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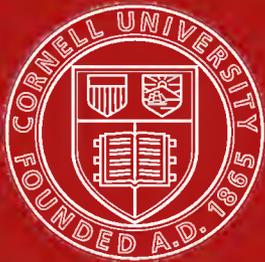
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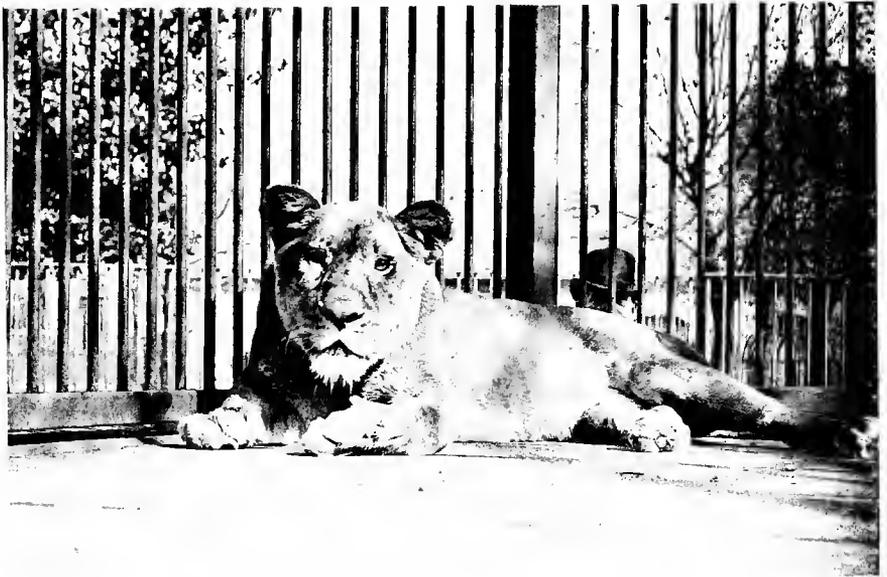
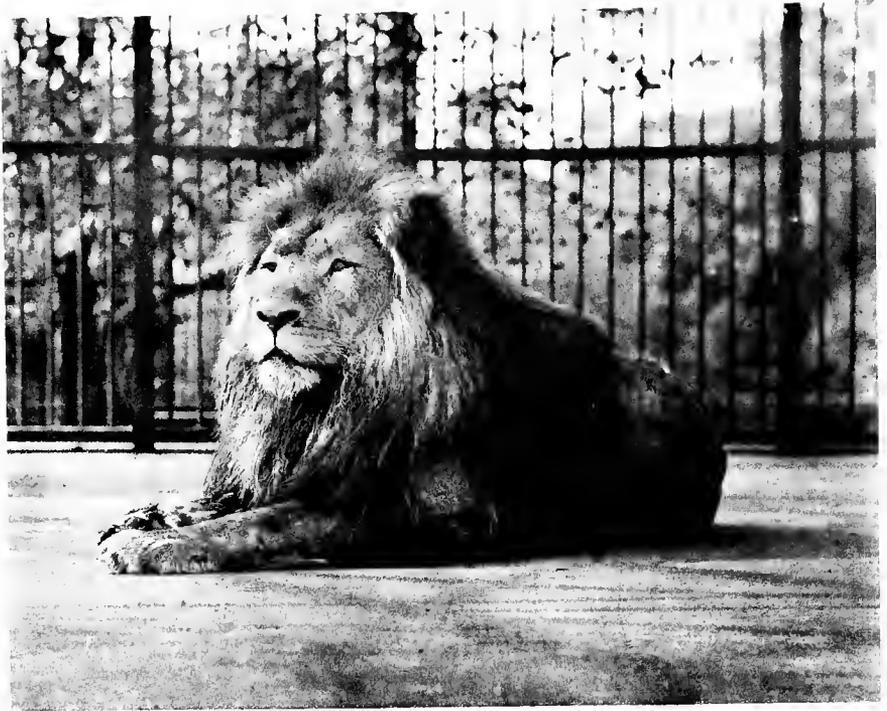
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A LION.

(Felis leo.)

A LIONESS.

WILD ANIMALS

PHOTOGRAPHED AND DESCRIBED.

*ILLUSTRATED BY PHOTOTYPE REPRODUCTIONS OF
PHOTOGRAPHIC NEGATIVES TAKEN FROM LIFE*

BY

John FORTUNÉ NOTT,

MAJOR, CANADIAN ACTIVE MILITIA.

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PREFACE.

IN issuing this volume to the public I beg leave here in the very commencement to disclaim any idea of inviting attention to a scientific or erudite work on Natural History, or one which will in any way bear comparison with the many learned and valuable books already extant upon the subject.

The object I have had before me while writing and compiling the following pages is the one of furnishing some reliable information about a few of the most important varieties of existing wild animals in an entertaining and readable manner.

The greater number of existing works upon this subject can be classified under two headings—the scientific and the educational. While acknowledging with all reverence the inestimable value of, and the vast learning displayed in the scientific treatises, yet it is no disparagement of them to say that their study can only repay those who already possess some knowledge of the science, for to the general reader a considerable portion of their contents must be incomprehensible. It therefore follows that a man anxious to peruse some interesting facts about animals and purchasing one of these books with that object must feel as he would had he possessed himself of a novel under the idea he would read therein a truthful delineation of the acts and thoughts of men and women amid certain given circumstances, and find instead that under the guise of a story the author had written an elaborate essay on anatomy, and, subdividing his characters into various divisions according to the colour of their hair or the height of their cheek-bones, had attached a cumbersome compound Greek name to each of them.

The educational works are, of course, intended for the schools. The value of many of these books must to the ordinary mind be somewhat impaired by the taint of levity which characterizes the style in which they are written. Their authors seem to have a repugnance to calling an animal by its correct name; thus they very rarely refer to a bear as a bear, but as "master bruin," a lion is styled "his Majesty, King Leo," and the other beasts have similarly inappropriate appellations entirely unbecoming to the dignity of the subject.

Being naturally fond of animals and interested in everything appertaining to them, I have thought for some years past that there was room for a book which would accurately describe their salient features, distinguishing peculiarities, and specific habits, and that by dropping as far as possible all scientific descriptions and the general use of scientific nomenclatures, and adding certain historical facts or interesting anecdotes in which they prominently figured, that it might be made readable and entertaining as well as instructive. I consequently set to work upon the following pages and, if so far I have failed in my intention, the fault is entirely due to me personally, and not certainly through any want of interest that is inherent in the subject.

It is obviously impossible for any one man to write from personal experience or observation upon more than a few of the various quadrupeds existing upon the globe. In consequence, the direct information respecting the various members of the animal world is to be found scattered over a large number of travellers' and hunters' narratives. I have selected those that were known to me from which according to my own judgment the most trustworthy facts could be gleaned about the beasts in their native haunts, and to the authors quoted in the following pages I have to acknowledge my obligations. I am indebted to works of this character that have appeared within the last few years rather than to similar works of previous dates, wherein fable and truth are so blended that they are practically useless for my purpose. The "travellers' tales" of the past never tax our credulity or insult our common sense so much as when their hunting adventures are on the *tapis*, or wild animals under any

circumstances are the subject of their yarns. However, amongst so much chaff a few grains of wheat, in the shape of quaint or curious information can now and then be gleaned, and, when found, a note has been made of the fact, and the remarks utilized.

Respecting the illustrations. Not being able in nature to find the vivid colours, the savage expressions, the glaring eyes, the exaggerated dimensions or the ungraceful attitudes which I had from a very tender age been led to associate with the descendants of Noah's joint occupiers of the ark, and remembering Dr. Livingstone's remark upon the subject wherein he observes that painters generally make their lions' faces like old women in night-caps, I came to the conclusion that on this point at any rate I would try and inaugurate a new departure, and, instead of illustrating the book with pictures of the animals as many artists seem to think they ought to be, I would portray them as they are, and with this object use photographs wherever possible.

The phototype reproductions of the negatives, as given herewith, have been made by the well-known artistic lithographers, Messrs. I. and A. Lemercier, of Paris.

Except in the few instances elsewhere acknowledged, where I am indebted to the kindness of others for certain pictures, the actual photographs were taken by myself. Having to take them instantaneously, often in comparatively dark places, has prevented them, of course, from exhibiting the finish and care that might have been bestowed on them had the animals been taken in a well-lighted studio and behaved themselves with sufficient decorum to do as they were told, look pleasant, and stand still. As specimens of photography but little merit is claimed for them, but they must be studied as the faithful portrayal of the animals represented, for by the kind permission of the Secretary of the Zoological Society the animals themselves stood for the pictures. "Stood" being used in its photographic sense, for, as a matter of fact, they very rarely stood still even for a second, being rather disobliging in that way.

To those readers who may possess but slight scientific information respecting the brute creation, but nevertheless are lovers of the animal world, I trust my book will afford a little pleasure and

some profit. I also hope it may be the means of luring a few to the more extended study of a science which is doubtless the most attractive of all sciences and the one that must have an endless charm for those who delight in animated nature, for it presents no view unimportant or uninteresting, no part that will fail to reward diligent research and contemplation. Moreover, it conduces to very different feelings being entertained for animals than can be experienced by those members of the community who know nothing whatever about them; and if a little more knowledge respecting the brute creation were possessed by the public generally it would greatly tend to the diminution of cruelty to animals, both tame and wild, which is a "consummation devoutly to be wished."

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ERRATA.

- Page 13, line 12, *for* a formidable antagonist, *read* formidable antagonists.
,, 15, ,, 20, *omit* which.
,, 41, lines 24 and 26, *for* is *and* It is, *read* are *and* They are.
,, 52, line 11, *for* speaking of, *read* states that.
,, 55, ,, 20, *for* the latter is, *read* the hairs of the latter are.
,, 60, head-line, *for* Felix, *read* Felis.
,, 89, line 16, *for* deer's, *read* antelope's.
,, 100, ,, 21, *for* as gud as, *read* ar gud and.
,, 102, head-line, *for* Hyanidæ, *read* Hyænidæ.
,, 178, line 9, *for* the prominent feature in, *read* prominent features of.
,, 188, ,, 28, *for* nourishment of vegetation, *read* vegetation of a nourishing character.
,, 217, ,, 23, *for* to the withers, *read* at the withers.
,, 259, ,, 30, *for* age, *read* ago.
,, 287, ,, 5, *for* yet there, *read* yet consider there.
,, 322, ,, 23, *for* hem, *read* them.

WILD ANIMALS.

CHAPTER I.

MENAGERIES.

THE origin of menageries must always remain pure matter of conjecture, founded on the careful study of ancient history and the deciphering of obscure traditions of primitive ages. Upon the obelisks and monuments of the greatest antiquity are to be found well-drawn representations of lions, elephants, dromedaries, and other animals known to modern times; as well as of many species that have totally disappeared from the face of the earth. The animals are mostly represented in combat, in movable cages, or being hunted or led along with captive men in the train or procession that swelled the triumphal progress of some king or hero. It is, therefore, a fair assumption that the dangerous beasts were confined in places strong enough to secure them, specially constructed for the purpose, which would in course of time show collections that might accurately be described as primitive menageries.

In the barbarous ages wild beasts were employed in warfare, and in consequence of the awe and fear they inspired, were the objects of veneration and worship; but in the progress of the world along the path of civilization the minds of men became capable of grasping new truths, and superstitions began gradually to yield to more accurate and enlightened ideas. Then the thirst for knowledge no doubt led to the study of the wonders of the world around them, and in this way the animal kingdom must have attracted attention, and from being

the objects of terror the wild beasts of the earth became the objects of curiosity; ultimately, no doubt, their character and habits becoming better known, their study was the subject of closer and closer investigation. Thus natural history became a science and obtained its first votaries—students who went to nature for their teaching, and whose works, although primitive and fabulous in the extreme, nevertheless became the foundation of those vast storehouses of knowledge which are the heritage of the present enlightened age. Mr. Bennett says in his short but graphic description of this subject:—“What was at first a mere sentiment of curiosity became speedily a love of science, known objects were examined with more minute attention; and whatever was rare or novel was no longer regarded with a stupid stare of astonishment and an exaggerated expression of wonder, but became the subject of careful investigation and philosophic meditation. Such was the state of things in civilized Greece, when the Macedonian conqueror carried his victorious arms to the bank of the Indus, and penetrated into countries not altogether unknown to Europeans, but the natural productions of which were almost entirely new to the philosophers of the West. With the true spirit of a man of genius, whose sagacity nothing could escape, and whose views of policy were as profound as the success of his arms was splendid, Alexander omitted no opportunity of proving his devotion to the cause of science, and the extensive collection of rare and unknown animals which he transmitted to his old tutor and friend—in other words, the menagerie which he formed—laid the foundation of the greatest, the most extensive, and the most original work on zoology that has ever been given to the world. The first of moral philosophers did not disdain to become the historian of the brute creation, and Aristotle’s ‘History of Animals’ remains a splendid and imperishable record of his qualifications for the task.”

It was otherwise in Rome. Pliny’s “Natural History” has but little zoological value. Any that it may possess was derived from consulting the small collections of rare and curious animals that were made by a few private individuals during the reign of the later Cæsars. His writings contain but little original infor-

mation, however, and his descriptions are mostly fabulous. This may appear strange, when it is considered that at the time he wrote, Rome had probably "the most extensive and magnificent menagerie the world had ever witnessed."

But a love of science and a craving for knowledge formed no part of the object the Romans had, even in their most civilized periods, in making those vast and stupendous collections, the result of the labour of their Prætors, who caused animals to be collected from the various regions that composed their mighty empire, and these were constantly augmented by the donations of other countries, who wished to conciliate or enlist the friendship of the "Mistress of the World." Other feelings actuated them, and these collections were used for the purpose of gratifying the spirit of ferocity and barbarity which was a national trait. The exhibition in the amphitheatre of terrific combats, animals being slaughtered wholesale in numbers beyond conception, the degrading spectacle of gladiatorial contests, or the execution of criminals by enraged lions, these were the favourite pastimes of the people, which were encouraged by their rulers, and conducted with a savage and barbaric splendour almost beyond credence. Titus, at the dedication of the amphitheatre he furnished, stained its arena with the blood of upwards of 5000 beasts, the carnage being watched by over 100,000 Romans; and Trajan destroyed 10,000 at the conclusion of the Dacian War. Caligula celebrated his birthdays by contributing 400 bears, and 400 other wild beasts, to be "butchered to make a Roman holiday;" and several succeeding wearers of the purple were even more lavish in the number they supplied for these grand but brutal sports.

In the beginning of the twelfth century we hear of collections of birds and animals, called "Parks of Intelligence," being introduced into China; later, at the commencement of the sixteenth century, we have the historiographer of Philip II. of Spain, Herrera y Tordesilla's description of the magnificent menagerie Cortes and his followers found in Montezuma's palace of Tezeuco, showing that in that wonderful place which so amazed the Mexican invaders birds of all sorts, snakes, alligators, and wild beasts from the Western world were found, magnificently housed and

cared for, testifying not only to the barbaric ostentation of the Aztec king, but to the fact that his love for and cultivation of natural history were far beyond the level of the European countries at the time. An extract from the quaint account of this palace may be worth quoting:—"In another apartment there were dwarfs, crooked Persons, misshapen and monstrous, a great number whereof he kept for his Diversions; and it is reported that some of them were purposely so deformed in their infancy, alleging that it became a great monarch to have such things as were not to be found elsewhere. Every sort of dwarfs, or other monsters, were kept apart, with people to look after them. In the lower rooms there were many strong cages, or Pens, in some whereof there were Lyons, in others Tygers, in others Bears, in others Leopards, and in others Wolves. In short, there were all sorts of four-footed Beasts, only that Montezuam (*sic*) might be said to be so great that he had all wild Beasts shut up in his house; and they were fed with Turkeys, Deer, Dogs, and other creatures. What is still more strange, in other rooms there were vast great jars, Pans and such like vessels full of water or earth, in which they fed and kept snakes thicker than a man's thigh; very large Vipers, Alligators, Lizards, and Serpents of several sorts, so fierce and venomous that the very sight was frightful to such as were not well used to them. . . . The Spaniards were very well pleased to see such variety of Birds, so many fierce wild Beasts, the Fury of the hideous Serpents, though they do not like to hear their hissing, the horrid roaring of the Lyons, the dismal howling of the Wolves, the disagreeable cries of the Leopards and Tygers, and the dreadful noise of other creatures, which they made either through hunger, or because they were not at liberty to practise their savage temper. When first the Spaniards heard that frightful variety of noises in the night, they were frightened, till it grew familiar to them, and they affirmed it was so hideous that the House seemed to be a Resemblance of Hell and the Habitation of Devils."

At the end of the twelfth century Frederick the Second, in Sicily, made a notable collection of wild animals, which was exhibited in many parts of Italy, but the want of opportunities

in Europe, from this date to the expiration of the fifteenth century, for studying the nature and habits of the living animals was no doubt the reason that the science made but little if any progress during that period, until, in fact, Louis XIV. founded at Versailles the first establishment of modern days, which became the school for Buffon and Daubenton. This example was followed by other European Powers, but most of the collections were small and of but little more scientific interest than the collections that used to be made for hunting purposes by the rulers of previous epochs. At the present day, however, the Continent has several very fine zoological gardens, notably those of Amsterdam, Antwerp, and Paris. The Parisians discovered that one of the uses to which they could put a menagerie was the supply of food, and the collection in the *Jardin des Plantes* was nearly destroyed for some time, by the Parisians having eaten up the animals during the siege of their city.

In England the first royal menagerie was at Woodstock. It was at his manor there that Henry I. established it. "He walled the Park round," we learn, "with stone, seven miles in circumference, laying waste much fertile land and destroying many villages, churches, and chapels," and in the words of the old chronicle, "he appointed therein, besides a great store of deer, divers strange beasts to be kept and nourished, such as were brought to him from far countries, as lions, leopards, linxes, porpentines, and such other," with all of which he used to amuse his ladies and courtiers.

During the reign of Henry III., in 1235, his new brother-in-law, the Emperor Frederick II., having sent over three leopards, in allusion to the three leopards which then adorned the royal shield of England, but which were subsequently exchanged for lions, as, strange to say, were also their living representatives, and these being followed by a camel from the same source, the whole of the wild beasts were removed from Woodstock to the Tower, and formed the beginning of the menagerie which existed there till its transference to the Zoological Gardens in 1834.

The "National Records" contain many orders issued to the sheriffs of London, Buckinghamshire, and Bedfordshire, to

provide for the animals and their keepers. In 1252 the London sheriffs were ordered to pay fourpence a day for the maintenance of a white bear, and to provide a muzzle and chain to hold him while fishing or washing himself in the river Thames. In 1255 (same reign) they were directed to build a house in the Tower for an elephant which had been presented to the king by Louis of France, and in a second writ they were ordered to provide necessaries for him and his keepers. This was the first elephant ever seen in England since the Roman period. We learn from other orders that in the reigns of Edward I., II., and III., that lions and leopards were allowed for at the rate of sixpence a day, and their keepers' wages was three halfpence. During later reigns the keeper of the Tower lions was an important position held by a person of quality about the king, and he received the sum of sixpence a day, and the same amount for every animal under his charge.

The post was at other times held by the Lieutenant or Constable of the Tower, with the stipulation that he provided a sufficient deputy; for the office in the royal household of our ancient kings, called "The Master of the King's Bears and Apes," had been abolished at a much earlier date.

The menagerie in the Tower at no time contained many varieties; at one period it only had six lions and no other animals. In 1708 Strype enumerates eleven lions, two leopards or tigers (it seems, the worthy historian did not know the difference), three eagles, two owls, two cats of the mountain, and one jackal. In 1754 the number had increased, but in 1822, when Mr. Cops became keeper, it had dwindled down to a grizzly bear, an elephant, and a few birds. Under his skilful management the collection assumed much larger dimensions, and became a really interesting and attractive spectacle, often alluded to in the writings of the period. The sanitary conditions of the place were improved, greater care was paid to cleanliness, and, as a consequence, the mortality of the animals was very slight during his rule. One death, however, is recorded, that of the secretary bird, which was beheaded in the Tower, thus suffering the fate allotted to traitors. While prying about, he incautiously introduced his neck

into the den of the hyæna, and that animal constituted himself executioner by promptly depriving him of his head with one bite.

There were several small menageries in England at the commencement of the present century, mostly of the travelling kind; but the Tower, and two small collections kept for exhibition, one in the Surrey Zoological Gardens and the other in Exeter Change, were the only places worth mentioning where our grandfathers could get any sight of wild animals alive. It is curious to read that the front of Exeter Change projected over the Strand, and was daubed all over with pictures of monsters and wild beasts between the Corinthian pillars, presenting a grotesque appearance not easily forgotten by the "country cousins" who came in shoals to see it, nor by the children who gazed upon the sham Yeoman of the Guard stationed outside, inviting passers-by to step in and see the lions, tigers, elephants, and monkeys.

Leigh Hunt, writing about Exeter Change, speaks of it as a place where the animals had no air, and where he remembered an elephant wearing boots, because the rats gnawed his feet. This was the elephant "Chunee," which was a well-known animal, for he was on exhibition from 1809 till 1826, when he met a tragic fate, which will be described further on in the chapter on elephants.

In the present day Londoners are more favoured, for they now possess two of the finest and most comprehensive collections ever brought together in the world. One is in the magnificent building of the natural history section of the British Museum, lately opened in the Cromwell Road, where the stuffed collection of animals, birds, and fishes include nearly every known variety; and the method of arrangement, carried out under the superintendence of its able chief, Professor Flower, allows the student to study not only the outward appearance of the specimens, but to a very large extent their anatomical structure. Here also can be seen fossil remains and skeletons of strange and mighty animals now extinct, and which even at a late period of our history were said never to have existed, and their descriptions in ancient writings considered mythical.

The other collection referred to is in the Zoological Society's Gardens, in Regent's Park, where animals, birds, reptiles, and

fishes can be seen and studied alive. This is, perhaps, the largest menagerie in the whole world, and every part of the globe has been laid under contribution to make it as perfect as possible; it is certain that such a gathering together of the largest mammalia of the world in pairs was never seen elsewhere, nor has such a collection ever been approached by other cities. Everything is done to keep the specimens in as fine a condition as they would be if they had not been deprived of their freedom, and to surround them, as far as possible, by the same circumstances that would attend them in their wild state. No wonder, therefore, that it is one of the favourite attractions of a city noted for its attractions, and one of the sights that remains the longest impressed on the memory of travellers from other climes, and of excursionists who visit it by hundreds during the holiday seasons.

The Zoological Society of London was first instituted in 1826, and the gardens opened to the public in 1828, under the auspices of Sir Humphrey Davy, Sir Stamford Raffles, and other eminent men, "for the advancement of zoology, and the introduction and exhibition of the animal kingdom alive or in a state of preservation." It is a question whether even the most sanguine of its founders ever contemplated the society attaining the popularity it has done, or that it would ever exhibit specimens of such rare and curious animals as have been, or are now to be found in its care.

That it must require unceasing efforts to keep renewing such a varied assortment is obvious, for in this climate, in confinement, and under such altered circumstances, the animals must succumb to diseases unknown to them in their wild state, to say nothing of those dying through accidental injuries and age. Mr. J. B. Sutton is the authority for the information that the animals die frequently from some unknown disease, but half of them are the victims of lung disease, bronchitis, or pleurisy. "The larger carnivora—lions, tigers, and leopards—are exceedingly vulnerable to attacks of pneumonia, and bears frequently die from this affection, due to the suppuration of the consolidated portion of the lungs. Pleurisy is exceedingly common among them, as it is in the domestic cat. This disease alone has caused the society the loss of several very fine animals."

The gardens are constantly receiving presents of specimens, some of them being very fine, but the rare animals have generally to be purchased, and some of them are expensive. Thus we learn that a rhinoceros cost 1250*l.*; three giraffes cost altogether nearly 2400*l.*; an elephant and calf have been bought for 500*l.* The first hippopotamus, which was such an attraction in 1851, although a gift, cost nearly 1000*l.* for transport. Lions and tigers have cost the society between 150*l.* and 200*l.* a piece, but are now cheaper. Some birds are very expensive, viz. a pair of black-necked swans cost 80*l.*; and rare pigeons or ducks may cost anywhere, between 5*l.* and 25*l.* each. When the Knowsley collection of birds was sold in 1851, the society invested nearly 1000*l.* in purchases. Prices are by no means steady, even in the animal market, and appear to fluctuate considerably; presumably, like everything else, the supply and demand regulating it. The ignorance of prices and values is frequently exemplified, and we hear of a sea-captain asking 600*l.* for a pair of pythons, that he was glad ultimately to get rid of at 40*l.* An American once thought he had struck oil when he offered the society a grizzly bear for 2000*l.*, they to pay, in addition, the carriage across the Atlantic. More ridiculous still was an offer they had of a moribund walrus which, for over two months, had been fed on salt pork and meal, for the small sum of 700*l.*! These are, of course, absurd prices, but the cost does not deter the society from obtaining favourable specimens of any animals required to keep their collection complete and unique in its perfection. It is therefore now a matter of congratulation that we live in an age when the wild beasts of the forest and the fowls of the air are not caught to furnish enjoyment by the sight of their destruction in savage conflict, tending to arouse the worst passions of our nature, but are made captive; so that they can be studied, the wonders of their structure learnt, the beauty of their forms admired, and food for the mind being supplied us by the contemplation of their exquisite perfection and adaptation of their powers for the due fulfilment of their part in the economy of creation.

CHAPTER II.

CATS—GENUS *FELIDÆ*.

IN the Zoological Society's Gardens are to be found a large number of specimens of the four classes of vertebrated animals—mammals, birds, reptiles, and fishes,—but our attention will be devoted only to the most important members of that class which are the highest in organization, and known as mammals, so called because they possess a set of organs that secrete milk by which their young are nourished. Under the order of mammals, some two thousand animals are specified—from man, monkeys, cats, dogs, horses, &c., down to the sloth, the last on the list; also bats that fly, and whales and their allies inhabiting the seas.

The cats—*Felidæ*—are the most powerful and ferocious of all predatory animals, and the majority of the visitors to any zoological collection naturally turn first towards the house in which the specimens of these creatures are to be found. The tribe of cats have been divided by some writers into fifty or more different species, but in reality many of them are only varieties slightly distinguishable in habits, colour, or size, and cannot in consequence be described as distinct species, any more than similar differences in men can be said to constitute any such division. We shall only have occasion to notice certain varieties of these terrible creatures, such as lions, tigers, leopards or panthers, jaguars, pumas, and the cheetah or hunting leopard. Cats belong to the flesh-eating order of animals, and are armed with the most perfect development of the carnivorous type of dentition. “ Their functions being to seize and hold struggling animals, often of great power, they are provided with formidable fangs and cutting

teeth that permit them to firmly hold and tear their food." They have not the power of chewing or masticating it, but they tear it into small pieces, which they eat with a series of short, quick bites. Another noticeable thing is the structure of their tongues, which greatly differ from the well-known smooth, moist tongue of a dog. The entire surface is covered with innumerable conical projections sloping backwards, hard and rasping, enabling the animal, by licking, to strip the flesh from the bones of its prey, an economy of Nature that prevents their losing or wasting any of the nutriment. These papillæ are so firm and rough that a few steady licks on the hand from one of the large species would remove the cuticle and draw blood. Their hair is close and soft, often beautifully smooth and sleek. They are armed in a terrible manner; their rounded muzzles, short sinewy neck, and firm massive jaws exhibit muscular power, combined with supple grace, almost in the highest degree. They possess the power of opening the mouth to a comparatively greater width than any other species of animal; and, moreover, they are endowed with talons or claws made retractile, so that their efficiency will not be endangered by coming in contact with the ground and so losing their sharpness. The weight of the body resting altogether on the toes, and not on the entire foot, they have a beautiful structure of the tendons, enabling them to withdraw the talons backwards, thus lifting them entirely from the ground, the weight of the body resting only on the soft pads which stud and form the surface of the foot. But when these creatures clutch at their victim, or strike their powerful blow, the claws are thrown forward, sharp, penetrating, and rigid, with power sufficient to hold their prey and to tax the efforts of the very largest animals to shake themselves free and escape.

The cat tribe are also the most dreaded of the brute creation for the peculiar silence of their tread; no footfall gives notice of their location, and in making their stealthy way no sound from the leaves or branches alarms their intended victim, but silently and steadily they creep along through the thicket, guided by the beautiful mechanism of their whiskers rather than their eyes, for each individual hair is endowed with an exquisite sense of touch,

enabling them to avoid all contact with obstacles that would emit a sound, thus they draw nearer and nearer until they make that terrible spring which is the mode of their attack, and appears to exhaust their energy.

They seem to possess but little sense of smell, and their hearing faculties are not very highly developed, but their vision is keen and penetrating. Their eyes are adapted for the night as well as for the day—being, however, peculiarly constructed for nocturnal use, the *Felidæ* rather dislike strong sunlight. Their eyes in certain lights glow like balls of fire. It is thus explained. In several species of animals, the inner surface of the back of the eye presents a membrane called *tapetum lucidum*, which in the cat tribe is of a yellow colour and of a brilliant metallic lustre like a concave mirror; it is the reflection from this which causes the “glare of the eye” which so many hunters of the lion and tiger describe as being so terribly startling and indicative of the furious anger of the animal, when frequently it is nothing of the sort. Mr. Power describing his examination of a cat’s eye with the ophthalmoscope, pronounces it the most beautiful thing he had ever seen. “Imagine a dense yet luminous velvety blackness below, bounded by a nearly horizontal line, just above which is a pearly spot: the entrance of the optic nerve. This presents the usual vessels emerging from it. The disc is surrounded by a sapphire-blue zone of intense brilliancy, passing into metallic-green; and beyond this the tapetum shines out with glorious colours of pink and gold, with a shimmer of blue and of green. It is really lovely.”

The intellectual position of the cats in the order of animals is an inferior one, and it is fortunate it is so, or their power for mischief and for evil would be greatly increased, and would make them more fearfully dreaded than they now are by the natives in the countries where they abound.

With the exception of the lion and one or two others of the tribe, they have the power of climbing trees. They are not as a rule gregarious, but seem to prefer hunting singly, and only occasionally in pairs or families. In both continents certain varieties are found, but apparently there are none in Australia. The larger species are more numerous in tropical countries.

Their limbs are only of moderate dimensions, but very powerful, and so constructed that they can make bounds of astonishing length. Their colour enables them to easily lie concealed, and in secluded spots they crouch and await their prey, which they seize by suddenly springing on it.

From the foregoing it will be readily seen that these animals possess powers exquisitely adapted for the purpose of carrying out their instincts and for self-preservation, either in obtaining the food on which their existence depends, or in defending themselves from attack; also that they are armed and fitted to wage war and to maintain supremacy over other animals, and even to be a formidable antagonist to man himself.

The animal of this group which we naturally look for first is the lion, the one uniting all the powers of his tribe in a superlative degree, and in strength, ferocity, and size only equalled by a few of the very largest varieties of the tiger.

Before passing on, however, it will be as well to say that it would be far more instructive if writers would try and simply describe the various members of the animal world as they are, and not try to invest them with the same feelings and ideas that actuate the human race, and then by drawing comparisons, as it were, study them from that point of view, endeavouring to create favourable or unfavourable impressions regarding them as they approach or recede from the standard of man. Thus writers frequently twist certain habits peculiar to certain individual animals into acts denoting a generous or noble disposition, or typical of the reverse, a vindictive or cowardly one, and so on, up or down a gamut of adjectives that could only be correctly applied to men exercising their powers in an identical manner, and totally misleading when applied to an animal simply acting after its kind and obeying no laws but the laws of its nature. Thus when perhaps merely exerting their faculties, or using the only weapons Nature has provided them with in the capture of their prey, the adjectives sneaking, bloodthirsty, and ferocious, can hardly be applicable or convey the correct idea, any more than they could be used to describe a butcher in his occupation, if the shambles did not reek with blood spilt to gratify a savage nature or some other

motive than the existing necessity of appeasing hunger. The tribe of cats suffers considerably at the hands of a certain class of writers in being thus qualified with all the awe-inspiring adjectives to be found in the dictionary, whereas if the necessity of their supplying their own food is removed, many species can be easily tamed, become domesticated, and friendly and affectionate to man. But suppose they had the power of describing their ideas of the human race from their point of view what adjectives would be required when alluding to those members of it who slaughter them for mere wantonness, wounding and crippling the poor beasts for life, causing lingering and painful deaths in the animal world simply for pleasure, or to enable them to boast of their performances in public?

It can hardly be questioned that it is far more satisfactory to cast aside all these comparisons, and clearing the mind of the prejudices they create, study the majority of all such animals as wild beasts, a distinct and separate creation, endowed with no reasoning power, but with characters, habits, and instincts sufficient for them to perform those acts for which they exist. From this point of view, new ideas and new lights must certainly be continually flashing across our mind as we learn the innumerable powers they possess, view the manifold adaptations of their forms for the purpose of carrying out the same object, or for the purpose of fulfilling their mission in the world, and for which the creation even of the *Felidæ* was deemed necessary by the all-wise Creator.

CHAPTER III.

THE LION (*FELIS LEO*).

