their tail is short, like that of the seal. Their grease is not so easily removed as in the

tered in different relations, we shall have a pretty complete history of this animal. The species seems to have formerly been much more diffused than at present. They were found in the seas of the temperate zones, in the gulf of Canada *, upon the coasts of Acadia, &c. But they are

the seals, because it is interlarded with flesh.——Their penis consists of a hard bone, about two feet long, which tapers toward the point, and is a little banded in the middle. Very near the belly, the penis is flat; but, beyond that, it is round, and covered with scales.——These animals, it is probable, live upon herbs and fishes: Their dung resembles that of a horse.——When they dive, like the seals, they plunge their head first into the water. They sleep and snore, not only on the ice, but in the water; so that they frequently have the appearance of being dead. They are bold and furious, and defend each other to the last drop of their blood.

——They exert every effort to relieve those which are taken. They assault the boat on all sides, biting and bellowing in a hideous manner; and if, by means of their number, they oblige the enemy to fly, they pursue the boat till they lose sight of it.——They are hunted solely for the sake of their teeth; but, out of a hundred, perhaps not above one tooth is found to be good; because some of them are too young, and others have spoiled teeth; *Recueil des Voyages du Nord*, tom. ii. p. 117.

* In the latitude of 49 degrees 40 minutes, there are three small islands in the gulf of St. Lawrence, upon one of which vast numbers of a certain species of seal come ashore. This animal, which, I believe, was unknown to the ancients, is called *walrus* by the Flemings, and *musc* by the English, who have adopted its Russian name. It is an amphibious and a monstrous creature, and sometimes surpasses the Flanders oxen in thickness. Its hair resembles that of the seal.——It has two tusks banded downward, which are a cubit in length, and used for the same purposes as ivory, and bring an equal price; *Description des Indes Occidentales*, par de Laité, p. 41.

—Upon the coasts of North America, there are sea-cows, otherwise called *brigs* with the long teeth; because they have two large

are now confined to the seas of the frozen zones, and, even there, they are very scarce in places which are much frequented. There are few of them in the frozen seas of Europe, and still fewer in those of Greenland, Davis's Straits, and other parts of North America; because, on account of the whale fishery, they have been long disturbed and hunted. From the end of the sixteenth century, the inhabitants of St. Malo went to the Ramée islands in quest of the walruses, which were then very numerous*. It is not a hundred years since the merchants of Port-Royal in Canada sent barks to Cape Sable and Cape Fourchu to hunt these animals†, which have some time ago forsaken these latitudes, as well as those of the European seas; for they are now found in considerable numbers only in the frozen sea of Asia, from the mouth of the Oby to the most eastern point of that Continent, the coasts of which are very little frequented. They are rarely seen in the temperate seas. The species found under the Torrid Zone, and in the Indian ocean, is very different from our northern walrus. The latter

large tusks, about a cubit in length, and their other teeth are four inches long. No ivory can be finer. These animals are found on Sable island; *Descript. de l'Amérique Septentr. par Denis, tom. ii. p. 257.*

* *Descript. des Indes Occidentales, par de Laët, p. 42.*

† *Descript. de l'Amérique Septentr. par Denis, tom. i. p. 66.*

seem

seem to dread either the heat or the saltness of southern seas; and, as they have never traversed these seas, they are not found toward the South pole, though we see there the large and small seals of the North, which are even more numerous than in our Arctic regions.

The walrus, however, can live at least some time in a temperate climate. Edward Worth tells us, that he saw one of these animals alive in England, which was three months old; that it was put into water, for a short time only, each day; and that it crawled upon the ground. He does not say that it was incommoded by the heat of the air, but, on the contrary, that, when touched, it had the aspect of a furious and robust animal, and that it respired strongly through the nose. This young walrus was of the size of a calf, and had a great resemblance to the seal. Its head was round, its eyes large, and its nostrils flat and black, which it opened and shut at pleasure. It had no ears, but only two auditory passages. The opening of the mouth was not large; and the upper jaw was garnished with whiskers consisting of coarse, thick, cartilaginous hairs. The under jaw was triangular, the tongue thick and short, and the inside of the mouth fortified on each side with flat teeth. Both the fore and hind-feet were broad, and the hind-part of the body was perfectly similar to that of the seal. This hind part crawled, rather than walked. The fore-feet turned