BUFFON says: "To study animals with accuracy, we ought to view them in their savage state, to accompany them into the retreats which they have chosen for themselves, to follow them into the deep cavern, and to attend them on the frightful precipices where they enjoy unbounded liberty." This is so, no doubt, but as none of us can study animals with this accuracy, we must be content to watch them in captivity, and surely this fact need not diminish our pleasure as we gaze on these splendid creatures. Then think what art owes to them, not exactly as the royal patron, but as the theme. "We can scarcely calculate," writes one of the Reviews, "what sculpture would have missed without him, from the gates of Mycene, the halls of Nineveh and Thebes, the throne of Solomon and the courts of the Alhambra, down to Canova's monument in Rome—even when he is represented at the foot of the Trafalgar Square column, with his forelegs (as shapeless as roly-poly puddings) stretched out straight, dog fashion, instead of cat-elbowed, he is still a grand creature, albeit plethoric in his dignity, like the porter in a ducal mansion or a Beef-eater in the Tower." And remember the number of magnificent paintings he has inspired, and which the grand similes his habits have suggested, which, from the Bible downwards, enrich our literature. Even in ancient Egypt lions appear to have been the object of special worship and devotion, for they are represented in Egyptian *bas-reliefs* to which an antiquity of 3000 years has been assigned. Again, one of the most famous relics of ancient Greek art in the British Museum—in fact, if we except the Marathonian tumulus, it is, according to a writer in the *Times*, the only relic of the best

days of Greek art—is the cast of the famous lion of Chæronea. Of this lion we learn that a mile from the ruined city of Chæronea, on the right-hand side of the Kapurna road, is the sepulchre of the Bœotians who fell in the battle of Chæronea, fighting against Philip of Macedon, B.C. 338. Pausanias, the Greek geographer, speaks of the tomb in his quaint but touching language as having “no inscription but a figure of a lion placed on it as emblem of the spirit of these men.” “There is no inscription,” he adds, “because the gods willed that their fortune should be unequal to their valour.” This marble lion, the masterpiece of art, disappeared for a long time, but fortunately the fragments were at last found and are now being put together.

Looking at these noble animals, we see their characteristic points are the grand and massive face and front, the profusion of long, thick, wiry hair that forms the shaggy mane, falling from the chin and throat, over the head, neck, and shoulders, and below the body; also that they stand comparatively high on their fore-legs, but fall away slightly at the withers. The fore-feet, it will be observed, have five toes, and the hind ones only four. Their slow, heavy, but silent tread exhibits power and grace, so attractively blended that few can resist gazing on them with a sense of fascination as they move to and fro in their well-barred cages; and who can fail to observe the calm indifference with which they regard the people who parade before them, for they pay no heed at all, but seem to ignore even their presence, as something unworthy their attention.

The lion's colour is a rich brown or tawny yellow, though it may vary greatly from a reddish-brown to a lightish grey. The tail is bare, except at the tip, which is decorated by a conspicuous tuft of black hair, a very distinguishing mark, for no other member of the cat tribe possesses it. The mane is generally darker than the rest of the body, sometimes being almost black; but its tint varies according to the age, and possibly according to the country, of its owner's habitation; it does not begin to grow until the third year, and is not properly developed until the completion of the fifth. This changing of colour and appearance at certain periods seems to have given rise to the opinion that many species exist; but hunters who have had the best chance of being

well informed upon the subject do not share this belief, although they may admit there is considerable difference in size, and apparently in habits, between the Asiatic and African lions, for the latter have generally a more powerful form, and are of a darker shade in colour than the former. It seems also to be their opinion that the "maneless lion of Guzerat," once thought to be an unmistakably distinct species, is nothing more than a young animal whose mane has not shot forth, or a lion exhibiting an individual peculiarity.

Unlike the larger majority of the other varieties of the cats, the lion's eye has a pupil that does not contract into a vertical slit, but is round and full. It is no doubt the want of this power of contraction that makes him uncomfortable and uncertain in his movements during the broad glare of sunlight in the daytime, and has been to some extent the cause of his having fallen in people's estimation from his former high and regal position in the animal world. Mr. Frederick Courteney Selous, who is from his experience most certainly an authority on the subject, writes: "It has always appeared to me that the word majestic is singularly inapplicable to the lion in his wild state, as, when seen by daylight, he always has a stealthy, furtive look that entirely does away with the idea of majesty. To look majestic, a lion should hold his head high. This he seldom does. When walking he holds it low, lower than the line of his back, and it is only when he first becomes aware of the presence of man that he sometimes raises his head and takes a look at the intruder, usually lowering it immediately and trotting away with a growl. When at bay, standing with open mouth and glaring eyes, holding his head low between his shoulders and keeping up a continuous low growling, twitching his tail the while from side to side, no animal can look more unpleasant than a lion, but there is even then nothing majestic or noble in his appearance."

Writers even in works of modern date destroy the value of their labours by giving very exaggerated descriptions of this so-called "King of Beasts," portraying him in such a manner that travellers who come across him in his wild state, and find his habits and character do not agree with those accounts, go to

the other extreme, and describe him with the adjectives mean, cowardly, skulking, and indolent. Mr. Stanley in his book, "How I found Livingstone," describing his first interview with a lion and his endeavours to get a shot at him, says: "My surprise was great when I cautiously laid my rifle against the tree and then directed its muzzle to the spot where I had seen him stand. Looking further away—to where the grass was thin and scant—I saw the animal bound along at a great rate, and that it was a lion; the noble monarch of the forest was in full flight! From that moment I ceased to regard him as the mightiest among the brutes, or his roar as anything more fearful in broad daylight than a sucking-dove's." Exactly, in broad daylight, but the animal, being of nocturnal habits, is a very different character at night. In a letter of Mr. C. J. Andersson's, published some years ago, he tells of a dangerous encounter he had with a lion. "One fine moonlight night," he writes, "while watching for elephants, I encountered a troop of lions, and without any kind of molestation on my part was suddenly attacked by the leader, a magnificent male. Fortunately a well-directed bullet from my elephant rifle put him at once *hors de combat*."

No one can look at a lion and not acknowledge that he is a wonderfully fine animal, and almost the personification of power and might; but it must be remembered that he is after all but a cat, a cat of powerful size, but, nevertheless, physically and morally a cat, and can only be correctly studied from this point of view. A lion is endowed with no other virtues than the feline attributes he inherits, being cunning, suspicious, vindictive, and stealthy, not prone to attack under other circumstances than those of his own planning, and rarely in the open. Again, he does not appear as a rule to attack man, except attacked or under the influence of extreme hunger. It is during the night that he roams about in search of prey, but during the day he is accustomed to retire to some solitary spot where he can sleep at ease; and when he is met in daytime, probably through his having been disturbed, and is moving his quarters, a traveller is apt to forget the chances are he has a full stomach, and in consequence has no cause or wish to attack; this does not constitute cowardice.

Quoting Mr. Selous: "When lions are met with in the daytime they almost invariably retreat before the presence of man, even when disturbed at the carcass of an animal which they have just killed, and when they are presumably hungry. If pursued or wounded, however, they may be expected to charge *ceteris paribus*. I have found in my small experience that a far larger proportion of them do charge than of any other animal in Southern Africa with which I am acquainted, and as their power of concealing themselves and their quickness and agility in attack are far greater than in an elephant, buffalo, or rhinoceros, I pronounce them to be more dangerous animals to meddle with than any of these. As with men and all other animals, individual lions differ so much in disposition one from another that it is impossible to tell from one's experience of one what the next is likely to do, and I do not consider that any man has a right to say that lions are cowardly beasts because the two or three that he has shot have not happened to show fight, but have exhibited great pusillanimity. At night, and when urged on by hunger, lions are sometimes incredibly daring, in fact, as old Jan Viljoen once said to me, 'a hungry lion is a true devil and fears nothing in the world.' "

The lion is still to be found in large numbers in Northern and Southern Africa, and in smaller numbers it is found over the whole of the African continent. It is also to be found in Persia and Arabia, and at Cutch and Guzerat in Western India. It formerly existed in South-eastern Europe, but has become extinct there now. In Central India it is also getting rare, and the price put on each animal by the Government, and the zeal of sportsmen armed with such accurate and deadly weapons as are now used, is making the lion a scarce animal in Asia, "and the royal race of the forest, like other Indian dynasties," seems doomed.

The favourite prey of the lion is the various species of deer and antelope which abound in the plains, but he will attack much larger animals, such as giraffes, buffaloes, zebras, and even elephants. His leap is terrific, and it is said on good authority that in making his spring at a deer or other animal should he spring short, or overspring, he usually gives up further pursuit, his energy being apparently exhausted, and returns sulkily to his

lair, there to await another victim, and the curious fact, which seems corroborated by various travellers, is that at times he will go carefully step by step over the ground, measuring it apparently so as not again to make such a miscalculation of the distance. At other times he appears to attack his prey by seizing the animal by the flank, or hind-leg, or the throat below the jaw. Sir W. C. Harris says: "The weight of the lion's body, as compared with its size, is very remarkable, and is accounted for by the singular density of the muscles, and the compactness of the principal bones; which latter, like the teeth of the hippopotamus, will produce fire with steel. The force with which he must alight after a bound of fifteen or twenty feet is, therefore, sufficiently obvious, and his massy paw will batter in the skull of an ox quite as effectually as if a sledge-hammer had been employed."

His strength is undoubtedly very great, and Thunberg states that he will not only attack an ox of the largest size, but will very nimbly throw it over his shoulder, and leap over a fence four feet high with it, although at the same time the ox's legs hang dangling on the ground. Montgomery Martin relates that a young lion has been known to carry a good-sized horse a mile from the spot where he killed him. Mr. Selous, however, says: "I have never met with an instance of a lion carrying an animal that it has killed, and, as far as I know, their invariable practice is to drag the carcass along the ground, holding it the while by the back of the neck. This they do with even the smallest antelope, such as impala; and I do not think the South African lion would be capable of lifting such a heavy beast as a bullock from the ground, as the North African species is said to do, much less of springing over a high fence with one."

Mr. C. J. Andersson remarks: "The quantity of flesh that a lion in a wild state devours at a meal is something enormous. On more than one occasion I have known him to dispatch the greater part of a zebra in the course of a night." Mr. Moffatt also seems struck with the same thing, for in describing an attack made on his party by a lion, on which occasion it not only carried off a cow, but ate up the poor beast within gunshot of the bivouac fire, he writes: "I had often heard how much a large hungry lion

could eat, but nothing less than a demonstration would have convinced me that it was possible for him to have eaten the flesh of a good-sized heifer, and many of the bones besides, for scarcely a rib was left, and some of the marrow-bones were broken as with a hammer."

Unlike the habit of the hyæna, wolf, and other animals, the lion does not bring home meat for his young cubs, but as soon as they attain any strength at all, he takes them out with him on his nocturnal prowls.

In size the average lion is between nine and ten feet in extreme length, including the tail, which is generally about three feet long, stands about three and a half to four feet high, has a foot over six inches in diameter, and weighs between thirty-five and forty stone. There are much larger animals existing than can be generally seen in menageries, and hunters give measurements considerably beyond the above.

The lion's roar as given when he is in captivity is said to be but a feeble echo of the awe-inspiring sound he utters in his freedom. This, of course, can only be heard in its perfection when in its natural place; when, after prowling about in his favourite haunts, the sandy plains or rocky places, or when crouching in the rank grass skirting the edge of some spring that forms the drinking-place of those herbivorous animals on which he delights to make his meal, he is disappointed, and his patience becoming exhausted, he is then said to resort to another stratagem; for placing his mouth close to the earth he utters a roar that, rolling along the ground on all sides, startles every animal that may be crouching in the neighbourhood. Bounding to their feet, these terrified creatures rush forth from their lairs, and if one of them happens to be near, the spring is made, the death-struggle short, and the lion's appetite soon satisfied. This nocturnal roaring is said to be a great nuisance to travellers in some districts, for the oxen or horses, that do not appear to be afraid of a lion in the daytime, are terribly frightened at his voice at night, and rush frantically about in a complete state of fright and panic.

"Several times during my three years' wanderings," Mr. Selous writes, "in the far interior of Southern Africa, have I,

when camped in a patch of brush, or lying at a shooting-hole or the edge of some lonely pool or river, thus heard a troop of lions roar in my immediate vicinity, so close indeed sometimes that I could hear the hiss of their breath after each purr, and though it is now the fashion to deprecate the courage of the lion, the power of his voice, and everything else concerning him, yet it is a fact that, under such circumstances, several of them roaring in unison will make the whole air in their immediate vicinity vibrate and tremble, and I know of nothing in Nature more awe-inspiring, or on a dark night more calculated to make a man feel nervous." Upon this subject it is difficult to resist giving the oft-quoted and graphic description of Gordon Cumming: "One of the most striking things connected with the lion is his voice, which is extremely grand and peculiarly striking. It consists at times of a low deep moaning, repeated five or six times, ending in faintly audible sighs; at other times he startles the forest with loud, deep-toned, solemn roars repeated five or six times in quick succession, each increasing in loudness to the third or fourth, when his voice dies away in five or six low muffled sounds very much resembling distant thunder. . . . On no occasion are their voices to be heard in such perfection or so intensely powerful as when two or three troops of strange lions approach a fountain to drink at the same time. When this occurs every member of each troop sounds a bold roar of defiance at the opposite parties; and when one roars all roar together, and each seems to vie with his comrade in the intensity and power of his voice. The power and grandeur of these nocturnal concerts is inconceivably striking and pleasing to a hunter's ear."

The lion appears to be long lived, but there seems to be some uncertainty about the average age they attain; some say twenty to thirty years, others thirty to forty in their wild state; in captivity, however, they have been known to live much longer than this. The famous lion "Pompey," which died in the Tower menagerie in 1760, had been a prisoner there for seventy years; and another one that died there at a much later date, was said to be sixty-three years old.

Delagorgue, the French traveller, makes some curious assertions

on the character of the lion, and the following interesting fact which he narrates has been to a certain extent corroborated by other writers. Animals rendered by accident or wounds powerless to defend themselves, or impotent to vent their rage, will turn their ire on themselves and mutilate their own body. He says: "Certain animals, when they have been mortally wounded, evince a weakness resulting either from their inadequate means of defence, or from the mildness of their dispositions; some utter plaintive cries, the like of which are never heard except at this critical moment, others shed tears. The elan (*Boselaphus oreas*) especially, patiently awaits the chasseur, whom it seems to implore, instead of opposing to him its formidable horns. Others, again, simply resign themselves to their fate, without showing any signs either of courage or of weakness. The lion differs from all these. If the vital parts of his body be pierced, so that it is unable to leave the spot and its enemies keep at a distance, it abandons itself to despair, and its teeth and claws are turned against its own person; it crushes its paws and it breaks its talons, as if it wished to be the author of his own annihilation. It is a veritable suicide, but which the weapons provided by nature do not permit it to consummate."

Nearly all travellers in Southern and Central Africa speak of the terror with which a "man-eating" lion is regarded by the inhabitants of the small native villages they come across. For it is beyond dispute that, although naturally or at first the lion does not show any liking for the flesh of man, he will, through having once tasted it, or through old age making him less capable of procuring other food, and so driving him to attack man, become in some instances like the much-dreaded tiger, a "man-eater." Many most blood-curdling stories have been told by writers whose veracity is unimpugned and beyond question of the havoc such a creature can work, and of the horrors created by his nightly attack on the huts where the poor and miserable people lie cowering with fright. The power they have of suddenly springing without the slightest warning on their victim, and instantly carrying the wretched man, woman, or child away in the darkness before a sign can be given or a scream uttered, and the terrible suspense endured by those who have to sit by and hear the bones being

crunched and the blood licked, and unable in the darkness to raise a hand in defence, are the essentials of the appalling tragedies enacted but too frequently in the native villages in Africa. The history given by several hunters of the loss of some faithful servant or camp-follower is nearly always similar: there is a crash of a dead weight falling, and the terror-stricken people round the camp become immediately aware that a lion has sprung into their midst and one of them has been taken, and nothing but the bones will be found on the morrow.

Dr. Livingstone, who considered the size, strength, and majesty attributed to the lion very much overrated, and who states that he could not readily distinguish between his roar and the cry of an ostrich, was nearly himself falling the victim of one he had wounded. Quoting his own description: "I saw the lion's tail erected in anger, and turning to the people, said, 'Stop a little, till I load again.' When in the act of ramming down the bullets I heard a shout, and looking half around, I saw the lion in the act of springing upon me. He caught me by the shoulder, and we both came to the ground together; growling horribly, he shook me as a terrier does a rat. The shock produced a stupor similar to that which seems to be felt by a mouse after the first grip of the cat. It caused a sense of dreaminess in which there was no sense of pain nor feeling of terror, though I was quite conscious of all that was happening. It was like what patients partially under the influence of chloroform describe: they see the operation, but do not feel the knife. The placidity is probably produced in all animals killed by the *carnivora*, and if so is a merciful provision of the Creator for lessening the pain of death. As he had one paw on the back of my head, I turned round to relieve myself of the weight, and saw his eye directed to Mebalwe, who was aiming at him from a distance of ten or fifteen yards. His gun, which was a flint one, missed fire in both barrels. The animal immediately left me to attack him, and bit his thigh. Another man, whose life I had saved after he had been tossed by a buffalo, attempted to spear the lion, upon which he turned from Mebalwe and seized his fresh foe by the shoulder. At that moment the bullets the beast had received took effect, and he fell down dead. The whole was the work of a few

moments, and must have been his paroxysm of dying rage. In order to take out the charm from him the Bahatla on the following day made a huge bonfire over the carcase, which was declared to be the largest ever seen. Besides crunching the bone into splinters, eleven of his teeth had penetrated the upper part of my arm. The bite of a lion resembles a gun-shot wound. It is generally followed by a great deal of sloughing and discharge, and ever afterwards pains are felt periodically in the part. I had on a tartan jacket, which I believe wiped off the virus from the teeth that pierced the flesh, for my two companions in the affray have both suffered from the usual pains, while I have escaped with only the inconvenience of a false joint in my limb. The wound of the man who was bit in the shoulder actually burst forth afresh in the same month in the following year. This curious point deserves the attention of inquirers." So also does the remark made with regard to the stupor produced by the lion's shake.

Gordon Cumming, prefacing an account of another terrible episode, says: "Man-eaters occur, and in my fourth hunting expedition a horrible tragedy was acted one dark night in my little lonely camp by one of these formidable creatures." It is hardly to be wondered at, therefore, that the poor villagers give vent to unbounded joy when any of the devastating pests are destroyed.

Similar facts were no doubt related to that worthy Lord Mayor of London in 1646, Sir John Gayer, whose will necessitates the preaching of the well-known lion sermon of the day, and shows unmistakably his opinion regarding the danger he experienced from being in too close proximity to one of these beasts. He was travelling in the desert of Arabia and met a lion face to face, which, however, allowed him to pass unmolested. Wishing to return thanks for this deliverance, he made provisions in his will that at St. Catherine Cree Church in Leadenhall Street, a sermon should be annually preached on the 16th of October, in commemoration of the fact, and he further provided that the minister was to have twenty shillings for the sermon, the clerk and sexton three shillings, and the sum of eight pounds seventeen shillings should be distributed amongst the necessitous inhabitants of the parish. It is an ill wind that blows nobody good!

Sir W. C. Harris, writing in 1841 and speaking of the lion, observes: "Those who have seen the monarch of the forest in crippling captivity only, immured in a cage barely double his own length, with his sinews relaxed by confinement, have seen but the shadow of that animal which "clears the desert with his rolling eye." This may be true of small menageries, but it is open to question whether in large, airy, clean dens, regular food, and careful attention, some animals do not, under such conditions, improve in personal appearance. They are no doubt to some extent tame and enervated, and may have some faculties blunted or lost that in their wild state would have to be constantly exercised. "I have never seen the skin of the wild lion with a mane equal in length to that attained by the greater part of the lions we see in menageries," writes Mr. Selous. "All wild lions with a full mane have two small tufts of hair, one at the elbows and the other in the armpit; but I never yet saw one with any long hair along the belly, between the forearm and the flank, as may be seen in almost all menagerie lions in this country. I do not say that cases do not occur of wild lions becoming equally hairy, but they must be very rare, otherwise I should have met with some amongst the large number of skins I have seen. The coat of the wild lion is very short and close, whilst the lions kept in this country become very much longer, and usually of a redder colour, than the pale yellow or silvery grey hue of the wild animal. I could pick out the skin of a menagerie lion from amongst a hundred wild ones. Climate and regular feeding must, I think, have a good deal to do with the luxuriant growth of mane almost invariably to be observed in lions in confinement. . . . Nothing can be more disappointing to the youthful sportsman fresh from England and accustomed to the full flowing manes of the lions in the gardens of the Zoological Society, or the representations of the wild animals to be seen in works of natural history or picture-books, than to shoot him in his native haunts and find him almost destitute of mane, for after all, what is a lion without a mane but the shadow of that noble beast one has mentally pictured to oneself?"

It is now known, however, that lions vary, not only in shade and hue, but also in the development of the mane and of the hair along the flanks, and in Asia and Africa there are specimens frequently seen that are maneless, or comparatively so, but it has been shown to be only a peculiarity of the individual, for in other respects they are similar to their congeners.

The usual pace of a lion is an apparently rather slow walk, but the length of his body being so great, he covers considerable distance in a very short time. He can, however, accelerate his pace into a trot, and often into a gallop or succession of bounds that nearly equals the speed of the fleetest animals.

Lions do not as a rule live in dens or caves, but generally choose a commanding rock or side of a mountain or hill for a lair, or in some parts of South Africa the top of the raised knolls or *koppies* peculiar to that portion of the world. From these elevated positions they are not only less liable to be disturbed, but they can watch the movements of the game, plan an ambush, or slip away unperceived on the approach of man.

The three lions and two lionesses now to be seen in the Zoological Gardens are no doubt very fair specimens of their species. When we look on the tawny colour of their hide, we can readily see how admirably adapted it is for concealment, and understand how it was that Gordon Cumming, although blest with the keenest vision, yet states that he often heard lions lapping water at a less distance from him than twenty yards, and was unable to make out even the outline of their forms.

Two of the lions were presented to the Society, and the third was purchased. The one whose photograph has been selected as an illustration is a Nubian lion, and is known by the name of "Punch." Punch is about eleven years old, and is really a magnificent-looking animal, his face being exceptionally fine and massive. Like all the carnivorous animals in the gardens, they get fed once a day, and are given about ten or eleven pounds of raw meat at this meal.

For some reason or another, the lions that become the property of the Zoological Society do not live over twelve or fourteen

years, which is certainly not near the average age they should attain. As before said, they suffer from peculiar ailments, and lung disease has carried off several of them.

The lioness is a somewhat smaller animal, and her form is more slender, lithe, and graceful. It can be seen at once that the chief distinction in the appearance of the sexes is the total absence in the lioness of the bushy mane and long hair which adorn the body of the lion, her hair being more sleek and softer. If watched while she is moving about it will readily be observed that she displays more agility, and is quicker and more impetuous in all her actions. The expression of her countenance is also different, for it exhibits a sullen and more crafty character, and one more like the inferior species of the cat tribe. Although she differs but little in the ferocity of her disposition to that of the lion while young, yet directly she becomes a mother there is a marked increase in her savageness, and from that time forth she is an animal more to be dreaded than her mate.

Lions appear to breed more freely in captivity than any other species of cat. The number of cubs born in a litter is generally between two and four, and sometimes five. They are very hard to rear. A large number used to be born in the Zoological Gardens with malformation of the palate, which rendered them unable to obtain their food; this defect disappeared when some change was made in the diet of the animals, but the mortality among the cubs during the period they are shedding their milk-teeth is, like it is in all *carnivora*, very great. They are born with open eyes, but are helpless until they are four or five weeks old.

There was a curious legend of the Middle Ages that a lion's whelp was born dead, and only first roused to or received life at the expiration of three days by the roar of its sire, or by being breathed on by him. It was often alluded to in consequence as the natural type of the Resurrection, and from this fabulous history of the animal he was made a symbol of one of the Four Evangelists, namely St. Mark, who was called the historian of the Resurrection,—most probably from the fact that his Gospel is the one used on Easter day,—and the lion being the symbol of the Resurrection, it was assigned him as an emblem.

Like all cats, the lioness is very jealous of her young, and when in captivity tries in every way to keep them from being seen by strangers. The cubs play about, and are as frolicsome as young kittens. Their first fur is generally faintly striped and spotted; in this respect bearing some small resemblance to a tiger, though the colouring is of course much less intense.

The lioness forming the subject of the illustration is an African one about three and a half years old, and is known by the name of "Duchess." She is not nearly as good-tempered as the lion, and the keepers have to be very careful with her; for she occasionally exhibits a disposition to be savage even to them.

In the *Times* of January, 1876, we read: "A favourite lioness has lately died at the Dublin Zoological Gardens. 'Old Girl' was of South African race, and was born in the gardens, where she lived sixteen years, brought up fifty cubs, and finally died of chronic bronchitis. During her last illness 'Old Girl' was much worried by rats, which often swarm in the cages of the *carnivora*, and while the beasts are in health, are rather an amusement than an annoyance. The rats, however, began to nibble the toes of the lioness when she could no longer defend herself, and accordingly a terrier was placed in the cage to protect the sufferer. 'Old Girl' at first received the dog with a surly growl; when, however, she saw him kill the first rat, she began to appreciate her visitor. The lioness coaxed the terrier to her, folded her paws around him, and the dog slept each night on her breast, enfolded with her paws, and protecting her rest from disturbance."

In the Zoological Gardens at Pesth, one morning in March, 1877, the visitors had an exhibition worthy of the old Roman days, a fight to the bitter end between a lioness and a leopard, a veritable romance of the animal world. It appears that a lion and lioness were caged next door to a female leopard, with whom the lion appeared to be very friendly; not so, however, the lioness, which showed her jealousy with savage growls whenever she caught sight of the occupant of the next cage. One day the keeper accidentally left the chain that was used to haul up the iron divisions suspended in the lion's den. The lion caught the ring in his paws and in a few minutes had drawn up the partition. The lioness, seeing her

opportunity, bounded through the opening, and sprang at the throat of the leopard, who tried to escape by springing high up on the bars. The lion, attempting to follow his mate, let the chain go, and the door fell back in its place, shutting him off and preventing his taking part in the combat, which had now began in earnest, and raged for nearly twenty minutes. At the expiration of that time the leopard was thrown upon its back, and in a second the sharp fangs of the lioness were deep in the beautiful creature's throat, which died without a further effort, and in half an hour nothing remained of her but a few torn and mangled shreds.

Lions in confinement show not only regard but affection for their keepers, and some remarkable instances of this are narrated in several books of anecdotes on animal sagacity which are well known, no doubt, to the majority of people. That he is capable of instruction, and can be brought to perform divers tricks, and even rendered so docile as to hold his mouth wide open while a man thrusts his head therein, is demonstrated by the exhibitions frequently seen at the performances of those so-called lion-tamers; but the number of accidents that have occurred should deter people from encouraging such foolhardy exploits. Mr. Fairgrieve, the proprietor of Wombwell's menagerie, wrote a letter to the *Globe*, in 1872, upon the subject of lion-taming—which was then attracting some attention, through the fact that Macate, the lion-tamer in Maunder's menagerie, had just been killed—in which he endeavoured to show that under certain conditions, and with careful management, there was no more danger in such exhibitions than in any other public entertainments of the day, and went on to say that only three or four deaths had occurred within his knowledge. There are, however, a great many more recorded where the tame or performing lions have killed their keepers or grooms. Many deaths are no doubt the result of carelessness or over-confidence in their tameness, for when too late it is found that the savageness of these wild beasts is not entirely subdued but is only dormant, and despite their apparent docility and obedience, it can be aroused by a trifling cause. They are, in consequence, never safe. In Astley's Theatre, one of the "lion-tamer" Crockett's lions broke loose and killed

a stable-keeper named Jarvey. In 1861, at the same theatre, a lion named "Havelock" tore off a heavy iron bar in front of his cage, and burst open the door. An under-groom, named Smith, entered the place and found the lions prowling about. "Havelock" sprang at him, pulled him to the ground, then fixing his teeth in the poor fellow's throat, worried him to death. A lion that died in the Central Park, New York, in 1876, named "Parker," was a man-slayer of the worst kind. He was exhibited in Cook's circus in 1859, and on the second night of his performance he killed his keeper Roberts; afterwards in Glasgow he slew another keeper named Stuart, and badly mangled another man shortly afterwards elsewhere. He was taken to America, and there killed a Miss Hardy. Barnum then bought him, but deemed it prudent to lodge him in the Park Menagerie, where he ended his career. The well-remembered case of Ellen Bright's death, who was killed by a tiger while giving a private exhibition to some officers of her power with her performing animals is alluded to by Mr. Fairgrieve, who, attributing her death to the shock, writes: "The Lion-Queen fell to the ground and the tiger sprang upon her. The tiger, however, scarcely grazed her skin, and her death, which was instantaneous, was caused almost solely by fright." (This was afterwards contradicted, the tiger's tooth had torn the thoracic duct, which caused her death.) "I may here mention," he continues, "as a curious fact in natural history, that a full-grown lion named 'Royal George,' which happened to be in the same den when the death happened, took the sad event so much to heart, that it began to pine away and hang down its head, and died in about three months after his queen, to whom he was greatly attached."

A similar trait in the lion was exhibited by one at a menagerie in Cassel. Another lion-queen who used to show her power by putting her head in the jaws of a tame animal, had it bitten off with a sudden snap, which is supposed to have been unintentional, for the brute grieved over her death so much that he refused food, pined away, and in a few days died also.

In the newspapers of the present day a paragraph is going the rounds, giving the history of a poor man who had tamed a lion which he was in the habit of exhibiting. This man appears

to have died suddenly in some lonely place in France, and when found his faithful lion was crouched by his side, dead also, having remained with his master until he succumbed from starvation.

The forerunner of these lion-tamers, however, had other dangers than mere brute ferocity to contend with. Hanno, a Carthaginian, is the first on record who ever tamed a lion, and he was condemned to banishment for what his fellow-citizens deemed so great a crime. They asserted that the republic had to fear the worst consequences from a man who had been able to subdue so much ferocity.

A singular thing about the taming of lions is that men experienced in the business assert that it is much easier to tame a "forest-caught lion" than one born in a menagerie, which is certainly strange, and opposed to general theory.

A curious fact is narrated in an African paper, dated May, 1862, which would lead us to infer that the lion, when not very hungry, is not above amusing himself. Certainly, the behaviour of this individual one, was, to say the least of it, very unusual. It appears a woodcutter was proceeding from St. Charles to Gastonville, when he suddenly saw "an enormous lion" crouched on the road in front of him. Seized with terror he turned round and ran back, but the lion jumping up, pursued him and went past him on the road; when some little distance in advance again, lay down and waited the man's approach. The poor woodcutter again turned round and fled back, the lion once more rushing past and beyond him, then again lying down as before. This manœuvre was repeated by the creature several times until, in fact, the man fell to the ground exhausted by fright and fatigue. The lion then approached him, and after sniffing around, as though examining him from head to foot, gave a friendly roar and walked off, apparently satisfied at the trick it had played. The man was confined to his bed for some days afterwards, and had no further desire to meet a lion in the road, even when only on "pleasure bent."

The part an old legend assigns the lions in the burial of St. Paul may not be generally known. In the life of the apostle, written by St. Jerome in 365, who received an account

of his death from St. Anthony and others, we read: "After two days' search St. Anthony found St. Paul, and a raven brought a loaf, whereupon they took their corporal refection. The next morning St. Paul told him he was going to die, and bid him fetch a cloak given to St. Anthony by St. Athanasius and wrap his body in it. St. Anthony then knew that St. Paul must have been informed of the cloak by revelation, and went forth to fetch it, but before his return St. Paul had died, and St. Anthony found two lions digging his grave with their claws, wherein he buried St. Paul, first wrapping him in St. Athanasius's cloak, and preserving as a great treasure St. Paul's garment, made of palm-tree leaves stitched together."

Several historians of the habits and customs of the ancient people of the world assert that among the various wild beasts that have from time to time been trained for hunting purposes the lion must be included. However remarkable this may appear, still it must be remembered that men in past ages certainly possessed powers of taming wild animals that have not descended to the present generation; and also that in hot or tropical countries animal ferocity is more easily subdued than in colder ones.

Sir J. Gardner Wilkinson¹ informs us that the ancient Egyptians, who were most zealous sportsmen, not only "hunted with hounds, but also with lions," which were brought up from cubs in a tame state, and trained expressly for the chase, like the *cheetahs*, or hunting leopards of India; also that many Egyptian monarchs were accompanied in battle by their favourite lions.

The first statement is not assented to by Mr. Francis Lenormant, although he admits that lions were used in war. Nevertheless it is borne out by Ælianus, the historian who wrote during the third century, for he states that in India the natives knew how to tame the black-maned lions, and to accustom them to the hunting of boars, bulls, and wild asses, like dogs; and he further makes the startling assertion that the Indians tamed tigers and elephants, and yoked them to the plough.

Sir John Chardin, the French traveller, who visited the court

¹ "A Popular Account of the Ancient Egyptians," new edition by Samuel Birch, LL.D., D.C.L., 1878.

of Persia at the end of the seventeenth century, also mentions trained lions as being employed in that country for a similar purpose.

The Assyrians appear to have been most enthusiastic lion-hunters. Tiglath-Pileser I. (B.C. 1120), who was called the "powerful king, king of the people of various tongues," because during the first five years of his reign he subjugated forty-two countries and took the kings captive, seems to have been most successful also in sport, for it is recorded that he killed 920 lions in his expeditions, besides strong and fierce bulls and buffaloes.

A visit to the room in the British Museum where those exquisite and beautiful *bas-reliefs* discovered in the years 1849-50 and 1854 by Sir A. H. Layard and Mr. Hormuzd Rassam are to be seen, will amply repay the trouble. These slabs are historical chronicles procured from the exploration of the entombed city of Nineveh, and were found in that wonderful palace of Kouyunjik which was built by Sennacherib. It must have been a truly magnificent building, and its beautiful decorations were, and even now are, marvels of man's workmanship. On many of the *bas-reliefs* will be found faithful representations of several animals, especially on those that portray the hunting scenes of Assurbanipal (Sardanapalus I., or Great, about B.C. 665, the grandson of Sennacherib, B.C. 705). On them lions are to be seen under many circumstances—caged, hunted, attacking, killed, and being skinned, and in various attitudes, all carved with wonderful fidelity, and exhibiting such exquisite art, that considering the period of their production, they cannot fail to elicit admiration. The figure of the dying lioness, with her hind-quarters paralyzed by the arrows of the hunters, is almost perfect, and gazing on it, one is apt to doubt whether the skill of using the chisel to such perfection in this style of work could be very much surpassed even at the present day, although over twenty-five hundred years have elapsed since the primitive artists who executed the work have mouldered into dust or been embalmed as mummies.

The Greeks and Romans knew how to tame wild animals successfully, for, as before stated, Hanno had a lion at Carthage which was so tame that it followed him everywhere like a dog, and although we have not any records of their ever using the

lion for hunting purposes, they were employed to draw processional cars in those stupendous pageants that awed the multitude and flattered the vanity of the conquerors.

We read² that Ptolemy Philadelphus, King of Egypt, B.C. 285, in his procession at Alexandria had twenty-four chariots drawn by elephants, *twelve by lions*, seven by orixes, five by buffaloes, eight by ostriches, four by wild asses, &c.

Mark Anthony used lions in this way. Gordian possessed sixty tame lions and thirty leopards. Heliogabalus, Emperor of Rome, A.D. 218-22, employed lions to draw his chariot, and also converted them to other sources of amusement. It is related of this capricious monster that he used for diversion to make his guests intoxicated, and locking them up in this condition, would let in upon them during the night tamed lions, bears, and panthers, which had had their claws and teeth previously extracted. On the guests regaining their senses some of them would be struck dead with fright.

In the grand but degrading sports of the Roman emperors and rulers, among the enormous numbers of wild animals turned into their magnificent amphitheatres, lions were slaughtered by the thousands. The wealth that must have been squandered in procuring these animals, some of rare descriptions, from the interiors of remote countries, the transporting of such stupendous collections, to say nothing of the ingenuity exercised in their capture, and the risk and loss of life involved, all simply for the few days' carnage of a Roman revel, seems to border on the incredible, and shows the wonderful power and opulence possessed by the men who could not only command such things to be done, but think nothing of the expense involved.

Gibbon³ informs us that "the hunting or exhibition of wild animals was conducted with a magnificence suitable to a people who styled themselves masters of the world; nor was the edifice appropriated to that entertainment less expressive of Roman greatness. Posterity admires, and will long admire, the awful remains of the amphitheatre of Titus, which so well deserved the

² Rankin's "Wars and Sports of the Mongols and Romans."

³ "The Decline and Fall of the Roman Empire."

epithet of colossal.⁴ It was a building of an elliptic figure, 564 feet in length, and 467 feet in breadth, founded on fourscore arches, and rising, with four successive orders of architecture, to the height of 140 feet. The outside of the edifice was encrusted with marble, and decorated with statues. The slopes of the vast concave which formed the inside were filled and surrounded with sixty or eighty rows of seats, of marble likewise, covered with cushions, and capable of receiving with ease about fourscore thousand spectators. Sixty-four *vomitories* (for by that name the doors were very aptly distinguished) poured forth the immense multitude; and the entrances, passages, and staircases were contrived with such exquisite skill, that each person, whether of the senatorial, equestrian, or the plebeian order, arrived at his destined place without trouble or confusion. Nothing was omitted which in any respect could be subservient to the pleasure of the spectators. They were protected from the sun and rain by an ample canopy, occasionally drawn over their heads. The air was continually refreshed by the playing of fountains, and profusely impregnated by the grateful scent of aromatics. . . . In the decoration of these scenes the Roman emperors displayed their wealth and liberality; and we read on various occasions that the whole furniture of the amphitheatre consisted either of silver, or of gold, or of amber . . . the nets designed as a defence against the wild beasts were of gold wire, that the porticoes were gilded, and that the belt, or circle, which divided the several ranks of spectators from each other, was studded with a precious mosaic of beautiful stones.”

It is stated, on the authority of Livy, that Cornelius Scipio Nasica and C. Lentulus (consuls of Rome, B.C. 191) were the first who introduced combats between beasts and armed men; and the first of these bloody battles that the Romans so delighted in took place between sixty-three lions, forty bears, and a number of elephants. Scylla (consul B.C. 89) had one hundred lions, with some men who were accustomed to fight them, sent him by Bocchus, King of Mauritania, and the Romans were gratified by the splendid shows that ensued.

⁴ The Coliseum built A.D. 69.

Pompey, the triumvir, and thrice consul, born 106 B.C., eclipsed all previous exhibitions of lions, for at the opening of his theatre the combat of wild beasts alone included the slaying of 500 of them, it being recorded that the majority had manes and were therefore males, a feat which occupied five days in its consummation.

Putting aside the cruelty and barbarity of such an exhibition, what a magnificent sight it must have been. The baiting of one animal alone by a couple of frightened dogs has been known within the present century to have worked up to a high pitch of excitement an audience composed of comparatively cold-blooded phlegmatic Englishmen. What must have been the feelings of the thousands of excitable and passionate Roman men and women who surrounded that arena filled with hundreds of lions struggling in mortal combat? The stupendous roaring of the savage animals, mad with rage and wounds, red with gore, and writhing in their dying paroxysms, heard even above the fierce shouting of the audience, who doubtless looked in their excitement little less ferocious than the beasts themselves, must have been a spectacle appalling in its grandeur, and one that even now stirs the blood to think of.

The Emperor Domitian (A.D. 81—96) exhibited in the circus a woman in combat with a lion, which shows to what a debased condition popular feeling had sunk in the eagerness for amusements of a novel and exciting character.

The Emperor Probus (A.D. 281) had a great quantity of large trees, torn up by the roots, transplanted into the midst of the circus. "The spacious and shady forest was immediately filled with a thousand ostriches, a thousand stags, a thousand fallow deer, and a thousand wild boars; and all this variety of game was abandoned to the riotous impetuosity of the multitude. The tragedy of the succeeding day consisted in the massacre of a hundred lions and equal number of lionesses, two hundred leopards, and three hundred bears."

Even this exhibition and the preceding ones, not exempting the wanton butchery that distinguished the secular games of the Emperor Philip (A.D. 248), were surpassed by the superior magnificence of the Emperor Carinus (A.D. 284).

Among the wild beasts slain by the unerring darts of Commodus, when that dissolute emperor himself descended to become a gladiator, were a hundred lions; and various other periods could be mentioned when these noble animals were butchered for the sport of the Roman people, and in such numbers on occasions that it is a question if the whole world could produce as many at the present day.

One of their laws refers to this animal, for in a note to Gibbon's history he states: "The African lions, when pressed by hunger, infested the open villages and cultivated country, and they infested them with impunity. The royal beast was reserved for the pleasures of the emperor and the capital; and the unfortunate peasant who killed one of them, though in his own defence, incurred a very heavy penalty. This extraordinary *game-law* was mitigated by Honorius, and finally repealed by Justinian."

In Europe, during the middle ages, lions were considered appurtenances of royalty; in fact, in France from the time of Chilperic (A.D. 561) there were always lions in the possession of the kings. Lacroix⁵ states that in 1333, Philippe de Valois bought a barn in the Rue Froidmantel, near the Chateau du Louvre, where he established a menagerie for his lions, bears, leopards, and other wild beasts. This royal menagerie still existed in the reigns of Charles VII. and Francis I. Charles V. and his successors had an establishment of lions in the quadrangle of the Grand Hotel de St. Paul, on the very spot which was subsequently the site of the Rue des Leons St. Paul.

"These wild beasts were sometimes employed in the combats, and were pitted against bulls and dogs in the presence of the king and his court. It was after one of these combats that Charles IX., excited by the sanguinary spectacle, wished to enter the arena alone, in order to attack a lion which had torn some of his best dogs to pieces, and it was only with great difficulty that the audacious sovereign was dissuaded from his foolish purpose. Henry III. had no disposition to imitate his brother's example; for dreaming one night that his lions were devouring him, he had them all killed the next day."

⁵ "Manners, Customs, and Dress during the Middle Ages," 1874.

It was while watching the lions at the court of Francis I. that the fine lady dropped her glove into their den, and requested her lover to fetch it out, which he did, and restoring it said, coldly, "Here is your glove, madam; see if you can find any one else who would do the same for you that I have done," and thereupon left her, never to return; an incident that forms the theme of many a well-known story in prose and verse.

In England, as before mentioned, Henry III. (1235) first began the practice of keeping lions in the Tower, which was continued, by subsequent sovereigns, down to the time of William IV. Watching combats between these animals and dogs, bulls, and bears, was one of the favourite diversions of James I.

A curious superstition became popular with regard to these lions. It was customary to name them after the reigning kings, and the fate of the monarchs and the animals was thought to be bound up together. Earl Stanhope, in his "History of England," quotes Lord Chesterfield as remarking in reference to the serious illness that attacked George II., "It was generally thought his Majesty would have died, and for a very good reason—for the oldest lion in the Tower, much about the king's age, died a fortnight ago!"

Some superstitions regarding the lion exist even in England at the present day, for Mr. Frank Buckland speaks of an application being made but a few years ago to Mr. Bartlett, the well-known Superintendent of the Zoological Gardens, for some hairs off the back of the lion; the woman who wanted them stated they were to give to a child to drive away fits.

This belief must be of a very ancient date, probably from the time of Æsculapius,⁶ although he says that the flesh—not the hair—of a lion being made into soup, will help those troubled with a shaking of the joints or the palsie. According to Rasis, the Arabian physician of the ninth century, the eye-teeth of a lion hung about the neck of a young child, when he is forming his second teeth, will prevent him from having any pain in them. There were of course many other virtues attached to different parts of these animals, as there were to every other species, by the

⁶ See Topsell's History.

ancients, who do not seem to have been particular in their choice of medicines.

A small prickle is occasionally found on the extreme tip of the lion's tail, and some hunters have maintained that the animal uses it to increase his rage by lashing it against his sides. This is only a theory, however, for it is not to be found in all lions, neither does this peculiar structure occur in any other of the *Felidæ* except the puma. The reason that all cats crouch and lash their tails before springing is due to the necessities of their muscular construction. The muscles of these animals are extraordinarily powerful and massive, especially those used for progression and propulsion. Some of the muscles of the thighs are employed to extend the legs, others to flex them, and others have a rotary action. Professor Houghton,⁷ who dissected an adult lion, found the combined weight of the extensor muscles to be nearly 91 ounces; of the flexors, 29 ounces; and the rotators of the thigh, 51 ounces; and he shows that the animal, when crouching on its haunches, with its feet somewhat apart, makes all these muscles available to assist its spring, which is further aided by the propulsion of the haunches upwards, and it is propelled forward by the combined action of all the muscles of both legs. It therefore follows that the bound will be governed by the amount of extension, hence the advantage of the low crouched-up position; and as there is an intimate relation between these muscles and the vertebræ of the tail, they are tightened by the vibratory undulating motion of that appendage before making a bound.

The muscles that govern the movement of the lion's jaw are also peculiar. Besides being exceptionally strong, they are so arranged that they not only close the mouth, but force the condyles of the lower jaw backwards into their sockets. This pressure gives these animals the power of carrying their prey the long distances they are in the habit of doing before eating it; for if some special provision was not made, the strain of the weight of, say, a dead ox, would inevitably produce dislocation of the jaw.

⁷ "Royal Irish Academy Proceedings," vol. ix.

CHAPTER IV.

THE TIGER (*FELIS TIGRIS*).

FROM the Lions we turn naturally to the Tigers, for if the lions are to be regarded as the chiefs of their order, tigers must certainly be looked upon as the most typical specimens of the cat family, as these animals combine in the most strongly marked manner all the characteristics peculiar to the feline group, being cat-like in all their actions and habits; which fact, in conjunction with their strength of limb, makes them the most dangerous and destructive of all wild beasts.

The first thing noticeable about the tiger is its grand colouring and vivid marking. The bright rufous fawn-colour forming the groundwork of the head, legs, and upper part of the body; the black or dark stripes that vertically mark the back, limbs, tail, and trunk, varying from twenty to thirty on each side, and forming the letter "W" on the face over the eyes, together with the remarkable purity of the whites that shade the forehead, throat, and ventral parts, all tend to give him that beautiful appearance for which he is noted. On the face and ears the white markings are peculiarly well defined. These stripes or brindlings constitute a distinguishing feature of the tiger, for they are not seen on any other member of the *Felidæ*. Another striking peculiarity of these animals is the massive proportion of their fore-paws as compared with their hind ones.

The depth and intensity of the colouring, however, and the glossy, sleek appearance of the fur is subject to variations; age, condition, and the locality inhabited by the animal having a great deal to do with it. It is also subject to changes through climatic causes. Whatever the original shade of the animal may

be, when old it becomes much paler; the young ones, when full grown, being easily distinguishable by the richness of their colour.

Bright and vivid as the tone is generally, it is no less remarkable for the perfect way in which it harmonizes with the grass or jungle in which these creatures lurk and prowl, and they often baffle the keenest eyes to discover or distinguish them even at the distance of a few yards, a fact that adds considerably to the danger incurred by the beaters and hunters in that favourite of all Indian sports—tiger-shooting. For, as was remarked by one of the ablest of writers in the *Quarterly*, the stripes, spots, and colour constituting the characteristic markings of the larger feline animals are not for ornament alone, but bear a direct relation to the circumstances under which they carry on their predatory pursuits. The tawny colour of the lion harmonizes with the parched grass or yellow sand along which he steals to stalk his prey; the dark, vertical stripes of the royal tiger, and the yellowish ground-colour of his coat, render him less easily discerned as he glides along through the straight stems of the underwood in the jungle. The leopard and the panther derive a similar advantage from having the general colour of their skins broken by dark spots, like the leaves around them, as they crouch on the outstretched branches of the trees.

The striped and spotted fur, peculiar to these animals and others of the cat family, as well as their general colouring, seems also to be indicative of ferocity of character, for we see it generally reproduced in those members of the animal world that exhibit this trait, such as the most ferocious kind of dogs and birds; and a little careful inspection of the animals in any collection will soon make it evident that there is a fundamental connection between their colourings and markings, and their physical and mental qualities. Thus the yellow of the lion and his congeners is reproduced in the owl and several birds of prey, as well as in numerous other predatory creatures which inherit savage and comparatively untamable dispositions.

Both in size and strength the tiger competes with, if not actually exceeds, the lion; and although lacking the dignity the mane and imposing front confer upon the latter, yet in general beauty of appearance most people consider the tiger far surpasses him.

In the matter of courage and muscular power, it is hard to decide, there being so much conflicting evidence upon the subject. Hunters and travellers in Africa extol the lion; while those in Asia generally, and India especially—the home of the tiger—maintain the superiority of the latter. In ferocity and cunning he is undoubtedly conspicuous. Buffon says that the tiger, with an audacity superior to his nature, even braves the lion himself. This is undoubtedly correct, for although there are but few if any instances recorded where the lion has voluntarily attacked or killed a tiger, there are several well-known cases of tigers having killed lions. A tiger that belonged to Mr. Jamrack, the dealer in wild beasts, was sold for £200 to Mr. Edmunds, who had soon cause to regret his bargain, for the animal, being accidentally enabled to get out of his own den into the adjoining one, attacked the occupant, which was a most valuable lion, and catching him by the throat killed him.

The movements of the tiger are quicker, and it is more agile and stealthy than the lion, though the lioness in this respect is somewhat similar. In its speed it partakes of the general character of the cats, excelling in sudden rushes, quick bounds, or succession of bounds, but is apparently incapable of sustained speed or continuous exertion, though the distance one can travel on occasions is considerable.

The writers who have made careful observations of the tiger describe it as naturally a cowardly or cautiously disposed animal, retreating generally unless provoked or wounded; cattle even rushing in a body at one have frequently been known to make it drop the prey that it had seized.

When at bay, however, it will fight to the last; one has been known to combat *à l'outrance* with forty-six elephants. Mr. Crauford states that he witnessed this in Cochin China, and that the tiger was chained to a stake by a rope thirty yards long; his claws were cut, and his mouth sewed up, but this brave brute flung himself again and again upon his foe, till many of the elephants slunk terrified away, and the tiger met his death at last by the sheer tossing he got from the trunks of certain of his opponents.

Tigers are only found in Asia, and begin to appear where the

lion dies out, for these two large species of the same family rarely exist together in the same district. The majority of the specimens of the tiger that used to reach this country came from Bengal, and hence the animal goes generally by the name of the royal or Bengal tiger; but it is not by any means confined to one province or to one country, for it has a very wide range, from Turkish Georgia, through Persia, over India, China, and the East Indian islands, Java and Sumatra; but it is not found in Borneo nor in Ceylon. Its true home is, however, India, where it is still plentiful, especially in the western frontier of the Punjaub and banks of the Indus; it is rarely seen now in many of the districts of the Deccan, but is frequently met with near Poonah and along the base of the Himalayas. So far from it being only a tropical animal requiring a warm climate for its habitation, which is the general opinion, it is frequently found in the northern and coldest parts of Asia, especially of China, which abounds with tigers, which in many parts are noted for being of a very large size, and clothed with longer and denser fur; an instance of nature adapting itself to the climate, for this variety is said to live during the winter in burrows under the snow.

The tiger appears to have been but little known to the ancients; among the Greeks, Aristotle merely mentions it as an animal he had heard of, and we learn from Pliny that the first tiger ever seen in Rome was a tame one kept by Augustus, and was presented to him by the ambassadors from Pandion and Porus, kings of the Indies, who were four years on their journey, bearing, besides some magnificent jewels, live elephants, tigers, a serpent twelve cubits long, a river turtle three cubits long, vipers of prodigious size, and a vulture or bustard. The majority of the animals seen in Rome were African ones, hence the tiger was always scarce. It appears that at a later date Claudius had four of them, and they were shown at the opening of the Pantheon (A.D. 47). It is surmised that, this fact being unprecedented and so extraordinary, it was deemed a fitting event to commemorate, and those wonderful mosaic pictures of four tigers discovered some time ago in Rome, near the arch of Gallicius, was the method adopted of doing so.

Afterwards Heliogabalus (A.D. 218—222), caused his chariot to be drawn by tigers; and among the collection prepared for the younger Gordian and his triumphs, and which his successors exhibited in the secular games, were ten Indian tigers, who, with thirty African hyænas, were confronted with ten elk and as many harmless camelopards. Severus also had tigers, and imported them with him to Britain, together with other *rare* animals. The remains of wild beasts of this description were found in a cave at Kirkdale, in Yorkshire, and Rankin¹ thinks it probable that these bones belonged to the animals slain in an amphitheatre that existed somewhere near York, or Eboracum, which was the Roman capital of Britain for above 300 years and the headquarters of the Roman *Empire* for more than three years.

In modern times tigers have furnished the theme for many thrilling narratives told by the various hunters who have given us their adventures in the numerous books on Indian sports; and there are many families in England that mourn the loss of some member who stimulated by the excitement attending it has paid the penalty for his rashness in tiger-stalking. From these works we soon learn that there is a great difference of opinion respecting some of the habits of the tigers, from which we can only surmise that their characteristics differ in the various districts, and that each member of these crafty and terrible cats has an individuality of its own.

Although tigers are occasionally hunted on foot, the danger incurred is too great to make this form of sport very popular, and the general method is to use elephants trained for the purpose; the hunter riding in the houdah with a man behind with spare guns in readiness, and the mahout or driver in front on the elephant's neck, armed with a pointed iron rod, with which he guides the huge creature and keeps him steady. Even in this comparatively secure position accidents often occur, especially when the animal attacked happens to be a ferociously-inclined tigress with her cubs, for under such circumstances she will frequently charge with a snarling, coughing growl, and springing on to the elephant, clutch at the mahout, and hold on firmly with her

¹ "Wars and Sports of the Mongols and Romans."

teeth or claws, until shaken off by the writhing and infuriated elephant, or shot by the hunter.

The tiger can make terrible leaps, being so lithe and agile. He crouches down, bending his back into a concave curve, contracts the muscles of the limbs, especially the hinder ones, and with a slight quivering of the tensioned sinews, takes his leap and lands with tremendous force. The following account will give some idea of their power in this way:—

In “The Bengal Sporting Magazine” for 1834, “Sheer Khan” gives an account of an extraordinary leap of a tigress. He was out hunting with a party of four, and they had just put their elephants into the jungle, and had not advanced far when they came upon something which moved on a short distance and then stopped. “We could not see,” he writes, “what it was from the height of the jungle, but conjectured from the motion of the nulls that it was a tiger, and we were not mistaken; for on the elephants coming upon it again, a fine tigress, with one bound, sprang horizontally into the air, clear over the jungle, and lighted with *all four paws at once* on the pad of the elephant nearest to her. Never, I should think, in the annals of tiger-hunting was such a spring heard of; she leapt from the *same level* as the elephant, had no advantage from any rising ground, rose in the air higher than the pad, and lighted on it neatly and easily, without the slightest scramble: the best Arab that was ever rattled across country, never tossed a bank in such style. I could not have imagined that it was in any animal to make such a spring; it almost equalled that out-and-out jump of King Arthur’s steed, when

‘Screaming with agony and fright,
He bolted twenty feet upright.’

And as in that case, it is asserted by the minstrel of the north that

‘The peasant still can show the dint,
Where his hoofs lighted on the flint,’

so can I show in corroboration of the truth of my story the marks of the four paws of the brute where she lighted on the pad,

and also the traces of the teeth, for she shook it like a terrier does a rat. At the moment she made her spring, the elephant most fortunately swerving presented his broad side to the charge, otherwise the mahout must have been killed on the spot; as it was, had we not been close by, if we had even been beating in line, it is probable that his life would have been lost before we could have put an end to the brute; but owing to the jungle being so small, we were all clustered together on the spot, and instantly firing knocked her off before she could reach him, though certainly there was not a foot's space between *her* tusks, and *his* head. She fell dead into the mud, every shot having told; and the whole business was so instantaneous that I really believe the mahout did not know the danger he had been in, more especially as he had only one eye, and the tigress charged him on his blind side."

The tiger preys chiefly on cattle, buffalo, and all kinds of deer; but it will catch the wild hog, and attack much larger animals; and, under the influence of hunger, there is no predicting what the animal will or will not do in this way, it having been asserted that they will occasionally eat one another; and it is admitted that, so far from invariably in its wild state only feeding on prey of its own killing, it will at such times eat carrion. Captain Forsyth² divided tigers into three classes, based on the prey they naturally select—those who habitually live on game, those who lurk around settlements and live on cattle; and the few who become man-eaters.

The cattle-killers cause great destruction and loss in India, so much so that the Government has frequently to step in, and by offering additional rewards and appointing special tiger-killers relieve a district of the pests. Although they generally only kill a cow or bullock apiece once in four or five days, yet this aggregates seventy head in the year for each tiger—no light tax; but it occasionally happens that, through being interfered with, more than one animal is killed at every attack, often three and four being required to appease the wantonness of such a creature. Again, the cubs seem frequently to be encouraged by the mother in the sport of harrying and killing the harmless cattle, hunger being

² "Highlands of Central India."

no incentive, but prompted by what Artemus Ward would describe as "pure cussedness."

So far from groaning under the heavy loss, the natives in many places submit to it from superstitious motives, tigers being venerated animals; but in other districts the Government is constantly urged to encourage a war of extermination on the destructive creatures. Many experienced officials, however, state this would be unwise, and declare that interference in the balance of Nature in the country cannot be done with impunity. This opens up too wide a question for argument in these pages; suffice it to say that their reasoning is drawn from the fact that in certain parts of India, where the predatory animals have been nearly exterminated, the wild hogs, deer, and other animals, upon whom Nature intended them to prey, have multiplied to such an extent that the crops are seriously damaged by the countless herds feeding at night. It is asserted that a few tigers would keep down that increase over a vast extent of country, and, by preventing such devastation, do good instead of harm, and thereby compensate for the indirect expense of their support. However, tigers are getting scarcer year by year, and in some districts where they formerly abounded but few, if any, are now to be found.

Those tigers which prefer game mostly confine themselves to the hill districts or the feeding-grounds generally of their prey. They are noticeably lighter and smaller in every way than the habitual cattle-killers.

Of the brutes which become man-eaters we hear a great deal; they appear to be chiefly old animals, and, strange to say, are females in the majority of cases. One writer says: "When goaded by hunger, nothing can daunt the temerity or repress the ravages of this fierce marauder. Under this impulse the tiger will quit his ambush in the woods for the public roads or highway, and abandoning the failing chase of the wild beasts of the forest, turn upon a surer and more noble prey, and from that moment man becomes his favourite quarry. In a single district, of rather limited dimensions, no fewer than 84 inhabitants had been devoured during the preceding year by the tigers of the neighbour-

ing covers. The tiger, in short, is the scourge of an immense portion of Southern Asia and of the Indian islands. Its swiftness and its strength are such, that it will seize upon a man on horseback, pull him from his saddle, and, holding him in his mouth, carry him by surprising bounds or leaps into the nearest coverts, in spite of shouting or any other means of prevention—short of musket-balls, sped with a just and deadly aim." A writer in the *Field* for 1867, narrating the death of a man-eating tigress, which exhibited the peculiarity of only eating the head of her victims, says, when she was ultimately shot, which was soon after she had sprung in among three young girls engaged in grinding corn, one of whom she carried off, and was opened, the hands of the unfortunate girl were found whole, and her hair had been swallowed down in one mass, with the scalp and bones of the skull.

Major-General Burton,³ in his interesting book, gives several accounts of these man-eating pests. He had a coolie with him on one of his hunting expeditions, who disappeared, and as he was never heard of afterwards, it was supposed that he had been carried off by a tiger that was known to haunt the jungle through which he passed. Of this animal he writes: "It was extraordinarily bold in its murderous operations. On one occasion a large party of Rohillas were passing from Ramaram to Kaissera, on their way to the city, when the tiger sprang out from thick bushes, and carried off the jemadar from the very midst of his men; it pulled him off his pony, and carried him away into the jungle, leaving the terrified party to make the best of their way without their leader."

Another tiger infested a jungle about fifteen miles from Kamptee, up the river Pench, and destroyed half the population of some small villages. The scared remnants of the unhappy villagers at last deserted their homes, and sent for shikarries (hunters) to destroy the dreadful beasts. The story went that this tiger would walk up to a village in broad daylight, enter house after house, where doors were open, and, if they were deserted and he found no *game*, would break all the earthen cooking-pots, and return, grumbling fiercely, to the jungles.

³ "Reminiscences of Sport in India," 1885.

This animal was ultimately shot, on one of his devastating prowls through the village, by the shikarries, who hid themselves on the roofs of some of the houses, and waited for him.

He gives another account of a friend who shot two notorious man-eating tigers which infested the jungle-track near Seeonee, in the Central Provinces. One's death was under the following circumstances: "He was out in the jungle, with his gun-bearer with spare gun behind him, and was walking quietly down the bank of a very *tigerish* nullah, a sudden rush, and a despairing cry from the native, startled him, and he turned round, only to see the tiger leap into the deep nullah, with the gun-bearer in his jaws. He fired instantly, and wounded the tiger, which thereupon left the unfortunate man and retreated into the depth of the jungle. The victim's chest was crushed in, and he lay a corpse in the nullah. The sportsman returned to camp for his elephant, and followed up and killed the tiger."

The man-eaters are conspicuous even among tigers for their cowardly and cunning natures, for their want of sleekness and good condition, and they seem to have the intuitive power of discriminating between an armed and an unarmed man. Occasionally young tigers have been known to take to man-eating. This is accounted for by the fact that the mother was a man-eater, and the cubs, which do not leave her until they are capable of procuring their own prey, naturally acquire the taste, and adopt the same food as the parent—hence become in early life "man-eaters."

The action of tigers in killing their prey has been variously described, some stating that their usual way is to launch themselves upon their victim, and, seizing it by the back of the neck (not the throat), bring it to the ground, and then give the fatal wrench or twist that dislocates the neck. Others, that they seize the nape of the neck with their teeth, and with the paws so hold the victim as to get a purchase for the wrench, which produces dislocation. Mr. Sanderson, who, from having been a keen sportsman, and also tiger-slayer to the Mysore Government, is undoubtedly a reliable authority, contradicts these statements, and says that although they do sometimes seize by the throat or neck, they most frequently bring down the animal by striking savagely at the



A TIGER.

(*Felis tigris.*)

hind quarters or legs, trying to hamstring or upset their intended victim. He also refutes the story so frequently narrated in books of natural history, that the tiger kills its prey with the stroke of the paw, and then sucks the blood from the jugular vein with intense relish. He says that, judging from his large experience, and from descriptions given him by men who had seen the animals attack cattle scores of times, there is no foundation for the story. There is, however, another well-known writer, who describes having personally seen it done, and an extraordinary case of the act being photographed seems to place it beyond doubt that they do kill with the blow, if not invariably, at least occasionally. The following letter from a correspondent appeared in a Madras paper a little over a year ago :—“ So far as I can ascertain, a photograph of a tiger in the act of striking down a large animal was never taken until this week, when I secured a negative of a tiger killing a buffalo. I had focussed on the buffalo, which was tied to the stump of a tree in the middle of a field, and had just put a dry plate in the camera, when a tiger came up and struck down the buffalo with a single blow of his paw. My camera was not ten yards from the buffalo, and the tiger might just as well have come at me if he had chosen to do so ; but fortunately he selected the buffalo instead, and then I took advantage of my position and released the spring shutter just as he had given the buffalo his knock-down blow. The negative, I am sorry to say, is not a good one ; but it is, nevertheless, interesting, because it throws some light on that vexed question, ‘ How does a tiger kill his prey ? ’ In the photograph, which I have before me as I write, the tiger is seen standing on his hind-legs, which are bent ; his body is inclined to the ground at an angle of about 45° ; his tail is straight, except the tip, which is curled upwards ; and the right fore-paw is seen above and the left below the buffalo’s neck. The head of the buffalo covers the shoulders and heart of the tiger, whose head appears above his horns ; his back is nearly level, but his front legs are doubled up under him, and he is just in the act of falling. The head is drooping and lifeless, and the whole appearance of the buffalo tends to confirm the generally-accepted opinion, that the

tiger with his knock-down blow dislocates the neck of his victims."

The tiger's power to kill much larger animals than itself, which is so frequently employed against the human race, as well as their worldly possessions, condemns the animal as a scourge, and despite its beauty, and the apologies and intercessions we read so frequently from Anglo-Indian sportsmen on its behalf, the tiger is a pest. It is impossible to read the statistics of the Government even at the present day and the accounts given by unprejudiced writers without coming to this conclusion. James Forbes, in his "Oriental Memoirs," 1813, speaking of the Molungres, or salt-boilers of the Sunderbunds—the most wretched caste of India, in a lower depth of misery and oppression than the Pariars—who inhabit a sandy shore, surrounded by an immense wilderness full of tigers and snakes, not having any arms to defend themselves, are entirely at the mercy of the wild beasts; and when one of the lords of the jungle is seen approaching, they have no alternative but to hide themselves in holes dug for the purpose. But holes dug in sand are but a feeble protection for the poor wretches, for long experience has taught the tiger these men are his prey, and he therefore proceeds to dig them out with his claws. The bloodshed, misery, and loss is fearful to contemplate. In 1869, one tigress is reported to have killed 127 people, and stopped a public road for weeks. In another case, a similar creature was so destructive that the people deserted thirteen villages, and, as a consequence, 250 square miles of country were left uncultivated. In 1868, a magistrate of Godawary reports the country was overrun with tigers, every village having suffered from the ravages of man-eaters. No road was safe, and a few days before his arrival at Kondola, a tiger charged a large body of villagers within a few hundred yards of the civil station. The Bengalese, according to the Government reports, seem to be the favourite food of these animals, for during the seven years ending 1881 they killed no less a number than 2535 persons, and 23,133 head of cattle in this province alone (a diminution in number however, to the six years ending 1866, when the fearful figures reached 4218 persons.) The total for all India during this period

amounted to 5845 persons, and 98,897 head of cattle, as the levy made by the tiger for his support. The statistics of the reports on the "Results of the Measures adopted in British India with a view of Exterminating Wild Beasts and Snakes," shows that for the years 1875—1881, 3501 tigers were killed in Bengal, and rewards—amounting to £6450—claimed; while in the whole presidencies and provinces 11,212 tigers were killed—barely two animals for each human life!—which cost the Government £26,957.

Near Salem, eighty miles north of Trinchinopoly, there is a jungle, noted some years ago for man-eating tigers, all of which have fortunately been killed; and all along the right bank of the river Cauvery are cairns of stones every few hundred yards, and often closer even than this, marking the resting-place of the ill-starred travellers upon whom the tigers had sprung from the jungle bushes and high grass that fringes the road, and satiated their appetite for human prey.

Tigers have an aversion to water,—a trait common to nearly all the *felidæ*—but when disturbed, or suspecting danger, they do not hesitate to swim across a stream or river.