forward,

forward, and those behind backward. They were all divided into five toes, covered with a strong membrane. The skin was thick, hard, and covered with short delicate hair, of an ash-colour. This animal grunted like a wild boar, and sometimes cried with a strong, deep voice. It was brought from Nova Zembla, and had not yet acquired the two tusks; but, on the upper jaw, the knobs from which they were to spring were visible. It was fed with boiled oats or millet, which it rather slowly sucked than eat. It sprung with fury at its master, and made a growling noise. It followed him, however, when he presented it with victuals*.

This account, which gives a tolerably just idea of the walrus, shews, at the same time, that it can live in a temperate climate. Nevertheless, it does not appear that it could endure great heat, or has ever frequented the southern seas, so as to pass from the one pole to the other. Several voyagers mention sea-cows which they have seen in India; but these belong to a different species: That of the walrus is always easily distinguished by its long tusks, which no other animal has, except the elephant. This production is an effect rarely exhibited in Nature; for, of all the terrestrial and amphibious animals, the elephant and walrus, in which alone it appears, are solitary

* Descript. des Indes Occidentales, par de Laité, p. 41.

species,

species, and constitute distinct and undivided genera.

We are assured that the walruses couple not in the manner of quadrupeds, but backward. The male, like the whales, has a large bone in the penis. The females bring forth in winter upon the land, or upon boards of ice, and generally produce but one young at a time, which, when born, is as large as a hog of a year old. We are ignorant of the period of gestation; but, to judge of it from that of the growth, as well as the magnitude of the animal, it ought to be more than nine months. The walruses cannot remain always in the water, but are obliged to come upon land, either to suckle their young, or for other purposes. When under the necessity of climbing steep shores, or boards of ice, they use their teeth* and hands as hooks to drag along the unweildy masses of their bodies. It is alleged, that they feed upon shell fishes, which adhere to the bottom of the sea; and that they use their tusks to disengage them†. Others affirm‡, that they live upon a certain sea-herb with broad leaves, and that they nei-

* These teeth are not entirely round and smooth, but rather flat and slightly furrowed. The right tooth is commonly somewhat longer and stronger than the left. — I have had two of them, each of which was two feet and an inch long, and eight inches in circumference at the base; *Antedon's Nat. Hist. of Greenland.*

† *Nat. Hist. of Greenland*, p. 162.

‡ Descript. des Indes Occidentales, par de Laité, p. 41.

ther eat flesh nor fish. But I believe none of these assertions to be true. The walrus, it is probable, lives upon prey, like the seal, and particularly on herrings and small fishes; for he eats none upon land, which obliges him to return to the sea in quest of food.

The INDIAN WALRUS, or DUGON *.

THE dugon is an animal of the African and East Indian seas. We have seen two heads of it, which had a greater resemblance to the head of the walrus than to that of any other animal. Its head is deformed nearly in the same manner by the depth of the sockets from which the two tusks in the upper jaw spring. They are half a foot long, and are rather large cutting teeth than tusks. They extend not directly

* Indian walrus, with two short canine teeth, or tusks placed in the upper jaw, pretty close to each other. In the upper jaw are four grinders on each side; in the lower, three on each side; Pennant's *Synops. of Zood.* p. 358.