They seldom, if ever, roar; but when charging and angered, are said to utter a succession of rapid, startling, coughing growls. A writer on the subject of the tiger says:—"I cannot call to mind having met in any book with an accurate description of the tiger's cries. The snarling and growling of the animal when 'stirred up with a long pole' is familiar to those who have visited a menagerie, and appears to be the only noise the creature makes when in a state of captivity; but in his native forest, in the long nights of the cold season, when the wood or the hill seems to sleep in the moonlight, the tiger, striding along his lonely path, and seeking his fierce mate, mews like an old tom-cat—or, rather, like one hundred old tom-cats in chorus. It is a loud, and harsh, and grating *miau*; a sound of dread echoing along the dreary jungle, making the sentry pause as he passes on his post by the slumbering camp, and the solitary settler turns in his cot and thanks the gods his little ones are safe within. It is seldom heard more than twice or thrice. When the tiger is on the look-out for food (usually in the evening), he lies silent and motionless

in some dense covert close to water where animals resort to drink, and when one of these approaches near enough, he bounds out on his prey in perfect silence, or with an abrupt or sonorous growl, terribly startling, which appears to paralyze the victim, and deprive it of all power to fly or resist."

The average size of the tiger appears to be somewhere between nine and ten feet, measuring from the nose to the tip of the tail, and the girth of body behind the shoulders about five feet six inches. Individuals attain, however, much larger dimensions, and the stuffed animal in the zoological collection in the Natural History department of the British Museum, presented by Mr. Sanderson, is considerably above the figures here quoted; and an animal exhibited by Colonel Ramsay some years ago in London was 12 feet long, and the tail 3 feet 9 inches; the circumference of the head of this noble beast was 3 feet 8 inches; girth of fore-arm, 2 feet 10½ inches; and girth of neck, 3 feet 7 inches. It is difficult to estimate the age tigers attain. Mr. Cross, a former menagerie owner of great experience, places twenty-five years as the average duration of life in lions, tigers, leopards, jaguars, and hyænas. The natives of India have an idea that the lobes of the liver are a sure indication of the age, there being one lobe for each year; but this theory is not accepted by the scientists of the day.

In appearance the tigress differs somewhat from the tiger, being smaller, narrower, more lithe and slender generally, and the head and chest less massive. She is also more savage, and, when accompanied by her young, her ferocity makes her a more formidable creature than a male tiger. It seems to be an unaccountable fact that tigresses are far more numerous than tigers. The cubs generally number three or four, and are very pretty little animals, being striped like the parents, but less distinctly; but when a few weeks old they begin to display their cunning, and seem to attack and worry cattle or game out of mere sport, so that a tigress with cubs the natives find a particularly objectionable visitor to have prowling around their village. When four or five months old the young tigers become formidable in appearance and power, so that when they have to be captured for exhibition purposes they must be taken very young, and reared in the

same way as one would a domestic orphan kitten. Tigers do not often breed in confinement; in the Zoological Society's gardens they have, however, bred about half the number of times of the lions. There have been several well-authenticated cases of tigresses breeding with lions, and the hybrids living and reaching maturity.

The colouring of the tiger is so varied that occasionally individuals are found with a pale or creamy white fur, and the stripes but faintly marked. They are called "white tigers," and are not very numerous; although specimens of this variety have been exhibited in London somewhere about the year 1820. At a later date Van Amburgh, the whilom renowned lion-king, whose collection of trained lions, tigers, &c., used to be such a great attraction to Londoners, and their performance a constant source of pleasure to the Duke of Wellington, had a black tiger, a colouring that is rarely met with.

Amongst the natives of some provinces in India the fat of the tiger is considered a specific against rheumatism, and the claws and whiskers are considered charms, the former against the attack of animals, and the latter is supposed to give power to their possessor to obtain the love of any member of the opposite sex he or she may select; by others a necklet of claws is deemed an antidote to the effects of the "evil eye," and the whiskers contain a deadly poison, and must be made innocuous by burning them off the animal immediately it is killed.

It seems strange to read that in a bygone age people possessed the power of taming and subduing such ferocious animals as tigers, so that they were able to use them for the chase. This power is certainly among one of the lost arts; but that the people of the East once possessed it seems to be beyond question. Marco Polo⁴ says: "The Emperor (Kooblai Khan of Tartary, 1260—1294) hath numbers of leopards trained to the chase, and hath also a great many lynxes taught in like manner to catch game, and hath also several great lions (meaning tigers) bigger than those of Babylonia; beasts whose skins are

⁴ "Ye Book of Ser Marco Polo, ye Venetian, concerning ye Kingdoms of ye East." Newly done into English by Henry Yule. 1874.

coloured in a most beautiful way, being striped all along the sides with black, red, and white. These are trained to catch boars and wild cattle, bears, wild asses, stags, and other great or fierce beasts; and 'tis a rare sight, I can tell you, to see those lions give chase to such beasts as I have mentioned! When they are to be so employed the lions are taken out in a covered cart, and every lion has a little doggie with him. [They are obliged to approach the game against the wind, otherwise the animal would scent the approach of the lion and be off.]

Colonel Yule, in a note referring to the tiger being called a lion, writes: "The conception of a tiger seems to have dropped out of the European mind during the middle ages. Thus, in a mediæval bestiary a chapter on the tiger begins, *Une besto qui est apelée tigre c'est une manière de serpent*. Hence Polo can only call the tiger, whose portrait he draws here not incorrectly, lions."

Tigers were also trained for hunting purposes in other countries, although one can hardly realize that there was not a considerable risk incurred by the hunters themselves of being converted into the victims to be hunted. Sir John Chardin, in his "Travels in Persia," says: "In hunting the larger animals they make use of beasts of prey trained for the purpose—lions, leopards, *tigers*, panthers, ounces."

In the cities of Persia it is no uncommon sight to see tame lions, or generally lionesses, being led about the streets with a chain, or asleep on the pavement in front of the religious mendicants who train these creatures for their purpose. In India tame tigers are also frequently met with, being led about by natives, who often use them in the same way, as an attraction for begging purposes. Major-General Burton, describing the "Ooroos," a great Mahomedan festival he witnessed, writes: "At intervals, along the sides of the street, several tame tigers are sitting, held with long ropes and chains by their owners, a peculiar tribe of religious mendicants or begging saints, who tame these fierce animals in a wonderful manner. The crowd pass close by them with perfect unconcern, and their masters, usually three to each tiger, hold the side-ropes attached to their leather collars, and incessantly jingle a shrill-sounding rattle, the noise

of which appears to be in some way essential to the proper management and subjugation of the tiger. I rode my horse, a nice little Arab, close up to one or two of the tigers, and neither tiger nor horse manifested the least emotion. My little Arab pricked his ears, and the tom-tiger blinked his yellow eyes in a lazy fashion, and that was all."

Regarding the use of the rattle of bells in taming the tiger, it is of very ancient date. Ælian says, however, that the sound of bells and timbrels causes the animals to grow into such a rage and madness, that they tear their own flesh from their backs. Certain sounds, colours, and perfumes have frequently an extraordinary effect upon the senses of some animals. For instance, although dogs dislike the smell of valerian, nearly all the cat-tribe, except the cheetah, exhibit a strong liking for it. Mr. Austen reported in *Land and Water*, in 1866: "I have been enabled to try the effects of valerian on feline and other animals, and to compare the results produced. It appeared to have the strongest influence on the lion, tiger, and jaguar; these animals, when a drop was spilt on a piece of paper, and placed in their cage, rolled over it in a state of the utmost apparent enjoyment, the males in *all* cases manifesting a stronger partiality than the opposite sex, and evincing the greatest recognition of its presence."

Among the sports the English people delighted in during the early part of the last century, from the lowest to the highest, was the baiting of animals, and we have many descriptions of bull and bear baiting in the various memoirs of the period; but tiger-baiting was such rare sport that, on perhaps the only time it took place, the fight⁵ was well attended. The *Daily Advertiser*, of November 28, 1747, called attention to the performance in the following manner:—"We hear that there will be a large tiger baited on Wednesday next, at Mr. Broughton's amphitheatre in Oxford Road, being the first that ever was baited in England. He is the largest that ever was seen here, being eight feet in length. He is one of the fiercest and swiftest of savage beasts, and it is thought will afford good sport. The doors to be opened at nine, and the diversion begins at eleven."

⁵ "History of the Dog."

Lion-baiting was more often practised. Mr. Jesse refers to a remark made by a foreigner who travelled in England at the period: "To see cocks fight is a royal pleasure in England. . . . Everything that is called fighting is a delicious thing to an Englishman." These entertainments were given as a public exhibition for profit, and it is curious to read in the advertisements occasionally, "Any person who brings a dog will be admitted gratis."

Mr. Jamrach had a rather ugly adventure with the tiger before referred to, previous to its sale to Mr. Edmunds. "Through some want of strength in the den in which the tiger was confined, he managed to escape into Ratcliff Highway, and caught up a little boy, about nine years old, who was playing in the street. Jamrach rushed up and caught the tiger by the loose skin of her neck; but, although a very strong and powerfully-built man, he could not hold the beast, who immediately started off down the street at a gallop, carrying the boy in her mouth as a cat would a mouse, Jamrach holding on tight all the time to the tiger's neck, and keeping up with long strides by her side, like the groom by the side of a runaway horse. Finding that his hold was giving way, he managed to slip the tiger's hind-leg from under her, and she fell to the ground. Jamrach instantly threw his whole weight down on her, and letting go the skin of her neck, fastened his two thumbs behind her ears with a firm grip. The tiger, man, and boy lay many minutes all together in a heap, the man gripping the tiger, the tiger (still holding the boy in his fangs) all the while suffering great pain from the pressure of Jamrach's hands and from impeded respiration. After a time, one of Jamrach's men was actually bold enough to put his head round the corner to see if he could render his master assistance. Jamrach cried out, 'Bring me a crowbar!' The man got the crowbar, and struck the tiger three severe blows on the nose with it, which made her drop the child from her mouth. Jamrach then sent for some ropes; these ropes, of course, in the confusion, became entangled, and the tiger watching her opportunity, sprang up, and getting loose, ran back again up the street, Jamrach after

⁶ See "Curiosities of Natural History," Third Series. Frank Buckland.

her, crowbar in hand; she bolted immediately round the corner, through the yard gate, and leaped into her den, from which she had escaped. Once inside, she cowered down, and lay as quiet as possible."

Strange to say, the boy escaped with such slight injury that he was well again in about eight days, but he was so terribly frightened that he never spoke for four hours after the occurrence. The lawsuit that followed cost Mr. Jamrach 300*l.* So the episode was an expensive one for him.

So many stories have been circulated condemnatory of tigers, that one in their favour is certainly worth quoting, if only for its rarity. In Bishop Heber's "Indian Journal" there is the following:—"I asked the Jemautdar of Gurmukteser if there were many tigers in the jungle around Tighree? He said plenty: but there was a very wonderful thing in the neighbourhood; that there were two Hindoo yogis [religious mendicants] who lived in different cells in the wilderness, about two coss [coss—two miles] from the village, in opposite directions; of whom the one was never hurt by the tigers, though living in the neighbourhood where they most abounded, and where no other man would pass a night for half Rohilcund, while, to the other, a tiger actually came every night and licked his hands, and fondled and lay by him for hours. . . . He expressed himself very clearly that the saint was still alive—that he was very old, and went quite naked, with a long white beard and hair,—that his dwelling was a little hut among the long grass, not far from the road-side in the way to Gurmukteser, and that there were people who had been there at night, and seen him and his tiger together. He added that he lived by charity, but never asked for anything except he was actually hungry, which was seldom the case, as from his high reputation he was generally supplied."

CHAPTER V.

THE LEOPARD OR PANTHER (*FELIX PARDUS*).

THIS animal is also another typical specimen of the feline tribe, and one of the most ferocious and courageous, although it uses more precaution against danger and is a much more wary animal than either the tiger or the lion. In the conspicuous beauty of its fur it must rank second only to the tiger, except in some cases where it may be eclipsed by certain varieties of the jaguar. It is found in nearly all tropical parts of Asia, having much the same geographical range as the tiger, but is also found throughout Africa from Algeria to the Cape, which the latter is not. It does not extend into Northern China or South Siberia, which are the homes of the tiger. Having such a wide range and being so variable in size, colour, and markings, many travellers maintain there are several distinct species, or at any rate well-defined varieties, and others contend that there are at least two, and apply the name Panther (*Felis Pardus*), to the larger animal inhabiting Asia, and Leopard (*Felis Leopardus*), to the smaller variety, which is thought to be confined to Africa; the leopard of India being in reality the cheetah. In India, however, the majority of sportsmen contend that there is a leopard distinct from the cheetah, being a small, dark animal, very powerful and abominably vicious, only about half the size and weight of the panther.

In colour it is generally of a yellowish or rufous-fawn tint, marked with numerous dark spots, grouped in rings or rosettes, about the head, neck, and body. The tail is ringed, the limbs spotted, and the general colour fades away to white on the under parts. Occasionally, one or two cubs out of a litter of Asiatic panthers will develop a very dark colour, and the spots

become indistinct or hidden in the general blackness of the coat; these are called black panthers, and at one time were considered a distinct race. It has been proved, however, that this colouring is only accidental, being merely a melanoid form of the species, and an animal of this kind now or lately in the People's Park, Madras, had its young marked without any peculiarity to distinguish the cubs from those of any ordinary panther. There appears, however, to be a variety that is almost completely black, and is an animal much dreaded in the islands of Java and Sumatra. A few are also found in Equatorial Africa.

The average size of these creatures is about four feet, exclusive of the tail, which generally measures between two and two and a half feet.

Though so much smaller than the tiger, their powers of offence and defence make them but little inferior in their capability of commanding caution when dealing with them in their natural state—in fact, by many experienced hunters they are considered far the more dangerous animals of the two. Like all cats, they will sneak away from a man if they think they are not observed, but when wounded or brought to bay, they will charge with more savage impetuosity than the tiger, and on such occasions will not retreat even when there is a way open for them, but will fight desperately to the last, literally dying game. To extreme cunning and stealthiness there is added the keenest powers of vision, hearing, and scent, and the muscular strength they possess in conjunction with a peculiar flexibility of spine and limbs, makes them unsurpassed in agility, enabling them to make immense bounds perfectly clear of the ground. One writer says, “Nothing either by day or night passes with impunity within reach of a panther's spring, when the animal is in its lair; it then attacks men and animals without provocation—in a word, it leaps at anything it sees moving, sometimes contenting itself with giving a wound with its claws, which either maims or kills, and then walks away as if nothing had happened.”

They are as quick as thought in all their movements, and take to water if hard pressed, or to trees, which they climb easily, and move fearlessly about on the branches, hiding behind the limbs when not wanting to be seen; these habits make them

among the hardest animals to kill, and their power of springing from a height upon any passing object makes them a most formidable class of wild animal. A well-authenticated story is told of a leopard taking a sportsman clean out of a high perch he had made upon a tree, and killing him; for although they prey on the smaller deer, goats, antelopes, birds, with a special predilection for monkeys and dogs, yet they readily become "man-eaters," mostly attacking, however, women and children; in this respect, again, being hardly second to the tiger in the havoc they can create, and the terror they inspire. In some districts of India panthers are reported to be more destructive to human life than tigers or bears, for their climbing powers enable them to attack and carry off the poor people who from the *machans* or tree-perches watch the grain. Amongst the smaller animals they are also frequently more destructive, for they appear to kill victim after victim merely to gratify their sanguinary and ferocious taste, and apparently not from any inspiration of hunger.

Captain Forsyth writes,¹ "When a panther takes to man-eating he is a far more terrible savage than a tiger. In 1858 a man-killing panther devastated the northern part of the Seoní district, killing (incredible as it may seem), nearly a hundred persons before he was shot by a shikári. He never ate the bodies, but merely lapped the blood from the throat; and his plan was either to steal into a house at night, and strangle some sleeper on his bed, stifling all outcry with his deadly grip, or to climb into the high platforms from which watchers guard their fields from deer, and drag out his victim from there. He was not to be balked of his prey; and when driven off from one end of a village, would hurry, round to the opposite side and secure another in the confusion; a few moments completed his deadly work; and such was the devilish cunning he joined to this extraordinary boldness, that all attempts to find and shoot him were for many months unsuccessful. European sportsmen who went out, after hunting him in vain all day, would find his tracks close to the door of their tent in the morning."

Their night-cry is very similar to that of the tiger, but less

¹ "The Highlands of Central India," 1871.

powerful, and somewhat more grating, being a series of measured grunts or coughing growls repeated four or five times in quick succession, but it is not often heard, panthers being rather silent animals.

The cubs when born are generally three in a litter and are blind, continuing so for twenty or twenty-five days. Their size is about the same as a kitten a month old, and they are of a pale-brownish colour covered with irregular black spots, for they only attain the tawny colour of the adult after the first year. The cubs are said to be less playful than the young tigers, and to acquire ferocity almost simultaneously with eyesight, and will spit and snarl even at the keepers who feed them. They appear to be the most untameable of the cat tribe, for even when taken in hand at a very young age they exhibit uncertain tempers, which make them dangerous.

Though they do not as a rule attack men, yet their liking for children's flesh is unmistakable, and some cruel tales attain publicity now and again about poor Indian women leaving their children unprotected for a few minutes near some stream or well-side, and returning to find a leopard growling over the fragments of the babes.

An animal confined in a menagerie in India exhibited this taste constantly. One writer refers to it as follows: "This leopard paid no particular attention to adults who approached his cage, but became immediately excited when children drew near. He would then jump up and down, lie on his side or back, wag his tail, and by a thousand tricks apparently endeavour to decoy the child, looking all the time as innocent as a lamb. The manœuvres were often watched by us with curiosity, not unmixed with horror, for the purpose for which the subtle creature exerted all these blandishments was but too evident."

"One leopard, described as being but a small beast of its kind," writes Major-General Burton, "infested a tract of country about forty miles south of the city of Nagpore for more than two years, and was known to have destroyed over a hundred women and children. The villages in general, are situated close to water-courses, which are fringed with bushes and high grass; very

often, also, patches of thick jungle extend close up to the village ; or the village itself may be built on the skirt of a rocky, jungly hill, for the sake of a dry and well-raised site. In either case there is good cover for marauding beasts of prey, whether their object be human or quadruped life. This leopard roamed over the ground occupied by eight or ten villages, with a circle of, roughly, about ten miles diameter, and was one day at one village, and another day, perhaps some miles away at another place ; he never remained two days together in one patch of jungle.

“ The village children would be at play in the village gardens, or a group of girls and women would be drawing water from the well sunk in the watercourse when, in the twinkling of an eye, the spotted fiend would be in their midst, holding on with blood-thirsty grip to the throat of a helpless victim: A burst of screams, and frantic rush of women and children to the village, would instantly follow ; but, by the time that the men who happened to be at home could catch up clubs and spears and sally out, nothing but a torn and blood-stained corpse ; or, should the victim have been a small child, nothing but a little spilt blood would remain to show the tragedy which had just taken place.”

This animal was subsequently shot or driven away by a police constable, but the body of the creature, although unmistakably wounded, was never found, and in consequence its death was not assured.

Major-General Shakspear relates the experience of a friend of his who possessed two tame panthers that followed him about and with whom he played like dogs. One day the dog-boy who fed them, accompanied by a little girl, went into the hut in which they were generally chained, and found one loose : he rapidly retreated, but the animal fell upon the little girl and killed her before any assistance could be given.

Another writer states that he knew an officer in India who had a tame panther nearly full-grown that he usually kept chained up, but, being apparently an amiable and good-dispositioned pet, it was indulged occasionally with its freedom, so that it could get a run. One day it was observed to be carefully stalking a small child

who was playing in the stable, but fortunately the design of the beast was seen in time for the impending fatality to be prevented.

A specimen of the black species that was on exhibition in the Zoological Gardens, Regent's Park, a few years ago, caught through the bars of its cage, a young boy about nine years of age, and severely tore him about the scalp and face with its claws; on his being conveyed to the hospital it was found that the wounds were long, and extended down to the bone. His brother-in-law, who was with him, was also severely scratched, and was afterwards mentally and bodily prostrated from his exertions in rescuing the child, whose preservation from death, or worse mutilation than he received, was due to the efforts made on his behalf by his companion, who was fortunately able to thrust his umbrella repeatedly down the animal's throat, and, after a struggle of twenty or thirty seconds' duration, to make it relax its hold, which it then did, and the lad fell to the ground and was immediately carried away.

Another leopard, which was a well-known pet of the Tower Menagerie during the time that Mr. Cops had charge of the establishment, used to cause great destruction of property and a general trepidation among the sight-seers of the fair sex by "evincing a predilection for the destruction of umbrellas, parasols, muffs, hats, and such other articles of dress as might happen to come within her reach, seizing them with the greatest quickness and tearing them into pieces almost before the astonished visitor had become aware of his or her loss. To so great an extent had she carried on this peculiar taste that the keeper declared that he has no doubt that during her residence in the Tower she has made a prey of at least as many of these articles as there are days in the year."

Topsell writes in "Ye History of Four-footed Beasts," "that these animals were dedicated to Bacchus, partly on account of being spotted, but the chief cause 'was for their love of wine;' for all writers do constantly, and with one assent affirm that they drink wine unto drunkenness: the manner and end thereof is elegantly described by Oppianus in this sort: 'When the inhabitants of Lybia do observe some little fountain arising out of the sand, and falling down again (as in the manner of small springs

which cannot encrease into great rivers), whereat the panthers and pardals use to drink early in the morning, before it be light; after they have been at their prey in the night-time, the hunters come and pour twenty or thirty pitchers of old sweet wine into the said fountain; then a little way from it they lie down and cover themselves with clothes, or with straw, for there is no shelter either of tree or bushe in that countrey.

“ ‘In the morning, the panthers ardently thirsting, and being almost dead for want of a drink, come unto the same fountain, and tasting of the wine, drink thereof of great abundauce, which presently falleth to work upon their brains, for they begin first of all to leap and sport themselves, until they be well wearyed, and then they lie down and sleep most soundly, at which time the hunters that lye in wait for them, come and take them without all fear or perill.’ ”

The fascination that certain odours have for the felidæ has been alluded to before; but the leopards display a remarkable instance of this, for they are said to exhibit an extraordinary predilection for the odour that attends the terrible disease of smallpox, and on the authority of Sir Emerson Tennent, the medical attendants at the smallpox hospitals have to take special precautions to protect the patients from these members of the spotted cat family, for they invariably haunt the precincts of these places if they happen to be anywhere within a district inhabited by the creatures.

In the Zoological Gardens very fair specimens of the leopards can generally be seen. Although they occasionally breed there, the cubs are rarely if ever reared, for the mother almost invariably kills and eats them when very young, a similar trait being frequently exhibited by the domestic cat. The same difficulty from the same cause occurs with the tiger's young. It is difficult to account for this unnatural proceeding, and to assign a remedy. The animals appear to be jealous of their cubs being even seen, and try in every way to keep them out of sight, and they dislike at such times being disturbed themselves in any way. Again, climate may have something to do with it; for animals which come from tropical countries experience considerable discomfort from the



A LEOPARD.

(*Felis pardus.*)

artificially heated atmosphere they live in during the winter, and get restless and uncomfortable; they also frequently develop the germs of diseases from which they would be perfectly free in their wild state.

There is a species of leopard that inhabits the high regions of Thibet, Eastern and Western Siberia, called the Ounce or Snow-leopard (*Felis irbis*), distinguishable by its rougher coat which is much paler in colour than is seen on the animal of more southern districts, being somewhat of a greyish-white. Nature is here again exhibiting an adoption of colouring to the surroundings, as is exemplified in the ptarmigans and hares of the Highlands, which change their colour with the seasons, donning a snow-white vest when the ground assumes its winter garb, and resuming their original greyish-brown when the sun has restored the natural tints to the rocks around.

CHAPTER VI.

THE JAGUAR AND THE PUMA.

BOTH these animals are inhabitants of the New World. THE JAGUAR (*Felis onça*), frequently called the American tiger, and by some the American panther, is one of the largest animals of the feline group, and is by far the biggest, most powerful, and dangerous representative of the purely carnivorous animals in America: in fact, if it were not for the grizzly bear, it would reign there without a peer and without a rival. It is larger than the leopard, to which it bears a physical resemblance that is very striking, being hardly inferior in size to the smaller varieties of the tiger. Humboldt¹ met one in his travels that surpassed in size any Bengal tiger he had ever seen in the museums of Europe. It is a rather clumsily-built cat, lacking some of that grace and suppleness which is so characteristic of the Felidæ. It has a large but short head, with a somewhat prominent forehead, thick massive body, and short robust limbs; while the tail does not taper to the point, but is of equal thickness throughout, and hardly long enough to touch the ground when the animal is standing erect on its four feet. Jaguars vary in size and colour considerably. Generally a full-grown animal will measure between four and five feet from the nose to the root of the tail, but a very large specimen measured in total length six feet nine inches, the tail being two feet two inches long.

Mr. Bennet, in "The Tower Menagerie," says: "On the whole upper surface of the body of the jaguar the fur, which is short, close, and smooth, is of a bright yellowish-fawn, passing on the throat, belly, and inside of the legs into a pure white. On this

¹ "Voyage aux Regions Equinoxiales du Nouveau Continent fait en 1799—1804," par Baron F. H. A. von Humboldt.

ground the head, limbs, and under-surface are covered with full black spots of various sizes; and the rest of the body with roses, either entirely bordered by a black ring or surrounded by several of the smaller black spots arranged in a circular form. The full spots are generally continued upon the greater part of the tail, the tip of which is black, and which is also encircled near its extremity by three or four black rings. So far there is little to distinguish the marking of the jaguar from that of the leopard: we come now to the differences observable between them. The spots which occupy the central line of the back in the former, are full, narrow, and elongated; and the roses of the sides and haunches, which are considerably larger and proportionally less numerous than in the leopard, are all, or nearly all, marked with one, or sometimes two, black dots or spots of smaller size towards their centre: an apparently trifling but constant and very remarkable distinction, which exists in no other species. By this peculiarity alone the jaguar may be at once recognized; and this external characteristic, together with the extreme shortness of his tail, his much greater size, his comparatively clumsy form, and the heaviness of all his motions, not to speak of the peculiarity of his voice, which has the sharp and harsh sound of an imperfect bark, are unquestionably fully sufficient to sanction his separation from a race of animals, from which, however much he may resemble them in general characters, he differs in so many and such essential particulars."

The jaguar is found in Texas and California, and through Central and South America into Patagonia. It is rarely seen in its northern limits, but is still quite common in the southern countries, especially on the Patagonian coast, the pampas of Buenos Ayres, and the northern parts of Paraguay, abounding more particularly in the country of the Orinoco, where the deep valleys and ravines that constitute the wild and awful scenery of Mexico form his favourite lurking-places. Humboldt describes these animals as being so numerous in some parts of South America, that more than four thousand were killed annually in the Spanish colonies, and two thousand skins were formerly* exported every season from Buenos Ayres alone.

In an article on the Home of the Jaguar, written by Mr. Felix L. Oswald, describing the swampy valley of the Rio Hondo that rises towards the "Sierra del Tigre" or "Tiger Mountain," so called from the number of jaguars that infest the jungles and ravines, we read, "Animals, as well as the different races of mankind, have their favourite homes. . . . The jaguar has been seen in the upper valleys of the Californian Alps, and manages to eke out an existence in the dismal steppes of Southern Patagonia; but in no other region of our large and diversified continent does he seem as thoroughly at home as in Western Yucatan, in his hunting-grounds on the upper Rio Hondo. The climate, the quantity and quality of the food supply, and even the periodical inundations, seem to suit his tastes exactly; and the persecution he has undergone elsewhere may enhance the territorial advantages which here more than outweigh the mental superiority of his biped rivals, and make him the monarch of all he surveys from the summit of the Sierra dedicated to his name. . . . Eleven miles above Uxmal, the cañon of the Rio Hondo is developed from a ravine which measures hardly twelve feet across by sixty feet deep in its upper extremity, and retains these dimensions for nearly half a mile down-hill, where its visible bottom suddenly sinks into a yawning precipice, and only reappears fourteen miles farther down, where the south fork of the river issues from the mountain-gate of a stupendous glen. For a mile or two above the mouth of this glen the water can be heard rushing and foaming between its sunless banks, but farther up all is still, and rocks tumbled over the edge of the abyss, thunder and reverberate in their descent for second after second, till their last faint rumblings seem to echo from the interior of the earth.

"In these fastnesses of Tartarus the female jaguar whelps her cubs, true children of Chaos and Old Night, as far as the locality of their birth is concerned. Bold hunters who have ascended such ravines from below, or who have lowered themselves at the end of a stout lariat, have succeeded in finding the lair of the wary brute by following the sound of querulous moans which the kittens utter almost incessantly for the first ten days of their existence. Either on the shelf of a projecting rock, or on the

spacious hollows which the dropping moisture of centuries has worn in the walls and ledges of the inner mountains, the mother arranges her childbed with such rude material as the situation affords—a few rotten sticks fished from the dark current, lichens clawed from the rocks, and a peck or two of soft sand scraped together from the next hollows and fissures, to level the bottom of the couch.”

Jaguars appear to be somewhat braver animals than even lions or tigers, and are not so easily driven from their prey. When not goaded by hunger they retreat before man, but at other times will charge quicker than the panther, and are described as sometimes actually leaping into the water to attack the Indians passing in their canoes.

They prey upon horses, tapirs, dogs, pigs, mules, all cattle, and, strange to say, upon turtles and fish, their favourite food being the capybara or water-hog, which is the largest gnawing animal in the world; and common on the banks of the Plata.

They attack from behind the animal, stealing up stealthily till within springing distance, and they have the power of making tremendous leaps. Their chief strength, however, lies in the fore-paws and in those tendons that correspond to the wrist-sinews in a man; hence their power of killing their victims in the way they are described as adopting. After pouncing on the neck, they place one paw on the back of the animal's head, and seizing the muzzle with the other, twist the head round with a sudden jerk which dislocates the spine; occasionally, when unable to do this, they use their fore-paws and strike the victim to the ground.

Humboldt remarks, “We were shown large shells of turtles emptied by the jaguars. These animals follow the *arraus* towards the beaches when the laying of eggs is to take place. They surprise them on the sand, and in order to devour them at their ease, turn them up in such a manner that the under shell is uppermost; in this situation the turtles cannot rise, and as the jaguar turns many more than he can eat in one night, the Indians often avail themselves of his cunning and malignant avidity. When we reflect on the difficulty that the naturalist finds in getting out the body without separating the upper and under shells, we cannot

enough admire the suppleness of the tiger's paw, which empties the double armour of the *arraus* as if the adhering parts of the muscles had been cut by means of a surgical instrument. The jaguar pursues the turtle quite into the water, when not very deep. It even digs up the eggs; and, together with the crocodile, the heron, and the gallinazo vulture, is the most cruel enemy of the little turtles recently hatched."

The Spanish naturalist, Azara,² says, "It is very generally asserted in these parts that the jaguar frequently goes into the water a little way, and there discharges some saliva which attracts the fish, which greedily snap at it; when the jaguar, who is very fond of them, by a stroke of his paw tosses them on the bank. Various persons have assured me that they have seen them fishing in this way, and have collected the fish which they have thrown out; for they do not devour them immediately, but wait until they have caught sufficient for a meal."

Jaguars are rarely seen in pairs, for they are very solitary animals; and, unlike the panthers of the old world, they do not kill more than is actually requisite for their food. Their strength must be something prodigious. Again quoting Azara: "I was one day shooting on the plains, when I was told that one of these animals had just killed a horse. I went instantly to the spot, and found that he had already commenced his repast on the breast. I did not find the jaguar, so I made my people drag the horse within a stone's throw of a tree, where I proposed to return after taking some refreshment, to wait for him. I had scarcely, however, gone half a mile, when the sentinel whom I left behind came up and informed me that the jaguar, having swum across a broad and very deep river, had taken up the carcase in his mouth, and dragging it along, without any apparent effort, for seventy paces, had re-entered the river, and carried it off to the woods on the other side. I myself saw the marks of this operation as far as the water, although I did not pass over to the opposite bank, having no dog with me, nor any other assistance or defence than my gun. Every one in this country asserts that the jaguar drags along a dead

² "Natural History of the Quadrupeds of Paraguay and the River la Plata," by Don Felix de Azara.

horse or bullock with the greatest facility, carrying it to the woods; overcoming, at the same time, the resistance occasioned by another bullock or horse being attached to the carcase."

These animals are similar in their tastes to the other powerful members of the cat family, for if they once happen to eat human flesh, they prefer it to all other food, and certain individual jaguars become in consequence as great a pest as the man-eating tigers and panthers of Asia. While Azara was in Paraguay, six men had been devoured by these creatures, two being carried off from the midst of their companions, who were warming themselves by the fire.

The woodcutters and Indians frequently meet their death at the paws of these brutes. Señor Luiz Valverde, the State Surveyor of Yucatan, estimates that during his tenure of office, for the fourteen years prior to 1878; eight human lives had fallen a prey to the rapacity of jaguars for every jaguar that had been killed. Again we read that in 1865, when the French military authorities tried to construct an overland route from Campeche to Belize, they lost eleven soldiers and twenty-eight Indian labourers in the attempt, all of whom came by their deaths during a jaguar-hunt, in the presence of their companions, or disappeared in the swamps infested by the animals.

Mr. Darwin tells us that it was not many years ago since a very large jaguar found his way into a church in Santa Fé. Soon after a corpulent padre entered, and was at once killed by the animal: his coadjutor, wondering what had detained the padre, went to look after him, and also fell a victim to the jaguar; a third priest then sought them, and the creature made at him also, but he was fortunately able to elude the attack, and, dodging the animal from pillar to post, happily made his escape. The beast was ultimately destroyed by being shot from a corner of the building, which was unroofed for the purpose.

The energy of their movements, combined with their agility, fearlessness, and power of fighting when even mortally wounded, almost until they take their last gasp, constitute the jaguars anything but pleasant antagonists.

The crocodiles that swarm in the rivers of South America wage

perpetual war with the jaguars, whom they kill easily when they can get the animals into the water, for they hold them under until they are drowned; but when a jaguar surprises an alligator on the hot sandbank asleep, he attacks and often kills his enemy.

Jaguars take especial delight in scratching the bark of trees, it is said for the purpose of sharpening their claws, for many travellers in the countries they inhabit speak of being shown these marks, which are generally to be found on certain trees only in a district, to which, strange to say, they all seem to resort for this operation. Mr. Darwin speaks of three well-known trees near the banks of the Uruguay, whereon the bark was worn quite smooth in front, and on each side were deep grooves extending in an oblique line nearly a yard in length, and of different ages. The inhabitants said they could always tell, by these trees having recent marks, when a jaguar was in the neighbourhood.

Their powers of climbing appear to be greater than those of any other cat. M. Sonnini illustrates this feature by remarking in his book: "I have seen in the forests of Guiana the prints left by the claws of the jaguar on the smooth bark of a tree, from forty to fifty feet in height, measuring about a foot and a half in circumference, and clothed with branches near its summit alone. It was easy to follow with the eye the efforts which the animal had made to reach the branches: although his talons had been thrust deeply into the body of the tree, he had met with several slips, but had always recovered his ground; and attracted, no doubt, by some favourite prey, had at length succeeded in gaining the very top."

The young cubs, which are generally born in the latter part of August or early in September, are generally of a grey squirrel-colour, and have the appearance of very pretty little kittens. They grow in size rapidly, and their fur becomes smoother than velvet; their heads are rounded puppy-like and have tiny ears, and nothing about their paws or appearance suggests the formidable efficiency of the full-grown animal.

A writer before quoted says, "During the first two months after their birth, the mother is as ravenous as a Russian wolf in

mid-winter, and ransacks the neighbouring woods in search of animals and vegetable products, which she would disdain to touch at another season of the year. She mounts to the topmost branches of the prickly caucho-trees to rob the nests of the crested pigeon, tears bats from their retreats in hollow stumps, and musk-rats from their deep burrows, and even stays her hunger with monkey figs and the oily fruit of the myris palm. All running and climbing quadrupeds of the larger species she pursues with a headlong rage that often defeats its object, and gets her nothing but a fall from a disagreeable height, or an involuntary immersion in a quagmire for her trouble.

“The jaguar is not exclusively nocturnal, and has often visited the cattle-yards of the mountain-farmers during the siesta hour; but in the lowlands where food is plentiful, it is probable that he prolongs his own siesta through the larger part of the day. Miles away from the haunts of man, where only the voice of the flamingo or the splash of the swamp-otter reaches his ear, he rests in the shade, careless of the insects that may buzz around him but cannot penetrate his fur—careless, too, of the miasmatic exhalations which animals breathe with an impunity that has remained enigmatical to the ablest physiologists. There he is safe; in the vast and intricate cordero thickets, the caucho groves and cane brakes, he finds retreats into which his hereditary foe can never follow him. Such swamps are the reservations of Nature, to which she admits only her favourites—strongholds of chaos against the inroads of civilization, and the last refuge of all beasts “that yield to man but will not be his slaves.”

Jaguars are rather noisy cats, and their cry is frequently heard at night during certain seasons of the year, and especially before bad weather, their snarling growl being rather an unpleasant but an unmistakable sound. In the swampy regions that are viewed from the peaks of the Tiger Mountains, which, according to a superstition of the Yucatan Indians, is the assembly-ground of the jaguar nation, where on moonlight nights they convene their meeting, the feline symphonies which often emanate from this territory are said to create a veritable pandemonium of cacophonous sounds which cannot be appreciated until once heard.

Jaguars are described as being untamable, but this is somewhat of an error, for many cases of their being tamed are on record ; however, they are very uncertain in their temper, and are always dangerous in consequence. They are also to be mistrusted from their propensity, in common with the leopard, to attack children and dogs.

Mr. Oswald observes, " Only stupid brutes are untamable, and in spite of his ferocious instincts the jaguar is not deficient in those higher soul-elements which qualify animals for the companionship of man. Under kind treatment and a judicious mixture of vegetable and animal diet, the *tigroncitos* (Spanish young jaguars) usually grow up into amicable and most interesting pets, and are found in the peaceful fellowship of monkeys, dogs, and black racoons, on many ranchos of Southern Mexico. They follow their master like dogs, share his seat in the chimney-corner, search his pockets for playthings, and greet his return from a journey or a hunting expedition by embracing his knees and licking his hands or the lapels of his coat with indefatigable fervour. They climb and explore a stranger like a tree, and if he encourages their familiarity, they have a curious way of encircling his neck with their fore-paws, and hang thus for minutes together, expressing their affection by a snoring purr, or by gently rubbing their ears against his chin. In their rough-and-tumble gambols with dogs they generously forbear to make use of their claws, but the spectacle of a *boná-fide* fight seems to excite their dormant combativeness, and, without any apparent cause for personal resentment, tame jaguars have been known to rise from their couch with an ominous growl and eyes expressive of murderous intent, if two urchins fought or a dog got a thrashing in the opposite corner of the room. In other ways, too, their savage instincts assert themselves now and then ; and the proprietor of a wayside tavern in the neighbourhood of Uxmal, told me that he had to part with a tame tiger because in warm winter nights, when it heard the yells of its wild brethren from the depths of the lagotasso, the creature frequently took it into its head to answer these calls, and startled the inmates of the farmstead from their midnight slumbers by a demoniac scream, which was repeated by all the echoes of the surrounding



A JAGUAR.

(*Felis onça.*)

sierra. Moonlight nights seem to make them restless ; they prowl about as if troubled by some unsatisfied want, or promenaded on the roof to the serious detriment of the weatherboards."

A full-grown and beautiful specimen of a jaguar, which had been purchased in 1866 by the agents of the Zoological Gardens of Marseilles, was being placed on board a French gun-boat, *La Belle Rhône*, in the harbour of Sisal, when he made his escape in a manner that caused considerable excitement. The cage in which he was confined was being lowered through the hatchway, when he forced his paws through the bars and lacerated the shoulder of one of the sailors with a succession of ripping blows. The man jumping aside yelling murder, startled his mates so that they lost their grip on the cage, and it fell fifteen feet into the hold, on to a pile of pig-iron ballast, which fractured it in such a manner that the jaguar was soon loose in the hold of the ship. The brute, after attempting to regain the deck by a series of bounds, managed at last to reach one of the rafters, and jumping from it to another, reached the hatchway by a desperate leap. The frightened sailors endeavoured to confine him by covering the aperture with a trap-door, but the animal got his paws through, then his head, and despite a shower of blows, enlarged the opening sufficiently to free the rest of his body, and so reached the deck. He stood there for a second, glaring on the sailors, who were making a regular stampede, and then took a flying leap into the water, clearing the gunwale at a bound. The boat, which was under weigh, was about a mile or a mile and a half from shore, and seeing the animal swimming towards it the crew fired rifles and pistols at him, making the water fly around his head. The marines were about to fire, when a lieutenant interfered, "*Cessez-ça, mes cossacques!* a chap that could beat us fair and square, on our own deck, ought not to be shot in the water like a cowardly deserter ; give him a chance." In consequence, and to the disgust of the wounded sailor, they soon saw the animal land on the opposite shore, shake himself, and disappear in the woods. Thus our French neighbours lost what was no doubt a splendid specimen of the jaguar.

The representatives of these animals now in the Zoological

Gardens are thick, clumsy-looking creatures, but let them once be roused, and they exhibit an agility that is surprising, and the spectator will soon learn from the behaviour of these bad-tempered cats why their species have been called the snarling jaguars.

Jaguar-skins, as well as those of all leopards, are imported annually to England in great numbers, and are worth between three and four pounds. They are used for mats and rugs, and also for military purposes, for the officers of certain regiments have their shabraques or saddle-coverings made of this fur.

Dr. Brehm mentions the fact that the jaguar always attacks the Indians and negroes in preference to a white man. This trait has been noticed in all the larger animals of the cat tribe, and was well known to most of the ancient writers on Natural History. Various sportsmen have also drawn attention to it, by referring to the security they enjoy in consequence, for, if sleeping at night in a locality rendered dangerous by these marauding beasts prowling about, one of the dark-skinned natives, or hunters who accompany them, are invariably selected by the man-eating lions, tigers, or panthers for their victim, or, at any rate, for the object of their attack. This may be due to the strong odour generally emanating from the skin of the dark races born in tropical climates; for if such a one enters the Lion House in the Zoological Gardens the animals seem to become excited even before they can possibly see the visitor. This peculiarity was observable whenever one of the attendants attached to the collection of animals brought by the Prince of Wales from India which he deposited in the Gardens, who was a black boy, entered the place, for all the *felidæ* would start to their feet and rush to the front of their dens, exhibiting unmistakable demonstrations of anger and ferocity.

THE PUMA (*Felis concolor*), commonly called the cougar and by some the American lion, is a most graceful animal, and ranks next to the jaguar in size and importance among the carnivorous animals of the new world. This animal seems to be more nearly related to the lynx than to the lion, tiger, or leopard, and evidently forms the connection between them.

It is confined to the American Continent, but inhabits a wide geographical range from Canada to the Equatorial forests, it being

reported to exist as far south as the cold latitude of Terra del Fuego. It is to be found in the mountainous range of the Andes at an altitude of 9000 feet. In its northern limits the increase of population is making it a very scarce animal, but it is still numerous in South America, for it is stated that 100 were captured in three months within one small district. Mr. Murphy³ observes it is quite common in the wooded regions around the Rocky Mountains, and that its sharp high screams in early morning frequently send the blood bounding through the veins of the wanderer amongst those forest depths.

The puma is of a reddish-brown or elegant grey colour, somewhat resembling a very small lioness or a very large domestic cat. When young, it is marked with darkish-brown spots, but they soon disappear, and the fur of the adult animal, which is soft and dense, has no conspicuous markings.

Although called the American lion, it has but little resemblance of structure to the African animal, and not only is it much smaller, but it is devoid of both the mane and the tuft on the extremity of the tail. Its head is also small and unlike the larger animals of the feline group. When full-grown it generally measures about three feet, and the tail about two feet; but in Florida and Texas it sometimes attains very much larger proportions, and one was shot in December, 1873, that measured nine feet four inches in length and weighed 240 pounds. It is a peculiarly silent animal when in captivity, for it rarely utters a sound, and never when it does so giving vent to a roar or growl, but to a low, hissing cry. In its wild state, however, it sometimes gives tongue, for the above author says although it is "not often a dangerous foe until brought to bay or roused by hunger, owing to its natural cautiousness and timidity of character, yet its shrieks are so loud and penetrating that no person can hear them without feeling a thrill run through his body, and, if unarmed, without taking excellent care to avoid an encounter with it if possible."

In their lithe and graceful movements they are perfect cats. When lounging on the tree-trunks in their out-door cage, or when gambolling about at play, their actions exhibit motion in one of

³ "Sporting Adventures in the Far West." 1879.

its most attractive forms, their springs are taken so lightly, and apparently without the slightest effort, but withal made so swiftly, that occasionally the eye can scarcely follow their movements.

The variety of these animals found in La Plata chiefly prey on deer, ostriches, and small quadrupeds, and are not dangerous to man; but in Chili and some adjoining countries pumas sometimes destroy horses, and even attack human beings. Their onset is made in a similar manner to the jaguar's, that is by springing on to the back and dislocating the neck with the paws. When one has eaten its fill it covers the remains of its feast with bushes and lies down to protect it—a proceeding watched frequently by the condors, which wheel and circle in the air above, and occasionally swoop down upon the carcass, then being driven away, rise together on the wing, which attracts the notice of the hunters, and from this sign they know a puma is watching its prey, and so seek it out.

These animals are said to be exceedingly crafty, and when pursued will often double, and then suddenly make a vigorous leap to one side, wait till the pursuer has over-shot the spot. They are excellent climbers, and in Chili are generally treed and shot, but in other parts the expert Gauchos frequently capture them with the lasso.

The puma, or, as it is called there, the panther, is sometimes to be met with in the wooded districts of the Adirondacks in New York State. They used to be very numerous, but the State Government in 1871 offered a reward of \$20 for every animal killed, and the slaughter that ensued in consequence has nearly exterminated them. The hunters in these mountains, however, still tell of hair-breadth escapes they experience from these crafty creatures. The distance they can leap when springing upon a deer is described as being so great that the measurements given would be almost incredible if they were not attested by men of repute. A spring of over twenty feet is by no means uncommon, and measurements have been made that show they can spring upwards of sixty feet from the vantage-point of rising ground or ledge of rocks. The force of their blow after such an impetus can be understood; it frequently is sufficient to knock good-sized animals off their feet, and send them flying some distance away.



The settlers in the Adirondacks state that these creatures when driven by hunger, and even at other times, for they seem to like the food, will destroy and eat porcupines. They certainly kill large numbers of these rodents. The proprietor of an hotel in one of the remote districts of the mountains declares that he has frequently shot these animals and in several instances discovered the mouth and throat regularly bristling with quills; also that he has found their dead bodies covered with these spikes, the beasts having evidently been choked to death through trying to swallow them.

Mr. Murphy gives some interesting details of this animal in his book. From it we learn that the favourite haunts of the puma are amid the deepest recesses of the forest, where it can obtain food and the close concealment so natural to its habits. It is seldom seen abroad during the day, unless severely pressed by hunger, and then it will go boldly anywhere, and occasionally when in extremity will attack a man, or make a raid on a farmyard, despite the protest of furious dogs. When lying in wait for its prey, it seeks the shelter of a thicket, or crouches on the lower branches of a tree, and the moment a hare, a deer, or even a wolf passes by, it jumps on its back, and fastening its claws in the sides of the poor captive, cuts open the neck or throat in a few seconds.

“Its courage is sufficiently great to induce it to face any foe, from bear to man, in a case of emergency. I heard an old hunter say that he once saw a fight between a black bear and a cougar, and that the latter killed its adversary in less than twenty minutes, by leaping on its neck and cutting the spinal cord with its lance-like teeth. Bruin did not die, however, without a severe struggle, and inflicting such injuries on the other that it would undoubtedly have died of its wounds had the hunter not shot it as it was crawling into the shrubbery He saw on another occasion a fight between a cougar and a wolf, and according to his statement it was one worth beholding, as they tumbled over and over each other, and caused the leaves to fly about as wildly as if two moose were engaged in a deadly contest. Knowing which one would win, he loaded his gun with buckshot, and approaching them to within a distance of thirty yards, he fired both barrels at their heads in rapid succession, and killed them in their tracks.”

He also describes the following incident which occurred in Minnesota:—"A cougar leaped from a tree upon the driver of a waggon who was carrying home some fresh meat from town. When the animal made the leap it knocked the man back in the cart, but before it could do any more harm than claw him severely, he tumbled out on the road at the tail-board, while the horses bounded away at full speed, carrying the assailant with them. They say the man was so frightened that he stayed in the road all night, with his nose stuck in the dust; and on being rallied about his courage the next day, he nonchalantly replied that he was not going to take any chances, and he would rather lie in the dust than in the stomach of a cougar."

Their flesh is very good eating, being white and tender, like veal, and in consequence much appreciated by the hunters and Indians, who are unanimous in their praise of its excellence, although there is a difference of opinion with regard to the gastric qualities of the jaguar.

"A proof that the animal, in its wild state, can sometimes be playful with man, may be deduced from an incident that occurred in Washington territory. A farmer on his way to Olympia, the capital of the territory, was passing one evening over the road that leads through the dense forests which stretch southward for miles from the town. These are almost of Plutonian darkness after the sun sets, owing to their density and towering altitude, so that one cannot see ten paces ahead. While walking leisurely along, he was surprised to feel something touch his leg, and on looking down was almost dazed to see a huge cougar rubbing its head against him and purring pleasantly. Seeing that it was in evident good humour, whilst he was defenceless in case of attack, he moved onward in a sort of half-stupefied condition, for his heart was beating violently, and he dared not utter a sound through fear of arousing its anger. The animal accompanied him for a mile or more and gambolled around him in the most playful manner, now running ahead for several yards, then bounding back and rubbing its head and side against him strongly, as a pet house-cat would. Knowing the treacherous nature of the brute, he expected every moment to be assailed, and the blood was often sent coursing

violently and spasmodically through his body, and cold chills crept over him whenever he saw it plunging into the woods, then come leaping towards him at its best pace, and colliding with his legs so vigorously that he feared sometimes that he would be knocked down; and if such an accident occurred, he was afraid that its natural instinct would prevail, and that he would be pounced upon. It began to get wearied after awhile of the gambolling, and kept closer to him; its tail also began to swing suspiciously from side to side, and its loud purring was occasionally transformed into a blood-curdling scream. Just as he was about giving up all hopes of getting rid of it quietly, he heard the rumble of approaching wheels, and taking courage from this indication of help, he gave a loud and prolonged yell, in which there was more of fear than defiance. The cougar was startled so much by this fierce and unexpected cry that it fled into the woods terror-stricken, and disappeared like magic in the shrubbery. When the driver of the waggon approached the terrified man, he found him so weak from excitement that he could hardly speak; but he recovered himself after a little while and told his tale. He was driven to town, and after taking a long pull at something stronger than tea, was himself again; but he will not probably to his dying day forget his agonizing half-hour with a cougar."

The puma is easily tamed, having many of the habits of, and somewhat similar disposition to, the domestic cat. Kean, the celebrated tragedian, owned a tame puma, which followed him about his garden and house, and was frequently brought into the drawing-room to be shown his guests. Many other people have kept pumas in their houses, and nearly all agree in reporting them as tame and harmless animals, even to dogs and monkeys, their chief prey when in a wild state. Mr. Wilson, of Edinburgh, describing a puma whose habits he attentively studied, gives many amusing particulars about them. "It rejoices greatly in the society of those to whose company it is accustomed, lies down upon its back between their feet, and plays with the skirts of their garments, entirely after the manner of a kitten. It shows a great predilection for water, and frequently jumps into and out of a large tub, rolling itself about, and seemingly greatly pleased with the refreshment."

Their extreme ferocity in devouring their food, however, is a conspicuous trait of the pumas. Major Smith, according to Mr. Swainson, describes a scene he once witnessed, which is a remarkable illustration of this peculiarity: "A puma, which had been taken and confined, was ordered to be shot; and the time fixed upon was immediately after the animal had received its food. The first ball went through its body: the only notice he took of it was by a shrill growl, at the same time doubling his efforts to devour his food, which he actually continued to swallow with quantities of his own blood until he fell."

Pumas are not, even when considered perfectly tame, always to be trusted. In the *Times* of October, 1860, a case of one creating considerable alarm in Nottingham is reported. "The animal was being exhibited in a menagerie during the goose-fair holidays, and the African lion-tamer, Metani, was parading the creature—which was said to be a most harmless specimen, although full-grown—on the stage, when it suddenly caught sight of a dog held by a lad in the crowd. Breaking away from Metani, it sprang off the stage on to the dog, and killed it almost instantly. The people fled in all directions, and the puma seeing another dog some distance off, rushed after it and despatched it as quickly as he had done the first. He was at last recaptured and pacified, being led back to the menagerie with the dead dog in its mouth. Some difficulty, it is stated, was experienced in opening the creature's jaws to get the dog away."

CHAPTER VII. .

THE CHEETAH, OR HUNTING LEOPARD (*FELIS JUBATA*).

OF all the cat family, with the exception of the lion, this animal is probably the most interesting, for its history takes us back to a past age and proves how unchangeable are some of the customs of the Eastern people; for, precisely as the cheetah was used on the hunting-fields, at least eight hundred years before the Christian era, so it is used in certain districts at the present day.

In form and habits it exhibits such a blending of the feline and canine characteristics that many naturalists regard it as a distinct family, possessing only this individual member; and others, apparently with more correctness, as the link connecting these two principal groups of the carnivorous animals. Its anatomical structure, however, is a conclusive proof of its correct classification among the *Felidæ*, for it has all the distinguishing features of the cats; among them may be mentioned the roughened tongue, same number and form of teeth and claws, and similar uniformity in the organs of sense. Yet in outward appearance and in character it has less in common with the typical members of the felines, for it approaches much nearer to certain breeds of the dog family, standing higher on the legs, which are elongated and slender, a formation that fits it for the capture of its prey by speed rather than by bounds; the claws are only partially retractile, being always visible, and consequently get blunted by contact with the ground, and so are rendered unsuitable for the purely feline method of attack. It is deep-chested. The head, although more elevated and prominent in front, yet exhibits the broad lateral expansion peculiar to cats, a contour rendered necessary by the thick mass of muscles connected with their powerful and wide-opening jaws. Its ears are short and round, but in figure it is slender, being small in the loins, reminding one of the greyhound.

Again, in character it is the one redeeming member of its family. Instead of the sly, suspicious, and comparatively untamable qualities the *felidæ* generally exhibit, it possesses much of the intelligence, teachableness, and fidelity of the dog; hence from very remote times we read that, its good qualities being discovered, it was domesticated and became the friend and helpmeet of man, and it being found eminently fitted for hunting purposes, was employed in that capacity.

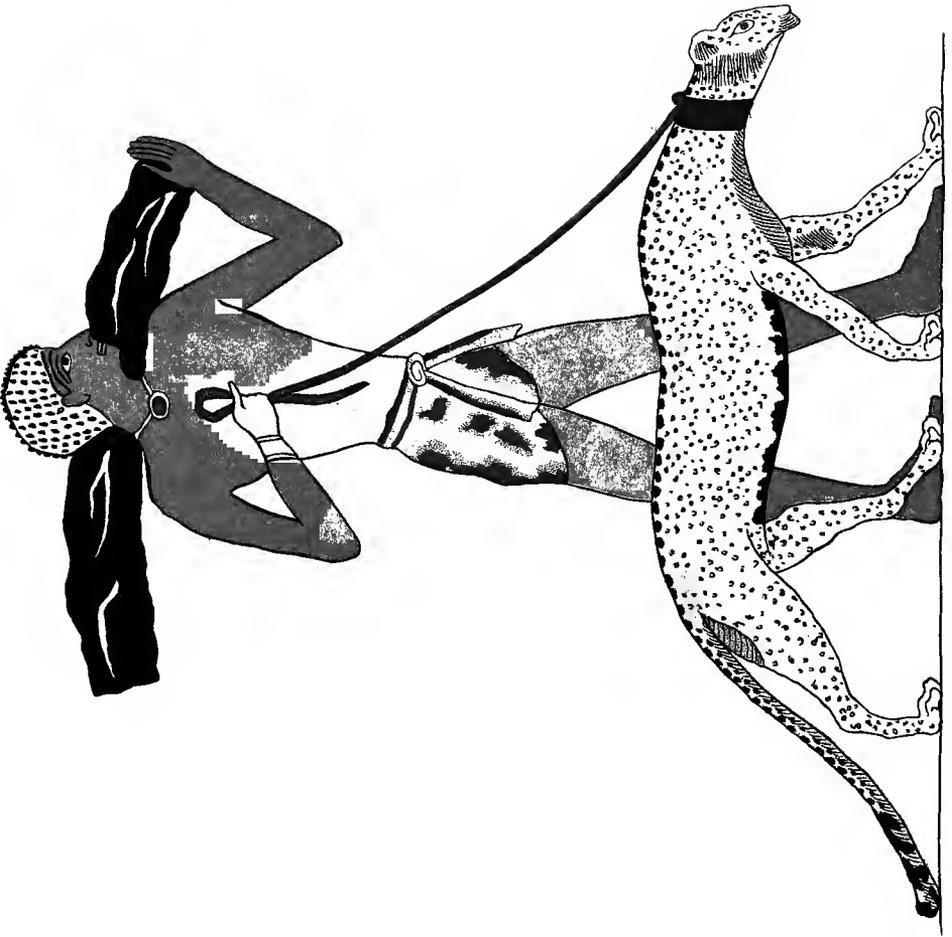
Its general colour is a fulvescent cream, or bright *nankin*, covered with numerous round black spots, but not grouped in rosettes, like the leopard or panther. The lower parts shade into white, and the face has a black streak down it, obliquely from the corner of each eye. The tail, which is long instead of tapering, gradually thickens towards the end, and is spotted also, but has three or four black rings at the tip; its absolute extremity, however, being always white. There are several varieties of this animal; they differ in colour and appearance sufficiently to distinguish the country or district they come from. The Samaouan cheetah is very handsome, paler in colour, less spotted, and longer legged than the Syrian animal, which is of a larger size, has a fierce expression, and is not so much esteemed.

The fur lacks that sleekness so attractive in the majority of the cat tribe, for it is peculiarly crisp and coarse. The neck and shoulders are surmounted by long, stiff, upright hairs that form a regular mane.

The cheetah stands somewhat taller than the leopard, being only a little under three feet in height. The body measures about seven feet to the end of the tail, which is by itself about two and a half feet in length.

It is found in Syria, Arabia, Mesopotamia, and in West and Southern India. In the latter country it is, however, rather a rare animal. It also inhabits Abyssinia, Senegal, and other places of South Africa.

In Africa, where the natives seem unable to learn the art of taming animals, the cheetah is only valued for its pelt. The petty kings, tribal chiefs, and other savage potentates bedeck themselves with robes made from the skins. In Senegal they



A CHEETAH.

This is a facsimile, reduced in size, of the drawing on an Egyptian monument dating about 1700 B.C.

form an article of commerce, being exported thence to England and other European countries—at one time in considerable numbers.

In Asia, however, the cheetah is regularly trained to hunt. Many of the rajahs, princes, and wealthy natives in India still keep large numbers of these animals in their hunting establishments, and, as before stated, the manner of their use seems to have undergone but little change from that practised in the very earliest periods.

Such importance have the Persians always attached to these sports that according to Sir William Jones, the great orientalist, they record in their history that “Hushing, probably contemporary with Minos, and King of Persia, B.C. 865, was the first who bred dogs and *leopards* for hunting, and introduced the fashion of wearing the furs of wild beasts in winter.” Hunting with the cheetah afterwards became and continued a very popular form of sport all over the East. The animal was employed in this capacity, however, long before the above date, although, perhaps, not in Persia, but it appears to have been used in some Eastern countries from a very remote age, but where or when it was first trained cannot be ascertained. On those wonderfully carved and beautiful Assyrian bas-reliefs to be seen in the British Museum, a cheetah is represented in the act of seizing an antelope, and it is also to be seen represented on an Egyptian monument, dating about 1700 years before Christ, being brought, among other animals, as tribute to the King of Thebes by the black tribes of the Upper Nile. It is led in a slip, and has a very ornamental collar. A coloured facsimile of the painting, reproduced in Rosellini’s great work on Egyptian monuments and antiquities, is given herewith. It represents an Ethiopian leading the animal and carrying a log of very precious black wood resembling ebony, the whole being copied from the drawings on a tomb in Thebes.

The second Caliph, Yezid, son of Moâweeah, who began to reign in Damascus, A.D. 680, is said to have been the first who adopted the method of carrying the cheetah to the field on horseback, sitting on a pillion behind the hunter, a method that was subsequently followed by others, and was the one introduced into Europe at a later date. Marco Polo informs us: “The Kaan himself goes every week to

see the birds sitting in mew, and sometimes he rides through the park with a leopard behind him on his horse's croup; and then, if he sees any animal that takes his fancy, he slips his leopard at it, and the game when taken is made over to feed the hawks in mew. This he does for diversion."

The Mogul emperors constantly used this animal, and kept surprising numbers of them. Akbar the Great,¹ Emperor of Hindostan, 1556—1605, had one thousand cheetahs to accompany him on his hunting expedition, forming in itself a large encampment, for they were kept with great state, and the chief one called Semendmanick, used to be carried to the field in a palankin attended by his appointed servants, and a kettledrum beaten before him.

Sir John Chardin² states that in Persia, for their great hunting expeditions they used wild beasts that had been taught, such as lions, leopards, tigers, and panthers, and they called them *yourze*. A horseman carried one of them behind him, but when he was in Hircania in 1666, he was told that when the animals were too big to be carried on horseback they were carried in iron cages, on an elephant without the hood; the keeper always had his hand ready on the cage door, so that when the beast sighted any game and "screamed," he was let out immediately, and leaping down made for his victim.

In India cheetahs are frequently led about with a chain and collar like a dog, and are often to be seen in the streets and bazaars, as they are considered perfectly quiet and inoffensive creatures.

They have, however, to be caught wild and tamed to make good hunters, and natives say that they must not be taken when too young, for if caught as cubs they are useless for the purpose through not having been taught by their parents how to pull down their prey.

The way in which these animals are used is taken from descriptions given by eye-witnesses of the sport. The cheetah is hooded, like the falcon was in hawking, and is held by a chain or cord attached to its collar, being conveyed to the ground in a common

¹ "Ayeen Akbery, or the Institutes of the Emperor Akbar."

² "Voyage de Chardin en Perse."

bullock-cart, which the antelope are accustomed to see passing daily. He sits side by side with the driver, who, on sighting the quarry, takes off the hood, and, having cautiously approached as near as is deemed advisable, the animal is loosed. The creature leaps from the cart, sometimes on the opposite side to the prey, and commences its stalk, availing itself of any inequality of surface to enable it to approach unobserved to within a certain distance of the antelope. As soon as in this stealthy manner it gets near enough, it jumps up and springs forward with a surprising velocity, said to exceed that of any living quadruped, and singling out the biggest buck in the herd, it dashes at him, and fastening on his throat, generally brings him to the ground. If, however, the quarry happens to get too good a start, so that the cheetah cannot overtake him, it gives up the chase, and returns sulkily to be rehooded. After a successful kill, however, the keeper runs up, and, cutting the deer's throats, fills a tin bowl, which he carries on purpose, with blood, which he gives to the cheetah to lap up, which then submits to having its hood replaced and to be led back to the cart. Vigne, in giving a description of this kind of sport, writes: "It requires strong epithets to give an idea of the creature's speed. When slipped from the cart, he first walks towards the antelope, with his tail straightened and slightly raised, the hackles on his shoulders erect, his head depressed, and his eyes intently fixed upon the poor animal, who does not as yet perceive him. As the antelope moves he does the same, first trotting, then cantering after him; and when the prey starts off the chita makes a rush to which (at least I thought so) the speed of a racehorse was for the moment much inferior. The chitas that bound or spring upon their prey are not much esteemed, as they are too cunning; the good ones run it fairly down. When we consider that no English greyhound ever yet, I believe, ran fairly into a doe antelope, which is faster than the buck, some idea may be formed of the strides and velocity of the animal, who usually closes up with her immediately."

Colonel Barras, in his book,³ describes cheetah-hunting as he witnessed it in Kaladghi: "On arriving with my friends at the

³ "The new Shikari to our Indian Stations," 1885.

place of meeting in the jungle we found a few rough-and-ready-looking natives in charge of three carts, or rather small two-wheeled platforms, drawn by bullocks. On each vehicle sat, in an erect attitude, a beautiful leopard, strongly chained, and with a hood over his eyes, similar to those used for hawks. We were soon under way and driving towards the herd of antelopes, which could be seen grazing in the distance, and which had been marked down beforehand. There was no difficulty in getting the carts to within a hundred and twenty yards of the deer. Then one of the cheetahs, a fine male, was unhooded and set free.

“Its departure from the gharry, and its decision in choosing the most covered line on the open plain for rushing on its prey, were so instantaneous and rapid as to be quite marvellous. It seemed to vanish from the cart and appear simultaneously half-way towards the fine black buck it had singled out for attack.

“When at about thirty yards from the unsuspecting troop they suddenly became aware of the deadly peril they were in. One and all sprang into the air with galvanic bounds, and no doubt expected to escape easily by flight.

“But our hunting-cheetah is, I suppose, for a hundred yards, by far the fleetest of all wingless things; and this one was soon in the midst of the affrighted throng, which scattered wildly and panic-stricken in all directions, as their leader—a fine black buck—was struck down in their midst. There he lay, alone, in his death agony, in the deadly clutch of his beautiful and relentless foe. We all ran as hard as we could, and were soon surrounding the strange group. Neither animal moved, for the buck was paralyzed by fear—his starting eyeballs and dilated nostrils alone gave evidence of life. The cheetah, on the other hand, with his body spread out over the prostrate form of his victim, seemed to strain every nerve in pressing his prey against the earth as, with his long, sharp fangs buried in its delicate throat, he continued the process of strangulation; he was very motionless, but his eyes were fixed upon us with a glare of extraordinary ferocity that became intensified as his keepers rushed forward and seized the deer by the hind-leg. The brute now growled fiercely, and, tightening his clutch, looked so

extremely dangerous that I was far from envying those who were in such close proximity to him. But they knew their trade. With a long, sharp knife they cut the deer's throat, and caused the warm blood to spout in torrents into the face of the half-wild beast, whose whole frame now seemed to thrill with ecstasy. One of the operators in the meanwhile caught a quantity of the crimson life-stream in a wooden bowl, and forced the streaming fluid under the very nose of the excited leopard, who, quitting his hold, at once began to lap with avidity. Whilst engaged in this process, the leather hood was swiftly clapped over his eyes, and the collar, with two chains attached, was adjusted round his neck.