Dugon, or *dugong*, the name of this animal in the Isle of Lethy or Leyte, one of the Philippine islands, where, according to Christ. Barchewick, it is also called *ikan* and *manate*. This last denomination would indicate that the *dugong* is a *manati* or *lancetia*. But this author, in his description, tells us, that the *dugong* has two tusks of an inch thick, and a span long. This character cannot apply to the *manati*, but agrees very well with the animal under consideration, of which we have a head.

out of the mouth, like those of the walrus; but are much shorter and more slender. Besides, they are situated in the fore part of the jaw, and very near each other, like cutting teeth. But between the tusks of the walrus, there is a considerable interval; and they are not situated at the point, but at the side of the upper jaw. The grinders of the dugon differ likewise in number, position, and figure, from those of the walrus. From all which we must conclude, that the dugon is a distinct species. Several voyagers have confounded it with the sea-lion. Innigo de Biervillas says, that a sea-lion was killed at the Cape of Good Hope, which was ten feet long, and four thick. Its head resembled that of a calf of one year old. Its eyes were hideous, and its ears short; and it had a bristly beard, broad feet, and legs so short, that its belly touched the ground. He adds, that it had two tusks which issued half a foot out of the mouth *. This last character corresponds not with the sea-lion, which has no tusks, but teeth like those of the seal. From this circumstance I concluded, that it was not a sea-lion, but the animal to which we have given the name of *dugon*. Other travellers seem to have pointed it out under the denomination of the *sea-bear*. Spilberg and Mandeflo relate, * that, at the island of St. Elisabeth, on the African coast, there are animals which should rather

* Voyage d'Innigo Biervillas, part i. p. 38.

' be called *sea-bears*, than *sea-wolves*; because,
 ' by their hair, their colour, and their head,
 ' they have a greater resemblance to the bear,
 ' only the muzzle is sharper; that they resemble
 ' the bear still more in their manner of
 ' moving, except in the movement of the hind-
 ' legs, which are only trailed; that these am-
 ' phibious creatures have a terrible aspect, fly
 ' not from man, and bite with such force as to
 ' break the shaft of a javelin; and that, though
 ' denied the use of their hind-legs, they fail not
 ' to run with such swiftness that it is difficult
 ' for a man to overtake them *.' Guat tells
 us, ' That he saw, at the Cape of Good Hope,
 ' a sea-cow of a reddish colour. It had a thick
 ' round body, large eyes, long tusks, and a
 ' muzzle a little turned up. He adds, that he
 ' was assured by a mariner, that this animal,
 ' of which we could see the fore-part only, as
 ' it was in the water, had feet †.' This sea-
 cow of Guat, the sea-bear of Spilberg, and the
 sea-lion of Biervillas, appear to be the same
 animal with the dugon, whose head was sent to
 us from the isle of France, and which, conse-
 quently, exists in the southern seas, from the
 Cape of Good Hope to the Philippine islands ‡.

Besides,

* Premier Voyage de Spilberg, tom. ii. p. 437. Voyages de Mandelslo, tom. ii. p. 551.

† Voyage de le Guat, tom. i. p. 36.

‡ I could see from my house, which was situated on a rock in the island of Leithy, the turtles at some fathoms deep in the water.

Besides, we cannot be certain that this animal, which has some resemblance to the walrus in the head and tusks, has four feet. We only presume from analogy, and the testimony of travellers, that it has these members. But, as the analogy is not very great, and the testimony of travellers not sufficiently explicit, we shall suspend our judgment on this subject, till we receive better information.

I one day saw two large *dugongs*, or *sea-cows*, which approached near the rock. I instantly informed my filer, to whom I showed the two animals, which were moving about and eating a green moss that grows on the shore. He ran for his companions, who soon brought a boat to the place. During this time, the male came in quest of the female, and, being unwilling to leave her, allowed himself to be slain also. Each of these prodigious fishes was more than six ells long. The male was a little larger than the female. Their heads resembled that of an ox. They had two large teeth, a span in length and an inch thick, which protruded out of the jaw, like those of the wild bear. These teeth were as white as the finest ivory. The female had two breasts, like a woman; and the male organs of generation resembled those of a man. The intestines were like those of a cow, and the flesh had nearly the same taste; *Voyage de Christopher Barthelemy*, p. 381. Note, This description corresponds very well with that of the manati, except the teeth. The manati has neither tusks nor cutting teeth; for which reason I conjecture that this dugong was not the manati, but the animal under consideration.