“Whilst this was going on, a third man had cut off one of the buck's hind-legs, and this, the ‘lion's share,’ was held close to the bloody chalice, which was no sooner emptied than the brute seized the meat thus provided with a vice-like grip. Each chain was now grasped by a different man, who, by keeping apart so that the tether remained taut, kept the leopard between them in such a way that neither was within reach of his claws or teeth. Then the third individual, who had ever retained his hold of the shank-bone of the leg of venison, gently drew the cheetah to the little cart that had now been brought close up. As soon as the beast felt himself against the edge of his own familiar chariot he sprang lightly upon it, and proceeded to demolish his succulent *morceau* at his ease.

“I now inspected the carcase of the deer, with a view to ascertaining, if possible, how the cheetah had been able so instantaneously to strike down such a powerful animal immediately on getting up with it. I at once observed a single, long, deep gash in the flank, which was evidently caused by the decisive blow. But I could not imagine with what weapon the leopard had been able to inflict this very strange-looking wound, for the cheetah has a foot like a dog, and its claws are not retractile. Turning then to the beast, as it sat on the cart, I inspected it closely, and saw that the dew-claw, which in the dog appears such a useless appendage, is represented in this brute by a terrible-looking talon exactly suited to the infliction of such a gash.”

Jerdon informs us that the natives assert if the ground is not

very favourable for the creature when in his wild state to approach his victim without being seen, "he makes a circuit to a place where he thinks they will pass over, and if there is not grass enough to cover him, he scrapes up the earth all around and lies flat while they approach so near that by a few bounds he can seize on his prey."

In the "Magazin Pittoresque" for 1842 there is an illustration of a cheetah being used by an Arab, mounted on a dromedary, which is engraved from a sketch taken from life by M. de Chacaton, who had just returned from travelling through Asia Minor, and visiting Cairo and Alexandria. A copy of this picture is inserted on the opposite page. The accompanying letterpress remarks that gazelles were frequently seen in the desert in great numbers, and did not appear to be frightened by the passing caravans, to which they had apparently become accustomed, unless any movement was made in their direction, or they were alarmed by some unusual noise. The Arabs employed several methods of killing them; shooting under cover of holes, dug on purpose, was frequently adopted, but the one most to their taste, because it is accompanied by more action, excitement, and noise, which they like, was hunting them with cheetahs. For this purpose they keep animals trained on purpose, which are generally the smaller-sized species, as they are easier handled and lighter to carry. The hunter is sometimes mounted on horseback, but more frequently on a fleet dromedary, the cheetah being held in front, as seen in the engraving, until it catches sight of the gazelles, when the animal is dispatched on its mission, which it seldom fails to accomplish.

An Englishman, who had been the guest of an Indian Rajah who owned a number of trained cheetahs, described hunting with the animals as very poor sport. From the point of view of a hunter who wishes to do his own killing, and takes delight in muscular exertion, it can easily be imagined that this would be a natural verdict; but for natives, imbued with different ideas of pleasure, it is full of excitement, or it would not have continued as a popular amusement for so many centuries. The careful manœuvring required to lessen the distance between the hunters and the antelopes, without alarming them, then the loosening of

the subtle animal, followed by the excitement of watching its stealthy approach, in which cunning and agility are so wonderfully displayed, then the final bounds, made with lightning-like rapidity, the flight of the terror-stricken animals, which become probably too paralyzed when they see their enemy to employ their full powers of speed, and the supreme moment having arrived, there is the graceful but terrible spring, which brings the quarry in the clutches of the cheetah. The whole sport is in fact an exhibition of animal powers exerted in their most attractive form to Oriental races. It is enhanced possibly by the fact that it can be pursued and enjoyed with little or no exertion on their



part. It is not difficult therefore to comprehend what an attraction it must have for the inhabitants of some Eastern countries, and also for many Europeans of particular temperaments.

In captivity cheetahs are peculiarly tame and affectionate animals. They purr like a cat when noticed or fondled. "They are extremely fond of play," quoting Mr. Bennet,⁴ "and their manner of playing very much resembles that of the cat, with the difference, however, that it never, as in the latter animal, degenerates into malicious cunning or wanton mischief. Their character, indeed, seems to be entirely free from that sly and suspicious

⁴ "Tower Menagerie."

feeling of mistrust which is so strikingly visible in the manners and actions of all the cats, and which renders them so little susceptible of real or lasting attachment. The cheetahs, on the contrary, speedily become fond of those who are kind to them, and exhibit their fondness in an open, frank, and confiding manner. There can, in fact, be little doubt that they might with the greatest facility be reduced to a state of perfect domestication, and rendered nearly as familiar and as faithful as the dog himself."

Dr. Brehm⁵ used to keep a tame cheetah that was so docile it was frequently introduced in the drawing-room for ladies to pat and caress, and he states that one was allowed to roam about the streets of an English seaport, where it was a great favourite with the sailors and workmen, who used to feed it. It afforded amusement to the whole town, but the coldness of the climate affected its health and it soon died.

There are exceptional specimens, however, and accidents have happened by placing too much confidence in the harmless character even of these animals, for "Smoothbore," writing to the *Field* in May, 1880, describes a death through wounds inflicted by a trained cheetah: "A sad occurrence is reported from Madras, resulting in the death of one gentleman and serious injury to another. Messrs. O. B. Irvine, acting collector of Vizagapatam, and Mr. Willock, also a civilian, went out with the Rajah of Vizcanagrum to hunt antelope with a hunting cheetah. The animal proved sulky and would not hunt, so Mr. Irvine proposed they should hunt it. The cheetah was enlarged and was soon lost sight of; but, whilst the party was following it up, the cheetah suddenly sprang from behind a bush, where it was crouching, on Mr. Irvine, injuring him severely. Mr. Willock came to his assistance, but he also was speedily rendered *hors de combat*. The result was that Mr. Irvine died within a couple of days, and for some time it was thought Mr. Willock would lose his foot. By the last accounts, however, Mr. Willock was recovering. Mr. Irvine's death is universally regretted, as he was well known and a general favourite throughout the Presidency. I have never heard of an accident of this sort before. The hunting cheetah

⁵ "La Vie des Animaux."

(*Felis jubata*) is generally a most good-tempered and tractable animal, and is led about with a chain and collar like a dog."

Other accounts of accidents could be quoted. In E. Topsel's "History of Four-footed Beasts," 1658, writing about the leopard, but evidently referring to the species now called the cheetah, we read: "This animal is sometimes tamed and used instead of a dog for hunting both among the Tartarians and other Princes, for they carry them behinde them on Horse-back, and when they see a deer or hart, or convenient prey, they turn them down upon them sodainly, who take them and destroy them; yet, such is the nature of this Beast, as also of the Pardal, that, if he do not take his prey at the fourth or fifth jump, he falleth so angry and fierce, that he destroyeth whomsoever he meeteth—yea, many times, his Hunter. Therefore the Hunters have always a regard to carry with them a Lamb or a Kid, or some such living thing, wherewithat they pacifie him after he hath missed his game; for without bloud he will never be appeased."

Andersson,⁶ after describing the capability of the leopard for being tamed and domesticated, for he had reared one of these animals himself, writes about the cheetah of the Cape Colony: "My own experiences, however, as to the teachable qualities of the cheetah are altogether at variance with those generally ascribed to it; and I had a good opportunity of judging of the nature and habits of the animal, as an acquaintance of mine brought up one in my immediate vicinity, than which a fiercer or more intractable brute never came under my notice. Its disposition, in fact, was the very opposite of that of the leopard spoken of. . . . But then it is not of course fair to judge of a whole species by a single individual. Moreover, the animal in question was much teased and annoyed, more especially by the natives, whom he learnt to hate with the most deadly hatred, and, unfortunately, several children were bitten by him in a fearful manner, one, if not more of them, dying from the wounds it inflicted. But, indeed, with the exception of myself and one or two others, not a European dared to approach within his reach. Kindness and gentleness had no effect upon this fierce brute, and it was only

⁶ "Notes of Travel in South Africa," 1875.

by completely cowing his nature that we ventured to interfere with him. Now and then he would manage to break, or otherwise free himself, from his bonds, when, with fearful yells and imprecations, the terror-stricken natives would be seen running wildly to and fro in search of shelter ; but I never remember him doing any mischief to the people on such occasions. Woe, however, betide any smaller animal, such as a puppy, a pig, or a fowl, that then crossed his path. The cheetah in question unfortunately succeeded one day in escaping, never to be recovered ; and from its fearlessness of man and local knowledge it became more destructive to the hen-roost and the sheep-fold than one in its wild state would have been."

The fact is evident from sundry experiences of this nature that the creature requires kind attention and a certain amount of liberty ; under good treatment it will be a very exceptional animal that will not become perfectly tame and free from dangerous propensities.

Cheetahs do not breed readily in confinement, although they are so freely domesticated in Arabia and India. Mr. Bartlett is reported as saying that it has never to his knowledge bred in England, but Dr. Günther affirms that it has bred in the gardens of Frankfort.⁷ The young animal is said to have its soft brown hair free from spots, which is curious, and a reversal of the order of things, for the young of the lion and puma and other unmarked cats are distinctly spotted until their first fur is changed.

The cheetah was known to the Greeks and Romans, as is evident from a bas-relief in the Louvre ; but it could not have been extensively employed. The Crusaders appear to have learnt the method of hunting from the Mussulman princes in Syria, and to have introduced it into Europe.

Frederick the Second, King of Sicily, in 1228 made a journey to Jerusalem, and on his return, in 1231, adopted many of the Saracen customs, among them that of hunting with the cheetah. He also received from them some useful hints with respect to hawking, for in his Latin treatise on that art he claims the merit of having introduced into Europe the hood to cover the falcon's eyes. In the

⁷ Cassell's "Natural History."

history of his reign⁸ we read that he astonished his guests by his method of bringing down the deer: "The cheetahs, or hunting



Hunting with the Leopard, from a stamp of Jean Stradan (sixteenth century).

leopards of the East, are mounted on horseback behind their keepers, these animals," as the Emperor says, "know how to ride." In this

⁸ "History of Frederick the Second," by T. L. Kington.

manner they appear to have accompanied him on all his marches, or when he changed his residence. The animals in consequence became well known to the Italians, and we see them represented in the patterns of the silk damask and other textile fabrics of the thirteenth and fourteenth centuries.

Boldensel speaks of the cheetah being used in Cyprus during the first half of the fourteenth century.

In the middle ages everything appertaining to hunting came into fashion again among the youth of the nobility, we learn from Lacroix's⁹ admirable work, and they adopted many strange sporting devices, notably that of importing animals from other countries. "After having imported the reindeer from Lapland, which did not succeed in their temperate climate, and the pheasant from Tartary, with which they stocked the woods, they imported with greater success the panther and the leopard from Africa, which were used for furred game, as the hawk was for feathered game. The mode of hunting with these animals was as follows. The sportsmen, preceded by their dogs, rode across country, each with a leopard sitting behind him on his saddle. When the dogs had started the game the leopard jumped off the saddle and sprang after it, and as soon as it was caught the hunters threw the leopard a bit of raw flesh, for which he gave up the prey, and remounted behind his master." This account is accompanied by an excellent illustration of the hunter mounted, with the cheetah sitting behind him, collared and chained, which by the kind permission of the publishers is reproduced in this work, and will be found on page 97.

Louis XI., King of France from 1461 to 1483, Charles VIII., 1483 to 1498, Louis XII., 1498 to 1515, and Francis I., who ascended the throne in 1515, all used hunting leopards in the chase. Of this later monarch Topsell says: "I will add a true narrative of two Panthers or Leopards nourished in France for the king, whereof one was of the bigness of a great Calf, and the other of a great Dog, and that on a day the lesser was brought forth for the king to behold how tame and tractable he was, and that he would ride behinde his keeper upon a cloth or pillow

⁹ "Manners, Customs, and Dress during the Middle Ages," by Paul Lacroix.

being tyed in a chain; and if a Hare had been let loose in his presence, and he turned down to her, within a few jumps or leaps he would attain and take her. When the keeper was to take up the Leopard again he did come to him backward, lest if he should see his face he should leap upon him and wound him (for, as we have said, they are angry being chafed, and are ready to fly into the Hunter's face); therefore he turneth his face away from him, and betwixt his legs reacheth him a piece of bread or flesh, and so he gently taketh him into his chain and collar again, leading him away to his house, and as soon as the man was mounted the Beast also knew his seat, and leaped up after him." This performance must have been rather startling for the horse, and he no doubt required some training to make him quiet under it. It must also have been far from comfortable for the rider to have such an uncertain beast behind him all the time. That this was so is evident by a glance at the illustration, for the hunter's feeling is cleverly shown by the wistful way in which he is trying to keep his eye on the animal. This writer also speaks of two leopards, probably the same ones, being reported to have escaped into the woods, two years before the death of Francis I., "eyther by negligence or the malice of their keepers, that is a male and a female, and about Orleans tore in pieces many men and women; at last they came and killed a bride, which was that day to have been marryed, and afterwards there were found many carkases of women destroyed by them, of which they had eaten nothing but only their breasts."

These kings of France kept the leopards which formed part of their royal hunting establishments in an inclosure of the Castle of Amboise, which is still existing, and called the *gate des Lions*, no doubt in consequence of these animals being mistaken for lions by the common people.

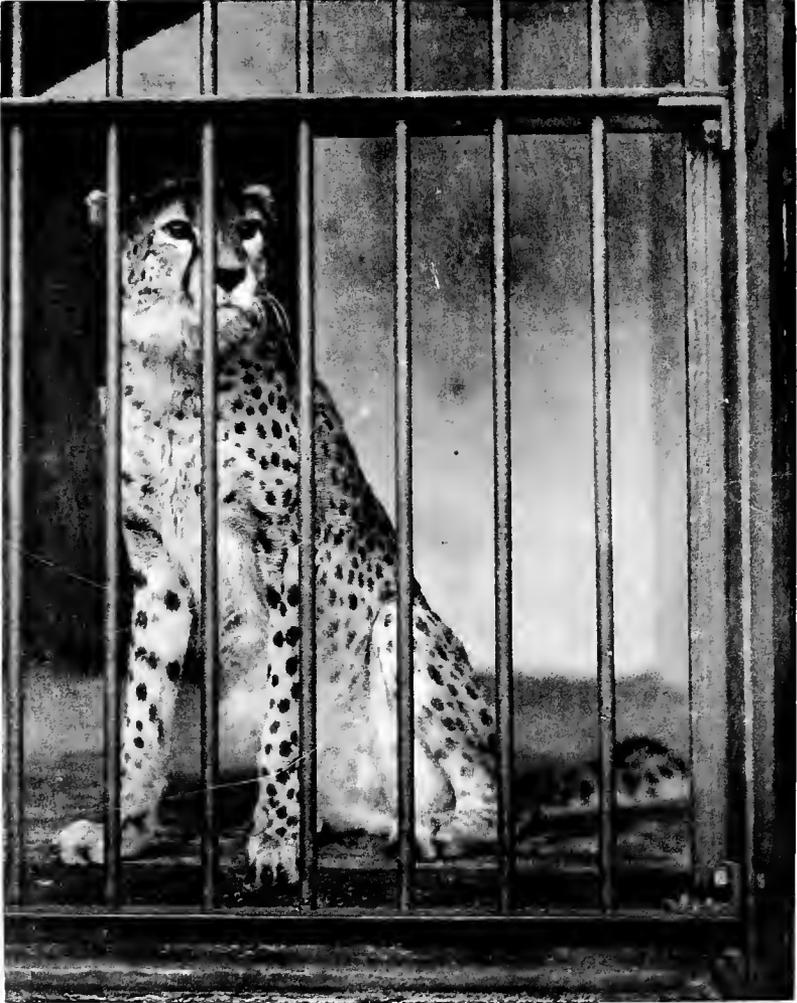
Cheetahs continued to be used by the French kings until the reign of Henry IV., when Marie de Medicis brought from Florence in 1601 the last trained leopard seen in France; Germany being the only country in Europe where one was seen at a later date, and there the sport was revived for a short time by Leopold I., who died in 1705.

In England we can find no trace of the animal being so used, although in an English MS. bestiary of the thirteenth century, in the library of the British Museum, there is a representation of a quadruped resembling a cheetah in pursuit of some animals, apparently hares. It is reasonable to suppose that the leopards sent to Henry III. by his brother-in-law Frederick II., referred to in the chapter on menageries, were in reality cheetahs; for, as we have seen, they were a favourite animal with the Sicilian king, and both he and Henry III. had the same passionate fondness for sport, and everything appertaining thereto. The leopards used on the royal shield have more the appearance of the animals now known as cheetahs than the ones we call leopards. If they were ever employed in the chase in England the fact does not appear to have been recorded, although the idea of carrying the animal upon the saddle behind the hunter seems to have struck King James V. of Scotland as a good one; for we read in a correspondence between this monarch and the Duke of Richmond, published in Jesse's¹ most excellent and exhaustive work, that he wanted to possess blood-hounds which could ride behind men on horseback; or, as he expresses it in a letter from Holyrood, January 8th, 1526, "one brais of blud hunds of y^e leist bynd, yat as gud as will ryd behynd men on hors bak;" but the commission to procure them appears to have been beyond the power of the Duke to fulfil.

Tippo Saib, Sultan of Mysore, who was killed at the storming of Seringapatam, 1799, had several cheetahs, with which he used to hunt, and five of these identical animals were kept by Sir Arthur Wellesley. Subsequently three of them were sent to England. Two only arrived, and they were presented by Lord Harris to the Duke of Cumberland, brother to George IV., who placed the animals in the menagerie at Windsor.

These cheetahs were accompanied by two Indian keepers who used to treat them like pet dogs, and allowed them their full liberty. However, against the wish of these men, they were subsequently ordered by the king to be kept confined in a cage, and the native attendants were dismissed. This treatment soon made the creatures ferocious, and the Indians were reinstated as their

¹ "Researches into the History of the British Dog," by Geo. R. Jesse, 1866.



A CHEETAH.

(*Felis jubata.*)

guardians, but the loss of freedom, the want of exercise, and the brutal treatment they appeared to have received during their short confinement, had made them so savage that they attacked one of the men on his entering their den and broke his arm, and they were never again the docile animals they had previously been. They were sent soon after this to the Tower menagerie.

The Duke tried the experiment of hunting with one of them, but it ended in a *fiasco*, for having turned a stag loose in a large inclosure in the park, made with strong netting about fifteen feet high, the cheetah was introduced and unhooded by his Indian attendants. The stag turned at bay, and lowering his horns to charge, the cheetah bounded over the netting in among the terrified crowd of spectators, who fled in all directions; but the animal, catching sight of some fallow deer in the distance, pursued one of them and killed it. The experiment was not repeated, and thus cheetah-hunting in England probably began and ended.

The Zoological Society have been without a specimen of the cheetah for some time, but have just received one. It was reported that a snow leopard (*Felis uncia*), which is an extremely rare animal, had been captured in the valley of the Heri-Rud in November, 1884, by Nawab Mahomed Hassan Ali Khan, of the Afghan Boundary Commission, and would be sent at once to England. On the animal's arrival, it turned out to be a fine specimen of the cheetah, nevertheless it was extremely disappointing.

CHAPTER VIII.

THE HYÆNAS (*HYANIDÆ*).

THE animals of this family are comprised in a single genus, and consist of three species, containing, however, several varieties—the striped hyæna (*Hyæna striata*); the spotted hyæna (*Hyæna crocuta*); and the brown hyæna (*Hyæna rufa*).

They resemble the *Felidæ*, or cats, in several points, especially in their dentition and in being carnivorous. They are completely digitigrade—that is to say, walk only on the extremity of their toes. In some respects they also exhibit a strong affinity to the dog family (*Canidæ*); but, authorities on the subject now agree that they form a distinct genus.

The peculiarity first noticeable in the appearance of these awkward, uncouth-looking brutes is that they stand higher in front than they do behind; a fact accounted for by the way in which the hind legs are bent, and by the fore ones being probably a trifle longer. This strange formation causes them to have that shambling gait for which they are noted. Another remarkable feature about their construction is that they have four toes on each foot; the members of the cat family having five toes on the fore feet and four on the hind ones. The claws of the hyæna are short, thick, pointed and very strong, and are not retractile like those of the *Felidæ*, but are exposed, similar to the claws of a dog. The use to which these weapons can be put in digging up the earth has conferred upon the hyænas an unenviable character in Eastern countries, for they are said, in common with the jackals, to despoil the graveyards and appease their

ravenous appetite upon the bodies of the dead. This habit makes these animals objects of aversion, and, as can be easily understood, has given rise to many superstitions regarding them.

The hyæna in one respect resembles the civet. It is furnished with a pouch in which it secretes a peculiar matter that emits a rather unpleasant odour, strong enough to make it a disagreeable companion, and even render the neighbourhood of its den an unpleasant place in which to tarry awhile.

The body of the hyæna is similar to that of the wolf, both in size and shape. The head is large and broad, and terminates in a short thick muzzle. It has large ears and the somewhat protruding eyes have a repulsive scowling expression. The tongue is rough and prickly, resembling that of the larger members of the cat family. The jaws are endowed with enormous power. The teeth are identical in number with the other members of the carnivorous order. Their dental formula is—

$$\text{Incisors } \frac{6}{6}; \text{ canines } \frac{1-1}{1-1} \text{ molars } \frac{5-5}{4-4} = 34.$$

The two canines in each jaw are extremely well developed, and are exceptionally strong. In fact the whole construction of the head, dental organization, the great power of the jaws, and the powerful muscle that gives strength to the neck, all combined confer upon this animal the most remarkable ability to break or crunch any article it may get between its teeth that admits of such treatment. The very hardest bones are snapped with ease, and the grip that an hyæna can take is so tenacious it is next to impossible to drag anything away from the creature when once it has been firmly seized.

Any one wishing to see an exhibition of their capacity in this way has only to watch the animal in any zoological collection when it is being fed; or at any other hour to request the keeper to place a large bone across the bars of the den, and, if seen for the first time, the ease with which it will be snapped asunder and drawn within will create surprise.

Dr. Buckland writes:¹ "I have had an opportunity of seeing

¹ "Reliquiæ Deluvianæ," by the Rev. William Buckland, B.D., F.R.S., F.L.S., 1824.

a Cape hyæna at Oxford in the travelling collection of Mr. Wombwell. . . . I was enabled also to observe the animal's mode of proceeding in the destruction of bones; the shin-bone of an ox being presented to this hyæna, he began to bite off with his molar teeth large fragments from its upper extremity, and swallowed them whole as fast as they were broken off. On his reaching the medullary cavity, the bone split into angular fragments, many of which he caught up greedily and swallowed entire: he went on cracking it till he had extracted all the marrow, licking out the lowest portion of it with his tongue: this done, he left untouched the lower condyle, which contains no marrow, and is very hard. . . . I gave the animal successively three shin-bones of a sheep; he snapped them asunder in a moment, dividing each in two parts only, which he swallowed entire, without the smallest mastication. On the keeper putting a spar of wood, two inches in diameter, into his den, he cracked it in pieces as if it had been touchwood, and in a minute the whole was reduced to a mass of splinters. The power of his jaws far exceeds any animal force of the kind I ever saw exerted, and reminds me of nothing so much as of a miner's crushing mill, or the scissors with which they cut off bars of iron and copper in the metal foundries."

The striped hyæna (*Hyæna striata*) is the representative animal of the family, and the one whose habits are the best known. It is found throughout India (except the lower part of Bengal), Persia, Turkey, Abyssinia, Egypt, Nubia, Libya, Algeria, Barbary, West Africa, and the Cape of Good Hope.

The thick coat is of a dark yellowish-grey, marked with longitudinal stripes of a darker hue, which are more distinct on the lower part of the body. These stripes become oblique towards the shoulders and haunches. The legs are transversely striped, similar to the markings of a zebra. "The front of the neck," says Mr. Bennett,² "is completely black, as are also the muzzle and the outsides of the ears; the latter being broad, moderately long, and nearly destitute of hairs, especially on the inside. The hair of the body is long, particularly on the back of the neck and on the spine, where it forms a full and thick mane, which may be

² "The Tower Menagerie."

said to be continued even upon the tail, the latter organ being furnished with strong tufted hair of considerable length. The mane and the tail are both marked with blackish spots or stripes, variously and irregularly placed. Much variety is indeed to be met with as well in the ground colour of the whole body as in the disposition of the markings, which are extremely different in different individuals."

They are also subject to considerable diversity in size. An ordinary fair-sized animal will measure between four and a half to five feet in length from nose to root of tail, the tail in itself be about ten inches, and the height at the shoulder, two or three inches under three feet.

The hyæna is essentially a nocturnal animal and seldom, if ever, moves abroad during the day, but prefers the gloom of rocky caverns, the solitude of ancient ruins; or, if resting-places of this description are not available, he will burrow a hole in the ground and there sleep till the sun sets, when forth he comes to seek his food and make night hideous with his dismal and maniacal howling.

The propensity of these animals to howl continually when abroad is extraordinary, and the object they have is a mystery. That it is not to call their mates is proved by the fact that they continue their cries when separating from each other; and, again, the animals are not gregarious, but prefer hunting singly, and only assemble in any number when an abundance of carrion attracts them to a common centre. The atrocious noise they delight in making certainly appears in one way to be detrimental to their own interest, for it alarms the animals that might become their victims, and renders the capture of living prey much more difficult. This, however, may be their object, for hyænas are said to be most cowardly beasts, and will not attack even very much smaller creatures than themselves, unless they are in full flight, but slink away if they stand up and face them. Another purpose the uttering of such dismal howls may serve is to inspire fear, and in this way frighten other animals from their own lawful prey, for by flying in their terror, they leave it for the prowling, carrion-seeking hyænas.

All writers agree that the hyæna lacks courage, and is only ferocious when he himself is secure from harm. McMaster,³ the well-known Indian sportsman, illustrating the faint-heartedness of these creatures, writes: "Shortly after daybreak I had shot a bear that died almost immediately; ere long, a large hyæna blundered up the same path the bear had taken. I did not wish to waste a shot on him, and he stumbled on for some distance in the vacant-looking and undecided way of his race. Suddenly, having caught the scent of blood or dead flesh, he became a different and rather fine-looking creature, as he rushed with head and tail well up, the latter waving almost in the style of a fox-hound, while 'drawing' direct to the spot, and in his hungry haste jumped on a stone, beside which was the dead bear, and almost on the carcase. All at once matters changed, and I shall not soon forget the horror-struck look of the hyæna, as stiffened as if by magic, too frightened to move back or forward, and with every bristle erect, like a worried cat, he stood quivering over the body; although I had spared it before, I could not resist taking his worthless life as he stood."

Many sportsmen and travellers try to create a prejudice against the hyænas, both on account of their habits, which, on the one hand, they call cowardly, and on the other, unclean, and because hunting them is not considered good sport: hence they very rarely give any description of these animals, but only allude occasionally to their being disturbed by their midnight howling, which, by-the-by, is often confounded with that of the jackals. Jules Gerard, the lion-killer, in his book, first set this example, and he says the Arabs have a saying, "as cowardly as a hyæna," and that they scorn in attacking it even to use their guns, but that when one finds a hyæna in a hole he takes a handful of dirt and presents it to him, saying "Come and I will render you beautiful with henna." "The hyæna holds out his paw, the Arab seizes it, drags him out, then gags him, and causes him to be stoned by the women and children of the douar as a cowardly and unclean beast."

That these animals prefer carrion of all description to other food seems to be well authenticated; but this very habit is of

³ "Notes on Jerdon's Mammals of India," by A. C. McMaster.

great service in many parts of those countries they inhabit, both in Asia and Africa, for they perform the duties of general scavengers, which, from the unclean customs of the people, is a most useful office, even if to refined notions it is a loathsome one; and certainly those benefited by these creatures should be just and acknowledge their utility; for by removing dead animals, garbage, offal, and other abominations, they prevent the atmosphere from being polluted by the rapid decomposition of such matter under the fierce heat of the noonday sun, which would engender pestilential odours most detrimental to human health.

There is such a fact, however, as having too much of a good thing. Bruce, in the appendix forming Volume V. of his book,⁴ states: "I do not think there is any one that hath hitherto written of this animal who ever saw the thousandth part of them that I have. They were a plague in Abyssinia in every situation, both in the city and in the field, and I think surpassed the sheep in number. Gordar was full of them from the time it turned dark till the dawn of day, seeking the different pieces of slaughtered carcasses which this cruel and unclean people expose in the streets without burial, and who firmly believe that these animals are *Falasha*, from the neighbouring mountains, transformed by magic, and come down to eat human flesh in the dark in safety. Many a time in the night, when the king had kept me late in the palace, and it was not my duty to lie there, in going across the square from the king's house, not many hundred yards distant, I have been apprehensive they would bite me in the leg. They grunted in great numbers about me, though I was surrounded with several armed men, who seldom passed a night without wounding or slaughtering some of them."

The strength they possess, already spoken of, allows them to easily drag away to a considerable distance the dead bodies of such large animals as donkeys, mules, or oxen. Major Dixon Denham,⁵ in giving an account of the hyænas who were in legions around Konka, states that they absolutely carried the town by

⁴ "Travels between the Years 1765 and 1773, &c.," by James Bruce.

⁵ Author of "Narratives of Travels and Discoveries in Northern and Central Africa," 1826.

storm on one occasion, and succeeded in destroying the defences the natives had built against them, and dragged off two donkeys in spite of the efforts of the people.

The hyæna has a most peculiar gait, and although not giving one the appearance of moving at a very rapid pace, yet contrives to get over the ground in such a surprising manner, that it taxes the power of a good horse to overtake it, and in spearing it the hunter finds some difficulty both on account of the speed and the habit it has of turning and doubling when overtaken. They appear sometimes as though they had suffered an injury that caused them to limp, but this seems to be a habit that both the jackal, wolf, and other dogs occasionally exhibit. Captain Beechey also notices this singularity, for he says the hyæna "not only walks away very slowly when advanced upon, but appears at the same time to have a limping motion, as if he were lame of one leg."⁶ Dr. Shaw writes: "A remarkable peculiarity in the hyæna, but which is sometimes observed in other dogs, &c., is that, when it is first dislodged from cover, or obliged to run, it always appears lame for a considerable space, and that sometimes to such a degree, according to Mr. Bruce, as to make the spectator suppose one of the hind legs to be broken; but after running some time this affection goes off, and he runs swiftly away."⁷

Hyænas very rarely attack human beings. Occasionally when compelled by absolute necessity, they will do so however, but their victims are generally women and children. Major-General Burton narrates an unusual attack made by one of these beasts: "A woman at the Shervarvy hills was fetching water from a stream near her village when a hyæna rushed out of the jungle and seized her by the arm, and endeavoured to drag her away. The woman dropped her water-vessel; but the hyæna would not let her go, and she in her turn seized the beast by its long ears, and tried to drag it towards the village. The villagers, attracted by her frantic cries, rushed up, and found her on the ground struggling with the hyæna. They attacked it with clubs, but it

⁶ "Proceedings of the Expedition to Explore the Northern Coast of Africa," by Captain F. W. Beechey, R.N., F.R.S., and H. W. Beechey, Esq., F.S.A.

⁷ "General Zoology," by Geo. Shaw, M.D., F.R.S., &c.

would not quit its hold until they had slashed it about its head with knives. Even then it released one arm only to grip the other; but they at last overpowered it and killed it. The woman died. The hyæna was a female, and most likely had cubs not far off, which might account for the unusual ferocity of this ordinarily cowardly animal."

In the Indian Government returns hyænas are reported to have killed, during the seven years ending 1881, 221 people, a smaller number than any other animal, except the elephant. Bengal and the North-West Provinces with Oudh seem to harbour the largest number of ferocious hyænas. The cattle killed during the same period numbered 14,711 head, while the number of hyænas destroyed totals 11,768, for which the Government paid in rewards 2,038*l.* 8*s.*

The partiality hyænas have for stealing around and haunting ruins is noticeable in both the animals of Africa and Asia. Travellers who have visited the remains of those ancient temples and palaces of India which tell of the bygone power of the Mogul rulers frequently speak of the fright they received by suddenly encountering one of these animals prowling about with stealthy tread, or by the weird sounds of their howls being echoed among the decaying walls of the moonlit ruin.

The crumbling cities on the northern coast of Africa explored by Captain Beechey, which once were the abodes of wealth and splendour when the Ptolemies and Cæsars were the rulers of the land, and exhibited the ostentatious magnificence of that bygone age, are now but the abodes of desolation and gloom, the residence of the jackal and the hyæna, who slake their thirst on the water collected in the basins of the crumbling fountains, and break the oppressive stillness by their dismal laugh that, reverberating, startles into life the owls and the bats.

The spotted hyæna (*Hyæna crocuta*), although possessing a generic resemblance to the striped hyæna, both anatomically and in size, is nevertheless specifically distinct. It is confined in its *habitat* to Southern Africa, where it takes the place of the striped animal, and is called the tiger-wolf by the colonists. It is this

⁸ "Reminiscences of Sport in India," 1885.

creature whose howl when excited resembles the maniacal laughter that has given rise to its cognomen of "laughing hyæna." Instead of being marked in stripes, it has the yellowish ground colour of its coat covered with round black spots. A conspicuous distinction between the two species is the almost entire absence of the mane in this one, which, however, has its blackish-brown tail covered with long bushy hair.

It is a much more savage beast than its congener of Northern Africa and India. It is also more voracious and destructive, for it not only feasts on carrion, but, driven by hunger, readily takes to the hunting of living prey, such as the antelope and small deer, and frequently commits great havoc among the animals the farmers may happen to leave unprotected.

The description given in "Knight's Encyclopædia," which is taken from the first catalogue of the African Museum, says: "It also often succeeds in killing or mutilating such of the large kind of animals that have not been secured before dusk." Sickly animals, it appears, are less liable to suffer from the voracity of this creature than those that are in full health; the latter by their rapid flight inspiring their enemy with a courage of which by nature he is destitute; whereas the sickly face him, and thus intimidate him from attacks, which might be successful if made. So anxious is he for the flight of the animals, as a preliminary to his onset, that he uses all the grimace and threatening he can command to induce them to run, and never dares to assail them unless they exhibit great fear. "The character of this hyæna," continues our author, "makes his destruction an object of no small importance to the farmers, whose ingenious snares for him call forth amazing cunning and dexterity on the part of the animal to render them of no avail. The more common methods employed against beasts of prey, such as spring-guns, traps, &c., do not succeed in his case. During his nocturnal wanderings he minutely examines every object that presents itself to his notice with which he is not perfectly familiar; and if he see reason to suspect that it can injure him he will turn back and make his way in an opposite direction."

Presumably from tasting the flesh of the dead left upon

the field of battle in those frequent wars that occur between the various tribes in the interior of South Africa, which the natives never think of burying, but leave scattered over the plains, soon to become food for the vulture and hyæna, certain animals get the taste for human flesh, and when it is not available in one form seek it in another, and become "man-eaters." They generally, however, confine their tastes to children, whom they seek out with a stealthiness and cunning that has something of the awful in connection with it, for they even pass over every other sort of prey to get the human one. Mr. Steedman⁹ tells us of the terrible injuries sustained by two children that came within the knowledge of Mr. Shepstone, "Who," he says, "in a letter from Mamboland, relates that the nightly attacks of wolves, as the hyænas are generally called, have been so destructive among the children and youth as to form quite an anomaly in the history of this animal; for within a few months not fewer than forty instances came to his own knowledge, wherein that beast had made most dreadful havoc. To show clearly," he says, "the preference of the wolf for human flesh it will be necessary to notice that when the Mambookies build their houses, which are in form like beehives, and tolerably large, often eighteen or twenty feet in diameter, the floor is raised at the higher or back part of the house, until within three or four feet of the front, where it suddenly terminates, leaving an area from thence to the wall in which every night the calves are tied to protect them from the storms or from wild beasts. Now it would be natural to suppose that, should the wolf enter, he would seize the first object for his prey, especially as the natives always lie with the fire at their feet. But notwithstanding this the constant practice of this animal has been in every instance to pass by the calves in the area, and even by the fire, and to take the children from under the mother's kardos, and this in such a gentle and cautious manner that the poor parent has been unconscious of her loss until the cries of her little innocent have reached her from without, when a close prisoner in the jaws of the monster."

The brown hyæna (*Hyæna rufa*) also inhabits the southern

⁹ "Wandering and Adventures in the Interior of Southern Africa," by Andrew Steedman, 1835.

portion of the African continent, being generally found nearer the sea-coast than the other species. It differs from them in having the long, coarse, shaggy hair of the body of a grizzled brown colour.

Nearly all the then known wild beasts of any size appear at one time or another to have been exhibited in Rome when she was in the zenith of her power, and the hyænas were no exception; but these animals do not seem to have made their appearance until a comparatively late period, for they are first spoken of as being seen in that collection of remarkably rare animals prepared for the younger Gordian, but which were left for his successor, the Emperor Philip, to exhibit in the secular games at the thousandth anniversary of Rome (A.D. 248).

In the cave at Kirkdale, Yorkshire, discovered by Professor Buckland, previously spoken of, the remains of a large number of hyænas were found, and their bones have been also found in many similar places both in this country and in France and Germany.

A hyæna was reported in the last century to have committed great ravages in France. The following extract from Dodsley's "Annual Register" for 1765, seems to refer to the animal. "This time twelvemonth a wild beast began to make its appearance in the south of France, especially in the Vivavais and Gevaudan, so uncommonly wily as seldom to attack any but children or women when he could meet them alone, and of such uncommon speed as to be seen in the same day in many and very distant places, so as to prevent people's travelling, and greatly obstruct all country business heretofore carried on by children or single persons. Several parties of dragoons having been sent against him to no purpose, the king, in February last, offered a reward of six thousand livres for killing him; and even public prayers were put up in several churches to be delivered from this terrible animal, which the coming up of the corn now rendered it almost impossible to discover or pursue, without doing more damage than could be apprehended from the creature itself, whom several traps had been laid for to no purpose, and many of the dragoons, by dressing themselves in women's apparel, had in vain endeavoured to entice to a fair engagement. Having once attacked

seven boys, the eldest not eleven, and seized on one of them, the three eldest, by beating him with sticks armed at the end with iron, obliged him to part with his prey, but not till he had bit off part of the child's cheek, which he devoured in their presence. He then seized another of the children, but his companions pursued him to a marsh, where he sunk up to the belly, and they belaboured him so that he let go the child, who, though under his paw, received but one wound in his arm and a scratch in his face. At length, a man coming up to their assistance, the animal thought proper to retreat. These children were rewarded by the king, and ordered to be provided for. At last, having devoured more than fifty women and children, he was on the 20th of this month, discovered in the woods of Pommieres by Monsieur Antoine de Beauterme, a gentleman of a distant province, remarkable for his skill and boldness in hunting and the goodness of his dogs, who had come of himself to the assistance of the terrified country, and shot by him in the eye at the distance of about fifty paces. But though the creature fell on receiving the wound, he soon recovered himself, and was making up to M. de Beauterme with great fury when he was shot dead by the Duke of Orlean's game-keeper, named Reinhard. Several inhabitants of the Gevaudan, who had been attacked by him, having all declared him to be the same animal which had caused such terror and consternation in that country, M. de Beauterme set out with the body for Versailles, in order to present it to the king. This animal was 32 inches high, 5 feet $7\frac{1}{2}$ inches long, 3 feet thick, and weighed 130 lbs. The surgeons who dissected him say that he was more of the hyæna than the wolf kind. He had forty teeth, whereas wolves have but twenty-six. The muscles of his neck were very strong; his sides so formed that he could bend his head to his tail; his eyes sparkled so with fire that it was hardly possible to bear his look; his tail was very large, broad, thick, and bristled with black hair; and his feet armed with claws extremely strong and singular. When killed he sent forth a very disagreeable stench. In his body several sheep's bones were found. The king ordered him to be embalmed and stuffed with straw, and to remain in the custody of young Monsieur de Beauterme."

At one time—in fact the idea has hardly died out yet—the hyæna was considered to be a perfectly untamable animal, being of so cruel and fierce a disposition that kindness of treatment was entirely lost upon it; but this is entirely an error, for no wild animal submits to man's control more readily. In India it is frequently domesticated and trained to perform the duties of a watch-dog. In Africa, at the Cape, the spotted hyæna is also very easily tamed, and the colonists treat it exactly as they would a dog. It is also a much more agreeable companion than the Indian's friend, for it does not possess the subcaudal gland, and, as a consequence, is not so offensive to the olfactory nerves. Barrow¹ states that the cadaverous crocuta had lately been domesticated in the Snewberg, South Africa, and that it was considered to be a splendid hunter after game, and as faithful and diligent as any of the common sort of domestic dog.

These tame hyænas exhibit one feature in a very marked manner: they require complete liberty of action, which, strange to say, they show no signs of abusing; but if confined or couped up in dens or cages they become surly at once and get dangerous from irritation. Hence, probably, the general idea respecting their untamableness, for the animals seen in menageries are frequently madly ferocious in consequence of their cruel confinement in the limited space usually allotted to them.

“A hyæna at Exeter change some years ago was so tame as to be allowed to walk about the exhibition-room. He was afterwards sold to a person who permitted him to go out with him into the fields, led by a string. After these indulgences, he became the property of a travelling showman, who kept him constantly in a cage. From that time his ferocity became quite alarming; he would allow no stranger to approach him, and he gradually pined away and died.”²

¹ “An account of Travels in South Africa,” 1801.

² “The Menagerie.”

CHAPTER IX.

THE WOLF (*CANIS LUPUS*).

THE animals which are classified under this heading are the most important representatives of the dog family (*Canidae*) now existing in a wild state; for with the exception of the jackal nearly all the other members have been domesticated, and the various species included in the generic title of "the dog." It is not within the province of a work on wild beasts to describe that most affectionate and faithful friend to man, which was probably one of the first of the created animals to become attached and evince affection for him. It has been well said that "the dog is the most complete, singular, and useful conquest ever made by man over the brute creation: each individual is devoted to his particular master, assumes his manners, knows and defends his property, and remains attached to him till death; and all this neither from constraint nor want, but solely from the purest gratitude and truest friendship. The swiftness, strength, and scent of the dog have rendered him man's powerful ally against all other animals, and have perhaps mainly contributed to the establishment of society."

One of the most puzzling problems to naturalists is to define the number of species of dogs now existing, and their origin. Some contend that they all acknowledge the same ancestor, and even the wild species, the wolf, the jackal, and others are the offspring of dogs once domesticated, but which have relapsed to their primitive condition. Others maintain that the wolf is the true father of the tribe, while a few claim this honour for the

jackal. Against these arguments it has been proved that those dogs, the outcast curs of Mahammedan towns, which become wild again, never revert to the one species or to the other. The domesticated species do not now exist in a natural condition, and there are no records of their true ancestors available, for they must have been lost among those of the primitive people of the world; what manner of animal or animals they were will therefore, in all probability, be one of those questions that will perplex the mind of students in natural history till the end of time.

That the wolf and the dog, or rather several species of the dog, have many points in resemblance is beyond question, and conclusive proof that they belong to the same family. The dingo and other wild dogs have the same shaped head and ears, the same rough thick hair, long and bushy tail. Their lounging gait is identical, and the fact that they never bark, but utter a sharp cry, or long, melancholy howl similar to that of the wolf, is peculiar; but they have other points that unmistakably establish their distinction.

“The ears of wild animals are always pricked, the lop or dropping ear being especially a mark of civilization: with very rare exceptions, their tails hang more or less and are bushy, the honest cock of the tail, so characteristic of a respectable dog, being wanting. This is certainly the rule; but, curious enough, the Zoological Gardens contain at the present moment a Portuguese female wolf, which carries her tail as erect and with as bold an air as any dog. Wolves and wild dogs growl, howl, yelp, and cry most discordantly, but, with one exception, do not bark; that exception being the wild hunting dog of South Africa, which, according to Mr. Cumming, has three distinct cries; one is peculiarly soft and melodious, but distinguishable at a great distance; this is analogous to the trumpet call, ‘halt and rally,’ of cavalry serving to collect the scattered pack when broken in hot chase. A second cry, which has been compared to the chattering of monkeys, is emitted at night when the dogs are excited; and the third note is described as a sharp, angry bark, usually uttered when they behold an object they cannot make out, but which differs from the true, well-known bark of the domestic dog.”¹

¹ See “Bentley’s Miscellany.” Vol. 29.

The dog and the wolf seem to be natural enemies, and seldom meet without immediately flying at each other. The difference between the disposition of the two animals becomes then apparent, for if the wolf proves the victor he devours his victim; but, should the dog kill the wolf, he disdains to touch the carcase.

The wolf on many accounts holds a prominent position among wild beasts. Some interest attaches to him in all probability from the close analogy of the essential features he presents to the dog; but his habits, instincts, and ferocious character, combined with the fact that he is the most formidable representative of the carnivora to be found in the more temperate regions of the world, have more to do with it. He is the theme of many a blood-curdling recital; history, poetry, and fiction being all indebted to him for many thrilling pages.

Some of the differences in structure between the canine tribe and the cat family are visible at a glance. The broad head tapers suddenly into a slender and pointed muzzle, and the eyes have a peculiar expression, owing to their obliquity. The ears are erect, being straight and pointed. The limbs are larger in proportion, but the bones are of a more slender character, it being evident that these animals are better adapted to speed than for taking those extraordinary bounds noticeable in the larger species of the cats. The neck is longer and more flexible. The tongue is smooth, and the claws non-retractile.

Wolves have five toes on the fore feet, and four on the hind ones. They usually have twelve molar teeth in the upper jaw, and fourteen in the lower, which both in size and power are comparatively greater than the teeth of any dog of similar proportions. They possess great strength, especially in the muscles of the neck and jaws.

Their lank form and gaunt appearance indicate the restless activity, the ferocious character, and the untamable habits that are characteristic of the animals.

Wolves are said to carefully train their cubs, for they accustom them to flesh gradually, and when strong enough make them join in the chase. They are also described as inuring them to suffering and pain by biting, maltreating, and dragging them about by

the tail, and teaching them to be mute by punishing them if they howl or utter a cry.

They associate together in packs for hunting purposes, and rely on their swiftness of foot to run down the deer and other animals on which they prey, and, if in the neighbourhood of farms, commit great ravages among the sheep-folds. They also frequently attack calves, but the full-grown animals are generally safe from their molestation. Their food depends to a great extent upon the country they inhabit; but they easily kill rats, hares, foxes, badgers, roebuck, stag, reindeer, and elk, which they generally seize by the throat. Under certain circumstances they will also kill and devour one of their own species.

When pressed by hunger, wolves readily attack man, and at all times are dangerous animals to encounter. However, a traveller can keep them at a distance by the display of something unusual; for the peculiarly cautious instinct they exhibit not only serves their own purpose, but enables any one pursued by them to easily avail himself of it and alarm them. They are not readily trapped, for they are so crafty and sagacious that it is almost impossible to allure them into any snare, and as one writer says, they appear to understand the nature and purpose of a trap almost as well as those by whom it is set.

In the gardens of the Zoological Society are to be found representatives of the three principal varieties of these animals—viz., the common wolf (*canis lupus*), the American wolf (*canis occidentalis*), and the Japanese wolf (*canis hodophylax*).

The common wolf is an inhabitant of Europe and Northern Asia, extending from the arctic regions to the northern parts of Africa and India. It is of a yellowish or tawny-grey colour, having black hairs interspersed over the coat, the under parts are white, and the tail, although not bushy, is well developed; but many diversities appear in these animals sufficient to identify the part of the world from which they come. It is a powerfully-built beast, and has a morose, determined aspect. When full grown it attains a length of fully four feet. Nearly every variety of the wolf has a black stripe in the front of the forelegs of the adult.

The French wolf differs from the German in being somewhat

smaller, and of a browner colour. There is the small brownish grey wolf of the Alps, and the large, long-haired wolf of Russia; in Italy and Turkey they are of a more tawny colour. White wolves are sometimes seen in southern countries, but in the arctic regions they frequently become white in winter. The most noted variety existing in Europe are the black wolves, large and strong animals, frequenting Spain and the Pyrenees, where they often attack the strings of mules that travel through the passes.

Wolves are still very plentiful in some parts of Europe, in Russia especially, where the returns annually submitted to the Imperial Government show that they inflict a large amount of injury. In one year alone, within a limited district of about 20,000 square miles, they destroyed 1800 horses, nearly 16,000 sheep, over 1700 oxen, and large numbers of calves, lambs, goats, kids, swine, pigs, dogs, geese, and fowl. The report for 1877 stated that the whole country contained 200,000 wolves. In 1875 they killed 161 people, in addition to 108,000 cattle, in European Russia alone, besides poultry and dogs, the former being the diet preferred by the young wolves. The loss is estimated at 15,000,000 roubles or 2,500,000*l.* per annum. In Siberia it must also be very considerable, especially in reindeer, for large numbers of these animals fall victims to the voracious appetite of the wolves.

In a Russian pamphlet published at St. Petersburg, as an appendix to the Government official report, a comparison is instituted between the losses occasioned by cattle plagues and fires, and against those caused by wolves. Extraordinary as it may seem, the proportion of damage done by wolves as compared with cattle plagues is as 200 to 240, and it must be further taken into consideration that, while the epidemic may leave the peasant the skin of his cow, the wolf carries away his prey irreclaimably. The damage is naturally looked upon as a serious national calamity. "Their strength is very great, and the amount they will eat is enormous. In two or three hours, it is stated, a pair will eat half a horse weighing 350 kilogs, they themselves not weighing more than 50 kilogs."²

² See *The Times*, 1876.

An extremely dangerous peculiarity is their cunning trick of appearing to be dead. A Russian peasant found a wolf lying on the ground apparently defunct; after beating him on the head with a cudgel, to make sure of the fact, he placed the animal on his sledge and took it home, for the sake of the skin. In the night he was disturbed by hearing some unusual noise, and looking up saw the wolf alive, standing on the table. Immediately the animal saw him move, it sprang at his throat. His wife jumped up and rushed out of the house for help. When she returned she found her husband lying dead in the room, and the wolf had escaped.

Captain Lyon³ noticed a similar exhibition of feigning death, in a wolf of the high northern latitudes. Having caught one of these animals, and it being to all appearance dead, the body was dragged on board his ship. "The eyes, however, were observed to wink whenever any object was placed near them; some precautions were therefore considered necessary, and the legs being tied, the animal was hoisted up with his head downwards. He then to our surprise made a vigorous spring at those near him, and afterwards repeatedly turned himself upwards so as to reach the rope by which he was suspended, endeavouring to gnaw it asunder, and making angry snaps at the person who prevented him. Several heavy blows were struck on the back of his neck, and a bayonet was thrust through him, yet above a quarter of an hour elapsed before he died, having completely convinced us that for the future we should not too easily trust to the appearance of death in animals of this description."

Many ghastly facts are narrated in history about the Russian wolves that followed in the wake of Napoleon's army in the memorable retreat from that country, numbers of the Siberian species even continuing their pursuit to the borders of the Rhine. The French army in the Austrian campaign, when in the vicinity of Vienna, were again troubled with wolves, and had several videttes carried off by them.

In certain districts of France wolves are still very abundant. In the Ardennes they are regularly hunted every winter, and the Pyrenees are generally full of these animals in the cold seasons. A correspondent to the papers, a few years ago, stated that the

³ "Private Journal of Captain G. F. Lyon," 1824.

bathing stations were buried under snow, and presented a curious aspect, for the houses being shut up and abandoned by the inhabitants, the wolves roamed through the streets, uttering mournful howls. This spectacle was to be witnessed even at Bagnères de Luchon.

In the winter of 1867 a cattle train on the Luxembourg railway was stopped by the snow between Libramont and Poix, and, quoting from the *Nord*, "The brakeman was sent forward to try and clear the line. The guard, firemen, engine-driver, and the officer of customs set to work to get the snow out from under the engine. They were startled by five wolves, who made a descent upon the train, attracted no doubt by the scent of the cattle and sheep penned up in the carriages. The men had not any weapons but the fire utensils belonging to the engine. The five wolves formed a semi-circle a few yards distant, and looked keenly on. The men let off steam, blew the whistle, waved lanterns to and fro to try and frighten the brutes, but they sat still and did not move. The men then tried to make their way to the guard's carriage, but the wolves at once followed them. Three reached it safely; but the fourth was not so fortunate, for while his foot was on the step one of the animals sprang at him, succeeding only, however, in tearing his coat. All the wolves now joined in the attack, but were beaten off, and by a dexterous blow on the head one of them was killed. Thus they remained for two hours before assistance arrived; the wolves during this time made several ineffectual attempts to get at the sheep in the trucks, but fortunately none of them were injured. The adventure, however, was a curious one to meet with on such a well-known line of railroad."

The winter of 1879 was a very cold one in Paris, and some of the papers at the time gave a remarkable illustration of the severity of the weather, by stating that the gendarmes, who were going their rounds on the Bois de Boulogne, were informed that three wolves had been seen near the Nouveau Châlet; and, sure enough, before long the animals were sighted—a she-wolf and two nearly full-grown young ones. Directly the brutes saw they were being pursued, they quickly disappeared into the woods, but their presence in the neighbourhood was a startling phenomenon.

In Hungary, wolves commit many depredations. According to the *Pester Lloyd*, in January, 1880, a pack of them passed through Jemesvar, and destroyed every animal which was not housed. The same paper also gives an account of a melancholy accident to a clergyman there. He was beset by a pack of wolves while returning home in a sledge from a neighbouring town. The driver made all possible speed to escape them, but at a turning the sledge was upset, and the occupants thrown out. The animals at once seized on the clergyman, and literally tore him to pieces, before the eyes of the terrified driver. In one village a few wolves came boldly at midday into the inn-yard and devoured an ass, and at Szalouta they killed and ate a shepherd who was walking along the road at night.

Again, this last year (1885), we learn that the excessive coldness of the winter and the heavy snowstorms that accompanied it, drove herds of wolves from the Carpathian mountains into the cultivated districts, where in some cases they spread terror among the people. At Homonna, in North Hungary, a pack of these brutes entered the village while the inhabitants were in church, and they could not be driven away until a squadron of Uhlans were sent to the assistance of the villagers, and attacked them with their swords and carbines.

An article in *All the Year Round* says: "Nor are wolves, while in possession of every brutal vice, free from that of intoxication. Henri de Criquelle, in a French work upon the "Natural History of Le Morvan" (a district of France), tells us that "in the summer the wolves, like the gipsies, have no fixed residence. They may be met with in the standing barley or oats, the vineyards, and fields; they sleep in the open country, and seldom seek the friendly shelter of the forest, except during the scorching hours of the day. Towards the end of August I have often met them in the vineyards, apparently half drunk, scarcely able to walk—in short, quite unsteady on their legs, almost ploughing the ground up with their noses and staring stupidly about them." He then proceeds to narrate how he shot one in this condition, which could hardly stand up: "The fact was he was quite drunk, although not disorderly."

"This inclination in wolves for intemperate indulgence in the

juice of the grape is vouched for by several authorities. It would appear that the wolves during the ardent heats of August suffer greatly from thirst, and in the absence of water take to the vineyards, and there endeavour to assuage it by eating large quantities of grapes—very cool, and, no doubt, very delightful at the time; but the treacherous liquid ferments, bacchanalian fumes soon upset the brain, and for several hours these four-legged toppers are literally as drunk as beasts, and entirely deprived of their senses.”

The wolf used to be common in Britain, and the Saxon name for January was *wolf-month*, significant of the fact that “people are wont always in that moneth to be more in danger to be devoured of wolves than in any season else of the yeare; for that through the extremity of cold and snow, these ravenous creatures could not find other beasts sufficient to feed upon.”⁴

That they must have been formidable beasts of prey in England is evident from the nature of the edicts passed for their extinction; but the vast wild tracts and the numerous deer forests preserved by the kings and nobles of ancient Britain afforded such secure haunts for these animals that the most vigorous measures for their extirpation did not accomplish the purpose till the end of the fifteenth century. During the reign of Athelstan (A.D. 925) it became necessary to build a refuge at Flexton, in Yorkshire, where travellers might seek shelter from being devoured by these gaunt brutes, for they had become a terrible source of danger to the wayfarers in that district.

Edgar applied himself resolutely to free the country of the scourge, and adopted several curious methods of doing so; one being the commutation of the punishments awarded English criminals to their delivery of a certain number of wolves' tongues. He also liberated the Welsh from their annual payment of the tax of gold and silver imposed on the Princes of Cambria by Ethelstan, to a tribute of three hundred wolves. This wise policy had the effect intended, for according to “Malmsbury's Chronicle,” Jenaf, Prince of North Wales, ceased paying the tribute on the fourth year for want of wolves.

⁴ Verstigan's “Restitution of Decayed Intelligence in Antiquities concerning the Most Noble and Renowned English Nation.” Antwerp, 1605.

In the reign of Edward I. the following mandamus was issued,—

“The King to all Bailiffs, &c.,—

“Know ye that we have enjoined our beloved and faithful Peter Corbet, that in all forests and parks and other places, within our counties of Gloucester, Worcester, Hereford, Salop, and Stafford, in which wolves may be found, he may take wolves with his men, dogs, and engines, and may destroy them by all methods that may seem to him expedient.

“And we therefore command you that, in all things which relate to the capture of wolves in the aforesaid counties, ye be aiding and assisting, as often as it shall be needful, and the aforesaid Peter shall make it known to you on our part.

“In the possession of which privilege he is to remain as long as it shall be our pleasure.

“Witness the King at Westminster.”

“14th May, 1281, of Edward I.”⁵

This appointment, and the rewards given for a wolf's head by the monarch, soon caused a very perceptible and welcome diminution in their numbers.

In the reign of Edward II. certain lands in Derbyshire were held by tenants, on condition that they “should hunt the wolves that harboured in that county;” and in the following reign many other estates were so held, notably certain lands in Pitchley or Pytchley, called then Pightesle, in Northamptonshire, which, according to Blount, were given to Thomas Engaine on the stipulation that he was to find at his own proper cost certain dogs for the destruction of wolves, foxes, martins, cats, and other vermin within the counties of Northampton, Rutland, Oxford, Essex, and Buckingham. On this tenure the manor, built on these lands, appears to have been held down to the time of Queen Elizabeth's reign, and became the origin of the well-known Pytchley Hunt.

The date that wolves ceased to exist in a wild state in England has not been ascertained exactly, but the last one is said to have been killed at Pytchley.

In Scotland they continued to commit serious ravages until the

⁵ “Rymer,” vol. i. part ii., page 192.

end of the sixteenth century, and among the efforts to get rid of them, was the burning of the beautiful forests of the bonnie land. Mr. James Hay Allan, in a note appended to his poem, entitled "The last deer of Beann Doran," published in 1822, writes upon this subject, "Almost every district of the Highlands bears the traces of the vast forests with which at no very distant period the hills and heaths were covered. Some have decayed with age, but large tracts were purposely destroyed in the latter end of the sixteenth century. On the south side of Beann Nevis, a large pine-forest, which extended from the western braes of Lochabar to the black water and the mosses of Ranach, was burned to expel the wolves. In the neighbourhood of Loch Sloi, a tract of woods, nearly twenty miles in extent, was consumed for the same purpose."

The last wolf killed in Scotland, according to the opinion of numerous writers, was an animal slain by Sir Ewan Cameron, of Lochiel, in 1680.

This date, however, does not appear to be correct, and has been copied probably from Pennant's "Tour in Scotland." The wolf killed by Sir Ewan Cameron in 1680, in Loch-Aber, was the last in *that district*, not of its species in Scotland, for Messrs. Stuart, in an article on the "Extinct Animals of Scotland," which forms one of the notes to "The Lays of the Deer Forest," mention several as having been killed at a later date. According to the account here given, the last, there was then every reason to believe, was killed in the district of the Findhorn, in the ancient forest of Tarnaway, in Morayshire, at a place between Fi-Guithas and Pall-á-chrocain, according to popular chronology no longer ago than 1743, by MacQueen of the latter place. Sir Thomas Dick Lauder, in his "Account of the Moray Floods of August, 1829," describes this incident, and as it refers to the last wolf of Scotland, whose death made the species extinct, the story is interesting. "Immediately within the pass (of Eanack), and on the right-hand bank (of the Findhorn) stand the ruins of the interesting little mansion-house of Pollochock. MacQueen, the laird of this little property, is said to have been nearer seven than six feet high, proportionately built, and active as a roebuck. Though he was

alive within half a century, it is said that in his youth he killed the last wolf that infested this district. The prevailing story is this:—A poor woman, crossing the mountains with two children, was assailed by the wolf and her infants devoured, and she escaped with difficulty to Moyhall. The chief of Mackintosh no sooner heard of the tragical fate of the babes, than, moved by pity and rage, he dispatched orders to all his clan and vassals to assemble the next day, at twelve o'clock, to proceed in a body to destroy the wolf. Pollochok was one of those vassals, and being then in the vigour of youth, and possessed of gigantic strength and determined courage, his appearance was eagerly looked for to take a lead in the enterprise. But the hour came, and all were assembled except him to whom they most trusted. Unwilling to go without him, the impatient chief fretted and fumed through the hall; till at length, about an hour after the appointed time, in stalked Pollochok, dressed in his full Highland attire. 'I am little used to wait thus for any man,' exclaimed the chafed chieftain, 'and still less for thee, Pollochok, especially when such game is afoot as we are boune (i.e. going) after!' 'What sort of game are ye after, Mackintosh?' said Pollochok, simply, and not quite understanding his allusion. 'The wolf, sir,' replied Mackintosh; 'did not my messenger instruct you?' 'Ou aye, that's true,' answered Pollochok, with a good-humoured smile; 'troth, I had forgotten. But as that be a', continued he, groping among the ample folds of his plaid, 'there's the wolf's head!' Exclamations of astonishment and admiration burst from chief and clansmen, as he held out the grim and bloody head of the monster at arm's length, for the gratification of those who crowded around him. 'As I came the Slochk (i.e. the ravine) by east the hill there,' said he, as if talking of some every-day occurrence, 'I foregathered wi' the beast. My long dog there turned him. I buckled wi' him and dirkit him, and syne whuttled his craig (i.e. cut his throat), and brought away his countenance for fear he might come alive again, for they are very precarious creatures.' 'My noble Pollochok,' cries the chief in ecstasy; 'the deed was worthy of thee! In memorial of thy hardihood, I here bestow upon thee Sennachan, to yield meal for thy good greyhound in all time coming.' "

Seannachan, or "the old field," is directly opposite to Pollochcock. The ten acres, of which it consisted, were entirely destroyed by the "flood" (the Moray floods in August, 1829), and the then owner died of despair.

There is also another account of a wolf being killed in the Highlands of Scotland later than Sir Ewan Cameron's exploit in 1680, which was also considered to be the last of the race. In a book "The Art of Deer-stalking,"⁶ the exciting details are narrated. The event took place on the east coast of Sutherland, where, in consequence of some ravages among the flocks, the inhabitants turned out in a body to search for the animal. A man named Polson, accompanied by his son and an active herd-boy, resolved to seek for him in the wild recesses of Glenshoth. "Polson was an old hunter, and had much experience in tracing and destroying wolves, and other predatory animals. Forming his own conjectures, he proceeded at once to the wild and rugged ground that surrounds the rocky mountain-gully which forms the channel of the Burn of Sledale. Here, after a minute investigation, he discovered a narrow fissure in the midst of a confused mass of large fragments of rock, which, upon examination, he had reason to think might lead to a larger opening or cavern below, which the wolf might use as his den. Stones were now thrown down, and other means resorted to, to rouse any animal that might be lurking within. Nothing formidable appearing, the two lads contrived to squeeze themselves through the fissure, that they might examine the interior, whilst Polson kept guard on the outside. The boys descended through the narrow passage into a small cavern, which was evidently a wolf's den, for the ground was covered with bones and horns of animals, feathers, and egg-shells; and the dark space was somewhat enlivened by five or six active wolf-cubs. Not a little dubious of the event, the voices of the poor boys came up hollow and anxious from below, communicating this intelligence. Polson at once desired them to do their best, and to destroy the cubs. Soon after he heard the feeble howling of the whelps as they were attacked below, and saw, almost at the same time, to his great

⁶ "The Art of Deer-stalking; illustrated by a Narrative of a Few Days' Sport in the Forest of Atholl," by William Scrope, Esq., F.L.S., and Member of the Academy of San' Luca, Rome. London, 1838.

horror, a full-grown wolf, evidently the dam, raging furiously at the cries of her young, and now close upon the mouth of the cavern, which she had approached unobserved, among the rocky irregularities of the place. She attempted to leap down at one bound from the spot where she was first seen. In this emergency, Polson instinctively threw himself forward on the wolf, and succeeded in clutching a firm hold of the animal's long and bushy tail, just as the forepart of the body was within the narrow entrance of the cavern. He had unluckily placed his gun against a rock when aiding the boys in their descent, and could not now reach it. Without apprising the lads below of their imminent peril, the stout hunter kept firm grip of the wolf's tail, which he wound round his left arm; and although the maddened brute scrambled and twisted, and strove with all her might to force herself down to the rescue of her cubs, Polson was just able, with the exertion of all his strength, to keep her from going forward. In the midst of the singular struggle, which passed in silence—for the wolf was mute, and the hunter, either from the engrossing nature of his exertions, or from his unwillingness to alarm the boys, spoke not a word at the commencement of the conflict—his son within the cave, finding the light excluded from above, asked in Gaelic, and in an abrupt tone: 'Father, what is keeping the light from us?' 'If the root of the tail break,' replied he, 'you will soon know that.' Before long, however, the man contrived to get hold of his hunting-knife, and stabbed the wolf in the most vital parts he could reach. The enraged animal now attempted to turn and face her foe, but the hole was too narrow to allow of this; and when Polson saw his danger, he squeezed her forward, keeping her jammed in, whilst he repeated his stabs as rapidly as he could, until the animal, being mortally wounded, was easily dragged back and finished."

In Ireland, so late as the year 1710, money was levied on the presentments of the Grand Jury in Cork, for the destruction of wolves in that country; and this was supposed to be the last record of these animals being seen in that island; but in *Notes and Queries* reference is made to a paper written by "H. D. R.," and inserted in the *Irish Penny Journal*, published in Dublin, in

1841, wherein the statement is made: "I am at present acquainted with an old gentleman between eighty and ninety years of age, whose mother remembered wolves to have been killed in the county of Wexford, about the years 1730-40; and it is asserted by many persons of weight and veracity, that a wolf was killed in the Wicklow Mountains, so recently as 1770."

The American wolves, of which there are many varieties, are, as a rule, similar to the wolves of Europe in shape and colour, but are not quite so large; neither are they so ferocious, for it is only in severe weather and when suffering extreme hunger that they will attack a man. They are domestic animals with the Indians, who had no other dogs before the Europeans introduced them, since which time the wolf and dog have mixed and become prolific. Catesby says: "It is remarkable that the European dogs that have no mixture of wolves' blood have an antipathy to those that have, and worry them wherever they meet. The wolf-breed acts only defensively, and, with his tail between his legs, endeavours to evade the other's fury. The wolves in Carolina are very numerous and more destructive than any other animal."

Tom Lawson,⁶ the Surveyor-General of North Carolina, thus describes the wolf of that country:—"The wolf of Carolina is the dog of the woods. The Indians had no other curs before the Christians came among them. They are made domestic. When wild, they are neither so large nor so fierce as the European wolf. They are not manslayers, neither is any creature in Carolina unless wounded. They go in great droves in the night to hunt deer, which they do as well as the best pack of hounds; nay, one of these will hunt down a deer. They are often so poor that they can hardly run. When they catch no prey, they go to a swamp and fill their belly full of mud; if afterwards they chance to get anything of flesh, they will disgorge the mud and eat the other. When they hunt in the night, and there are a great many together, they make the most hideous and frightful noise that ever was heard. The fur makes good muffs. The skin, dressed to a parchment, makes the best drum-heads, and, if tanned, makes the best sort of shoes for the summer countries."

⁶ "History of Carolina," 1714.

< In some parts of North America the wolves are very numerous, bands of them used to be seen hanging on the buffalo herds; for although they rarely ventured to attack the full-grown animal, yet, by preying on the sick and struggling calves, they considerably lessened the number of these useful creatures, and were, if for no other reason, a perfect pest. Many people advocated their extermination in consequence, and agreed with Cuvier that: "No animal so richly merits destruction as the wolf."

There is also a species of wolf inhabiting the prairie-lands of the New World called the coyote or cajote, which resembles the fox in shape and appearance.

— "The amount of noise that a single wolf is capable of producing," writes Dr. Meriam,"⁷ is simply astonishing, and many amusing episodes of camp-lore owe their origin to this fact. More than one "lone traveller" has hastily taken to a tree, and remained in the inhospitable shelter of its scrawny branches for an entire night, believing himself surrounded by a pack of at least fifty fierce and hungry wolves, when in reality there was but one, and (as its tracks afterwards proved) it was on the further side of a lake, a couple of miles away."

General Grant⁸ gives an amusing account of a similar experience with wolves while on an excursion with a brother officer during his Mexican campaign: "On the evening of the first day out from Goliad we heard the most unearthly howling of wolves, directly in our front. The prairie grass was tall, and we could not see the beasts, but the sound indicated that they were near. To my ear it appeared that there must have been enough of them to devour our party, horses and all, at a single meal. The part of Ohio that I hailed from was not thickly settled, but wolves had been driven out long before I left. Benjamin was from Indiana, still less populated, where the wolf still roamed over the prairies. He understood the nature of the animal, and the capacity of a few of them to make believe there was an unlimited number of them. He kept on towards the noise, unmoved. I followed on his trail lacking moral courage to turn back and join our sick companion

⁷ "Transactions of the Linnæan Society of New York."

⁸ "Personal Memoirs of U. S. Grant," 1885.

I have no doubt that if Benjamin had proposed returning to Goliad I would not only have 'seconded the motion,' but have suggested that it was very hard-hearted in us to leave Augur sick there in the first place. When he did speak it was to ask: 'Grant, how many wolves do you think there are in that pack?' Knowing where he was from, and suspecting that he thought I would over-estimate the number, I determined to show my acquaintance with the animal by putting the estimate below what possibly could be correct, and answered: 'Oh, about twenty!' very indifferently. He smiled and rode on. In a minute we were close upon them, and before they saw us. There were just *two* of them. Seated upon their haunches, with their mouths close together, they had made all the noise we had been hearing for the past ten minutes. I have often thought of this incident since, when I have heard the noise of a few disappointed politicians who had deserted their associates. There are always more of them before they are counted."

Wolves used to be very abundant in the Adirondacks some years ago, and are described as having been most destructive and wasteful brutes, causing the farmers and settlers much annoyance by destroying their sheep and pigs. They also made the hunters their enemies by killing the deer in numbers utterly beyond the power of their appetites to consume. In the winters, when the snow was deep, a small pack of them would sometimes kill hundreds of deer, taking a bite here and there, but leaving many of the bodies untouched. Comparatively few wolves are now to be found in this district, for "in the year 1871 the State put a bounty on their scalps," says Dr. Merriam, "and it is a most singular coincidence that a great and sudden decrease in their numbers took place about that time. What became of them is a great and, to me, inexplicable mystery, for it is known that but few were killed. There is but one direction in which they could have escaped, and that is through Clinton County into Lower Canada. In so doing they would have been obliged to pass around the north end of Lake Champlain and cross the River Richelieu, and before reaching any extensive forests would have had to travel long distances through tolerably well-settled portions of country. And there is no evidence that they made any such journey."

The wolf of Asia has a reddish fulvous colour, and is found in Arabia, Syria, certain parts of China, and throughout the whole of India, being most abundant in the Deccan and central provinces. The Indian species are described as being usually rather silent beasts, barking only occasionally just like pariah dogs, but seldom heard howling after their prey like the European animals. They, however, have a most fearful record, being classed next to the tiger in their destruction of human life and property, their victims being generally helpless girls and young children. We append herewith an extract from the Indian Government returns, which, at a glance, will show the human and cattle tribute levied by the various animals and by snakes in the Presidencies and Provinces collectively of Bengal, Assam, North-West Provinces and Oudh, Punjab, Central Provinces, British Burma, Ajmere and Mhairwara, Berar, Mysore and Coorg, Madras and Bombay :—

Number of persons and cattle killed in British India by wild beasts and venomous snakes during the years 1875-81, and the results of the measures adopted with a view to their extermination :—

	Persons killed.	Cattle killed.	Wild beasts destroyed.	Government rewards paid.
Elephants	334	186	23	£ 30 10 0
Tigers	5845	98,897	11,212	26,957 6 0
Leopards	1637	114,743	23,599	20,532 12 0
Bears	690	4293	8499	3097 1 0
Wolves	4452	78,493	36,490	11,507 3 0
Hyænas	221	14,710	11,768	2008 8 0
Other wild beasts	9358	29,865	51,370	2418 7 0
Snakes	121,813	20,840	328,514	8017 13 0
Total	144,350	362,027	1,471,475	74,569 0 0

The slaughter of predatory wild beasts now being encouraged by the Indian Government seems to produce but little effect, for the analysis of the returns shows a but very slight annual diminution in the number of lives lost, except noticeably in the case of the wolf. In 1875, 1061 people were killed by these brutes, but in 1881 only 256.

With regard to the returns of deaths by snake-bites it is

currently believed in India that they conceal a frightful amount of secret assassination, and that an enormous number of deaths, especially in the case of women and children, who are poisoned for family reasons, are set down as due to snake-bites, it being a convenient way of hiding the fact that they were murdered.

We are all acquainted with the historical fable that affirms the twin founders of Rome, Romulus and Remus, were suckled by wolves, a fiction arising from the simple circumstance of their nurse's name having been "Lupa," but that as a matter of fact they do so nurture children is gravely asserted in a pamphlet published in Plymouth in 1852, called "An Account of Wolves Nurturing Children in their Dens," by an Indian official, who it was stated was Colonel Sleeman, the exterminator of the Thugs, and the author of several works on India. At the time it created a sensation, and some correspondents to the newspapers mentioned several other instances than the ones therein narrated that had come within their own experience.

Most of these "wolf-children" seem to have been reared in the county of Oude; but the fact of the idiots who are said to have been nourished in this way ever having been taken away originally by wolves, or even been found in their dens, is not authenticated by the testimony of any reliable eye-witness, and the facts narrated simply rest on hearsay evidence. A great many stories of this character are of ancient date, but some errors die hard, and we are therefore not surprised to find them occasionally being repeated with modern versions. Thus prefacing an account of one of these young Indian Romuluses narrated to the writer of the article by an officer in the Company's service, the *Illustrated News* in 1858 has the following:—"An English traveller, who visited the menagerie of the King of Oude some years ago, relates his having seen in a cage adjoining that of some tigers a mammiferous animal of the *genus homo*, or something very nearly allied to it; the keeper pointed it out to him as a *junglee ke admee*, or wild man, a biped which for many years had been one of the chief ornaments of the menagerie, and whose habits were perfectly similar to its four-footed companions. Mute as the hyæna of the adjoining cage, he never failed, like his neighbour the tiger, to take a siesta regu-

larly after his repast on raw flesh. This denizen of the woods had been found in a wolf's lair in the depths of a forest on the frontiers of the kingdoms of Oude and Nepaul. The wolves which abound in these countries often carry off children from the villages, but the little captives do not always fall a prey to the tooth of their captor. Many instances are recorded of children being carried off by a she-wolf to her cubs, all the habits of which (poor humanity!) the little stranger acquired."

When it is remembered that the race of wolves is older than the flood, a fact proved by their remains being found in antediluvian deposits, and that they are met with in all countries both in the new world as well as the old, also that men of all ages and all nationalities, have waged war against these animals or been the victims of their ferocity, it can hardly be wondered at that history is full of fictions, superstitious and exaggerated descriptions of the brutes. The wolf's habit of secreting food beneath the earth, burying it for future use, a custom common to all the dog tribe, led to the belief that he ate earth to increase his weight, a statement often made in ancient books. Thus "Pierce Penillesse" says,⁹ "a wolfe, being about to devour a horse, doth balist his belly with earth, that he may hang the heavier upon him, and then forcibly flyes in his face, never leaving his hold till he had eaten him up."

In Hone's Year Book, an extract is given from another curious old work entitled "The Majick of Kirani, King of Persia, and of Harpocration," printed in the year 1685, which is quaintly described as a work sought for by the learned, but seen by the few:—"A wolf is a savage, crafty animal; if any one, therefore, drink his blood, he will go mad, and can never more be cured; its right eye carried privately about one performs great things, for all four-footed creatures, wild and tame, will fly from the bearer; and he will pass through the midst of his enemies, and no man will touch him. It also enables a man to conquer in every cause; it puts away all phantoms; it also expels all fits of agues; and a sheep will never tread upon the skin of a wolf. Also the eye

⁹ "Pierce Penillesse, his Supplication to the Diuell," written by Thomas Nash, gent., 1592.

of a wolf, and the first joint of his tail, carried in a golden vessel, will make the bearer powerful, and glorious, and honourable and rich and acceptable."

Buffon says, "There is nothing good in the wolf, he has a base look, a savage aspect, a terrible voice, an insupportable smell, a nature brutal and ferocious, and a body so foul and unclean, that no animal or reptile will touch his flesh. It is only a wolf that can eat a wolf."

This is somewhat of a libel, or at any rate a gross exaggeration of the facts, but it being the French naturalist's opinion, the following paragraph describing a wolf-hunter's feast, also emanating from a French source, is amusing:—

"A grand wolf-hunt was organized at Génis (Dordogne), by M. Piston d'Aubonni, master of the wolf-hounds, and a party of about twenty gentlemen on horseback and some four hundred persons on foot, most of them armed with guns. They first proceeded to a wood which a litter of young wolves was known to frequent. The hounds soon found one of them and killed it after a short run. The next day not a wolf could be found anywhere, but on the following morning several of them were discovered, and one of them was shot. At a dinner given by one of the sportsmen, he treated his friends to a dish of cutlets, which were found rather tough and insipid. He afterwards told them that what they had eaten, had been cut from the animal killed that day. Most of the party seemed to think that *the sport* had been carried rather too far."

Wolves under kind treatment can be tamed, but are dangerous pets even when reared carefully from cubs, for they instinctively attack dogs and poultry when they get any liberty, and are apt to turn dangerous to children, in fact, are unreliable. Mr. Bell speaks of a wolf at the Zoological Gardens which would always come to the front bars as soon as he, or any other person whom she knew, approached: "she had pups too, and so eager, in fact, was she that her little ones should share with her in the notice of her friends, that she killed all of them in succession, by rubbing them against the bars of her den, as she brought them forward to be fondled."

CHAPTER X.

BEARS (*URSIDÆ*).

THE bears, genus *Ursidæ*, belong in Natural History to the sub-order *Carnivora* and to the Plantigrade tribe, so called because they walk on the whole sole of the foot, in contradistinction to the Digitigrades, such as cats and dogs, who rest their weight only upon the toes or front part of the paws. The animals belonging to this subdivision are remarkable for their thick-set, clumsy appearance. They entirely lack the slender shape, supple beauty, and agile gait of the Digitigrades, but have a heavy shuffling mode of progression, due to the construction of their limbs, which unfits them for speed or for leaping. The bears have solid-looking, peculiar shaped bodies, with a conspicuous massiveness of the hinder parts, thick and long fur, short legs and such small tails, that they appear to be almost destitute of the appendage. The young bears when born are very small—most disproportionately so in some species—and in such an undeveloped condition, that they are not even covered with hair, nor do their eyes open for more than a month.

There are several species or varieties of the bear family, the principal ones being the Polar bear (*Ursus maritimus*), the Grizzly bear (*Ursus ferox*), the Black bear (*Ursus Americanus*), and the Brown bear (*Ursus arctos*).

With the exception of the Sloth or Honey bear, the dental formula of all varieties is the same. As they are thoroughly omnivorous animals, their digestive organs and teeth are so constructed that they are enabled to select either food, but the majority of

them prefer a vegetable diet to flesh of any description. They have forty-two teeth, six incisors and two canines in each jaw, twelve molars in the upper and fourteen in the lower. The incisors and canines closely resemble those of the purely carnivorous animals, while the molars are very large, especially the true ones, and are tuberculous, a formation adapted for the grinding of the vegetable food.

Their senses of hearing and sight are not particularly good, but the one of smell is wonderfully acute; by it they can discover insects deep under ground, honey in trees overhead, and are able to detect a man to windward at a considerable distance.

They have five toes on each foot. Their claws are not retractile, like those of the *Felidæ*, and are used by the animals to dig up the earth, seize their prey, and to attack or defend themselves; also to climb trees, for they occupy the pre-eminent position of being the largest animals that can do this. In climbing they do not display any of the agility noticeable in the members of the cat family, but ascend in a slow, lumbering fashion, and make their descent backwards. Their great weight, of course, prevents them from ascending to the tree-tops or climbing far out on the branches. When attacking or defending themselves, they erect the body and stand upon the hind-feet, vigorously using their fore-paws, with which they can inflict terrible wounds; in the case of a man, often removing the entire scalp from the head with a single blow.

They never willingly attack, but prefer to retreat before human beings. If, however, they are forced to fight, or if wounded, they never attempt to escape, but exhibit a tenacity of purpose and will continue the combat until they have killed their opponent or are themselves slain.

A remarkable peculiarity of the bears is the habit and power they have of hibernating during the winter months, which is especially noticeable in those animals that inhabit northern countries. Their custom is to retreat into some cavern or the natural hollow of a tree, or in the absence of either of these conveniences, they make a habitation for themselves by digging up the ground or burrow into the snow, and collecting branches of trees or moss,

build themselves a nest as it were, and there retire, remaining dormant till the ensuing spring warms into vitality their sluggish blood.

Before hibernating in this manner the animals get very fat, and it is upon the gradual consumption or absorption into their general system of this fat that they sustain life during the period of their retirement, their digestive organs undergoing an extraordinary change, while the stomach contracts into a small space, adapting itself to the altered conditions of the animal's existence. It is said by those who are acquainted with the habits of these animals, that if they do not succeed in getting fat prior to the setting in of winter they do not hibernate.

Bears of one species or another are to be found in nearly all parts of the world, excepting Australia. In Africa the family is represented by one solitary species, and that one is a very scarce animal, only inhabiting one section of the country, Mount Atlas and its vicinity, in the north-west corner.

The polar or white bear (*Ursus maritimus*) is found in the Arctic regions of both hemispheres. It is in its natural state the most carnivorous of all bears, the part of the world it inhabits not allowing it much choice of vegetable food, except at certain seasons when berries and roots are procurable and are readily eaten. When, however, it is captured and transported from its icy home to warmer latitudes it will subsist and thrive on a purely vegetable diet. In its native haunts the foods most easily obtainable are the carcasses of whales, birds and their eggs, any of the smaller animals it can capture, and fish; occasionally, even a walrus, it is said, becomes a victim to its skill and formidable strength. Its favourite food is the seal, and it persecutes these animals most indefatigably.

Its powers of swimming are very great, not only in the distance it can accomplish, but in its agility while in the water. It is so rapid in its movements that it can dive from a block of ice and catch a passing salmon or other fish. In the capture of the seal the bear displays considerable sagacity and patience. When it sees one of these animals basking on the ice, it cuts off retreat to the water by diving in some distance away, and swimming



A POLAR BEAR.

(*Ursus maritimus.*)

underneath in the right direction, coming up occasionally to the surface for air, ultimately lands close to the victim, which, unable to escape, falls an easy prey to its powerful adversary. Should it, however, elude the attack, the bear is said to become furious with rage, roars hideously, and tossing the snow in the air, shambles away to a more suitable locality for its purpose.

The feet of the polar bear display a beautiful adaptation of nature to the requirements of an animal living so much on ice, for they differ from those of land bears in having their large soles covered with thick, close-set hairs that prevent their sliding on the slippery surface. This provision makes the brute sure-footed, and also enables it to move over the ground much more rapidly than one could imagine possible, for although the pace is a clumsy kind of shuffle, yet it is very quick.

In the periodical breaking up of the ice, polar bears are liable to be carried on the floating blocks or icebergs away to more southerly latitudes, and in this way they are frequently transported out to sea and must perish, although they are such powerful swimmers that Captain Sabine relates having seen one swimming vigorously forty miles from the nearest shore, and with no ice in sight to afford it rest.

They often reach Iceland in this manner; it being reported that in one winter alone some years ago twelve of them arrived on the island, and that they committed such ravages on the flocks that the inhabitants had to resort to vigorous measures for their destruction.

Only the female polar bears hibernate. They generally scrape a hole into the snow, and burying themselves therein pass the winter months. During this period the cubs are generally born. They usually are two in number. Towards them the mother evinces great affection; if they are threatened with any danger she will defend them to the last, and if they should be killed, will exhibit her grief in a most affecting manner.

In appearance the polar bear is a handsomer and better proportioned animal than the other members of the family. Although moving with a lumbering, flat-footed gait, it does not appear to progress in the same shambling, awkward way peculiar to the land

animals. The head is somewhat flattened and elongated, and surmounted by small, erect ears. The mouth is not large, but the jaws are very powerful. The fur constitutes their beauty. It is very fine, long, and of a yellowish-white colour, which, harmonizing with the snow of its frigid habitation, enables the animal to lie concealed, and so not alarm its prey, a power very essential to its well-being in a climate where the atmosphere is so clear, that a coloured object moving about at very long distances would be easily discernible by contrast with the uniform background. The fur is so long and thick that it does not easily become wet and as a resultance freeze into a mass of ice whenever the animal quits the water for the land in the winter. It is also said to have a peculiarly repellent power of snow, and pieces of the animal's skin are in consequence used by the Esquimaux to remove the snow from their clothes before entering their huts.

A large specimen of a polar bear will measure over eight feet in length, and weigh anywhere between 1000 and 1600 lbs.

The late Frank Buckland says in one of his books that his friend, Captain Gray, wrote him the following letter:—"Bears attain a very large size. I shot one in 1870 eleven feet from nose to tail, and eleven feet across the hind-legs. I would not say that this was by any means the largest I have seen, but it was the most perfect I have ever come across. Males, before they attain this size, are generally destroyed in encounters among themselves. Bears are great swimmers, and it takes a smart pull in a whale-boat to come up with one if it is any distance away. They only use the fore-paws in swimming; the hind-legs are at rest, and stretched out behind them. They can dive, too, like a whale, down on one side of a piece of ice and up at the other, when pursued or hunting for food. I was very much amused on one voyage at a certain bear: he was upon a sheet of very thin ice, and when he came to a place which could not bear him, he lay down flat, stretching out his legs both behind and before, and pulled himself along by his fore-paws, thus covering as great a surface of ice as possible; and when he did fall through, which he did frequently, he dived for some place where he found firmer footing."

The polar bear does not readily attack man, but when it does, is a very formidable antagonist. Unlike some of its congeners, it does not hug, but bites. Dr. Brown states that it will not eat its prey until it is dead, but plays with it like a cat does with a mouse. "I have known several men," he continues, "who, while sitting watching or skinning seals, have had its rough hand laid on their shoulder. Their only chance has been then to feign being dead, and manage to shoot it while the bear was sitting at a distance watching its intended victim." The appalling accounts so frequently given by the early navigators of the animal's strength, ferocity, and daring are pure fiction, or, at any rate, gross exaggeration; although there are well-authenticated accounts of bears having attacked the occupants of small boats, and forced them to seek safety by taking to the water.

Captain Scoresby relates an accident to a sailor that resulted from imprudently attacking one of these animals on the ice: "A few years ago, when one of the Davis's Strait whalers was closely beset among the ice at the 'south-west,' or on the coast of Labrador, a bear that had been for some time seen near the ship, at length became so bold as to approach alongside, probably tempted by the offal of the provisions thrown overboard by the cook. At this time the people were all at dinner, no one being required to keep the deck in the then immovable condition of the ship. A hardy fellow, who first looked out, perceiving the bear so near, imprudently jumped upon the ice, armed only with a hand-spike, with a view, it is supposed, of gaining all the honour of the exploit of securing so fierce a visitor by himself. But the bear, regardless of such weapons, and sharpened probably by hunger, disarmed his antagonist, and, seizing him by the back with his powerful jaws, carried him off with such celerity that, on his dismayed comrades rising from their meal and looking abroad, he was so far beyond their reach as to defy their pursuit."

The bear now in the Zoological Gardens, whose portrait is used as an illustration, is a remarkably fine animal, and an ornament to the whole collection. The poor brute, however, with his restless movements, lying down in one place, then getting up and changing his position, or pacing backwards and forwards in front of the

bars, always produces the feeling, especially in the summer months, that he is a most unhappy quadruped, although he has a roomy den, comfortable place to sleep in, and a large tank or swimming-bath all to himself. Yet he appears to miss the frozen regions of his home, where the snow-storms, glittering ice-banks and arctic cold, which to him are welcome and delightful, would be death to many of his present neighbours. One has only to watch him taking a bath to see how thoroughly he is at home in the water. He rolls over on his back, with his feet uppermost, dives under, and plays about, and his occasional snorts on coming to the surface seem to be sounds expressive of thorough satisfaction. The duration of the life of these animals when in their wild state cannot accurately be ascertained, but in the care of the gardens they live on an average for about eighteen years.

This bear is a rather savage specimen, and it would be dangerous to venture too near. The beast, previously on exhibition was, unintentionally probably, the cause of an accident to a French lady who was visiting the gardens. She was feeding him with a bun, and in snapping at it, he bit off one of the poor woman's fingers. The top of the cage it will be observed is well-barred, a precaution shown to be necessary by an animal escaping some years ago over a high, spiked and inward-curved fence, over which it was considered an impossibility for any beast to climb.

In the early part of 1877 a crowd was gathered round the pit in the Jardin des Plantes, Paris, where the polar bears are kept, when a nurse-girl, with a five years' old child in her arms, allowed it to slip from her grasp into the den. The two bears then occupying the place sprang forward, but were startled by the cry of horror from the crowd. Nobody for the moment, however, attempted the poor little thing's rescue, but at last a gentleman courageously allowed the keepers to lower him into the pit, and he succeeded in bringing up the child in safety; but he was not a moment too soon, for the bears quickly recovered from their surprise or alarm, and made a furious charge at him and his burden. As it was, several bruises and a broken arm were the only injuries the child sustained.

The white bear was known to the ancient Greeks. Ptolemy

exhibited one to the people of Alexandria in the feast which he gave on his accession to the throne (B.C. 323), and his son seems to have imported a considerable number of them, which he caused to be killed at the celebrated entertainments given in honour of his father. The Egyptian author of the third century, Athenæus in his "Deipnosophists," gives an account of these marvellous entertainments, and of the procession. It was at this *fête* the triumph of Bacchus was represented, and a very great number of animals were exhibited, among them being elephants, stags, antelopes, 130 Æthiopian sheep, 300 Arabian sheep, 20 Eubœan sheep, some white hornless cattle, 26 Indian cows, 8 Æthiopian oxen, 1 *immense white bear*, 14 leopards, 16 panthers, 4 lynxes, 3 arceti, 1 camelopard, and 1 rhinoceros from Æthiopia, a pack of 2400 dogs, 24 enormous lions, and a vast number of beasts, herds of animals and horses.

How he procured the white bears seems to have puzzled naturalists, for until lately it was not known that these animals were to be found anywhere but in the frozen seas. Rueppel, however, found them near Mount Lebanon, and this explained how Ptolemy procured them, for it was easy work to bring them from that region.¹

On the authority of Dr. Henry Rink,² the Danish traveller, killing a bear is considered one of the most distinguishing feats of sportsmanship in Greenland; an idea that has descended from ancient times, when the spear was the only weapon the inhabitants possessed; now, however, the animal is surrounded and held at bay by dogs until shot, an enterprise fraught with more danger to the hounds than the men.

The capturing of animals, however, for exhibition purposes is an employment fraught with considerable danger, and has been the source of many thrilling adventures. It is generally undertaken by the intrepid whalers in the northern seas, who bring them home on their return journey, hooped up in a cask or case, in which it must require some ingenuity to incarcerate them without injuring the animals or being injured by them.

¹ M. Marcel de Serras in *Edinburgh New Philosophical Journal*, 1834.

² "Danish Greenland: Its People and its Products," 1877.

King Svend, of Denmark, in the year 1060, had a bear presented to him by an Icelander, named Audun, who procured it by going to Greenland and giving all his property in exchange for the animal. The king gave him in reward an honourable maintenance for life, and he also discharged his chamberlain for having tried to extort money from Audun before permitting him to be admitted to the presence of the king.

The bear that King Henry III. possessed, and kept in the Tower, referred to on page 6, was a polar bear, and as there is no record of one having been brought to these shores previously, it is a fair assumption that this animal was the first of his species ever seen in England. He was certainly highly prized by the monarch, and considered a curiosity by the people, who were taxed for his support; the sheriffs of London being ordered to see that fourpence a day was forthcoming for that purpose, and also that he was supplied with a muzzle and a strong rope long enough to permit him to swim and fish in the Thames—an enjoyment that probably would be of little service to his successors of the present day, even if they could be so indulged, either for bodily refreshing purposes or for food supply.

Queen Elizabeth owned two white bears, and the old historian³ states that in April, 1559, “The queen, in great pomp, rode from the Spittal through the city, attended by 1000 men in coats of mail, with corselets, morrice pikes, and ten large pieces of ordnance, with drums, flutes, and morrice dancers, and *two white bears* in a cart.” The reason of this particular display is not given.

And here let a lover of animals enter a plea against unnecessary cruelty. Polar bears are very active beasts, and the officers of the Zoological Society, recognizing this, have wisely and humanely portioned off an extra large cage for their specimen; but in some perambulating menageries that still exist in various parts of the world, they are kept cooped up in so small a space that exercise becomes impossible, and constitutes gross cruelty. Such a case was noticeable in a collection of wild animals, bearing a well-known name, that was lately exhibiting in the north of London. Here this

³ See Maitland's “History of London.”

large bear was railed off to a compartment in the end of a van, which was so small that the wonder was how the animal could ever turn in it, if he ever did. The only way he could get any exercise was by keeping up an incessant, painfully monotonous movement of the head, which he swung backwards and forwards from one side to the other. To watch the creature at this performance for any length of time was maddening, and was terribly suggestive that the poor brute was already suffering from brain disease himself. His coat was so dark, or dirty, that few people recognized the animal as a polar bear. The keeper said he was daily drenched with buckets of water, but for all that he bore a very unhappy appearance, and was, without doubt, the most dejected, spiritless quadruped in the collection; and the conditions under which he is kept might surely come within the province of the officers of the Society for the Prevention of Cruelty to Animals to investigate. All caged animals must unavoidably suffer a little from the nature of their confinement; but to imprison in such close quarters so large a beast as a polar bear, whose nature requires such very different conditions for his well-being, is inexcusable. He might be given a van to himself for exercise, which might also be provided with a movable bottom, that would allow him occasionally to roll about in a tank of water that should accompany it. He would then become an attractive addition to any menagerie, as at present he is the reverse, and a badly-stuffed skin would be a pleasanter sight.

The GRIZZLY BEAR (*Ursus ferox*) comes next in size to the polar bear, but in ferocity and strength is said to actually surpass him. In the enormous size of its soles, the length of its claws, the breadth and depth of the head, it most certainly does. This animal inhabits the Rocky Mountains and the districts to the east of them, often being found as far south as Mexico. It is undoubtedly the most formidable and savage beast on the American continent; exercising, apparently, an absolute terrorism over every other living creature it comes in contact with.

Grizzly bears feed only occasionally on fruits and roots when flesh is absolutely unprocurable, for they prefer a diet completely carnivorous, which they endeavour to obtain by attacking the buffalo of the prairies whenever they can get the chance. They

are possessed of such muscular strength that, after overpowering one of these large animals, they can drag away the huge carcase, which sometimes weighs over 1000 pounds, and digging a pit for its reception, deposit it therein, and to this hoarded supply they repair whenever hungry, until it is completely consumed.

The skin of this formidable bruin is highly prized, for the fur is thick, long, and fine. Its colour is not uniform, but varies from a light-grey to a blackish-brown, the latter shade being by far the most common. It is always more or less grizzled by having the hair tipped with grey or by an intermixture of individual hairs greyish-coloured. Its legs are covered with dark and coarse fur, while the hair on the muzzle is very short and so pale in colour that it confers on the animal an appearance of baldness. The feet are very large, the fore-paws frequently measuring nine inches in breadth and the hind ones being still larger. They are ornamented with tremendous claws, those on the fore-feet being the largest, measuring over five inches in length, and are thick up to the very point. The size of these talons, combined with the great weight of the body, unfits the grizzly for climbing trees, but they enable it to dig up the ground easily and to kill larger animals than the other bears would venture to attack. Its gait is a curious, shambling one. When going at any speed the fore-limbs seem to canter and the hind ones to slide along in a most peculiar manner, while the head is kept swaying from side to side all the time. The grizzly has a massive skull, much larger in proportion than in other members of the *Ursidæ*; small eyes, pointed muzzle, powerful jaws, and a set of most formidable-looking teeth. These bears do not hug their victims, but standing up on their hind-legs, strike with their terrific paws and inflict frightful wounds.

In size a full-grown male will measure from eight and a half to nine feet in length, his girth be about the same, and he will weigh about 800 pounds. Sometimes an individual animal will attain much larger proportions; one that was exhibited in the United States was said to have turned the scale at 2000 pounds.

A grizzly will in ordinary cases avoid an encounter with man, unless startled suddenly, cornered, or hungry, when it seems to lose all fear and charges vigorously. It has a deep gruff growl, which is a

bass-drum-like "huff, huff." Its prowess as an antagonist has given rise to many superstitions among the Indians, and they have a wholesome terror of the animal. The trappers and hunters in its domain tell over the camp fire and their pipes, some extraordinary narrations of "b'ar-fights." Probably of no other wild animal have such exaggerated and highly-coloured stories been circulated as of the grizzly, till a "bear story" has passed into a current phrase as a term to denote any narration somewhat too "big" even for the people that delight in exaggeration.

A remarkable feature about grizzly bears, which perhaps accounts for many of the red man's stories concerning them, is their extraordinary vitality. Unless shot directly through the brain, they are not killed, which fearfully increases the risk incurred by a man venturing to attack them even if he is well-armed. For with ten bullets in his body, five of them through the lungs, an animal was reported to have swum a considerable distance, and survived more than twenty minutes; and another actually ran a quarter of a mile after a bullet had torn its way through his heart. An encounter with a bear is therefore generally a hazardous undertaking, and one fraught with peril, safety resting entirely upon the accuracy of the aim and the reliability of the weapon. Daniel Boone's celebrated prayer, when he found himself face to face with a grizzly, and armed only with a scalping-knife, "O Lord, here's a-going to be one of the biggest b'ar-fights you ever did see; and if you can't help me, for God's sake don't help the b'ar!" showed that famous pioneer's opinion of his equal chances with his opponent.

Parker Gillmore⁴ had a narrow escape from a "grizzly" during his wanderings in the West. He came suddenly upon the animal and was at once attacked, the bear advancing with his nose curled up, showing his formidable teeth, which gave him anything but a pleasant expression. "Ten—more probably eight—yards intervened between us," writes this hunter; "my gun was pointed for his heart; bang went one barrel, but the foe did not fall; rapid as lightning the left was put in, and the huge creature fell. Stepping a few paces back, I hastened to load; the right bullet

⁴ "An Hunter's Adventures in the Great West," 1871.

went down smoothly, but the left was obstreperous. The temporarily suspended animation in my antagonist was rapidly becoming restored; the more I hurried, the worse I succeeded, and while making renewed efforts, the bear gained his feet. In an instant he comprehended the situation, and sprang at me. The right barrel was fired without my gun being brought to my shoulder; for an instant the assailant staggered, but only for an instant, and I received a blow that knocked me almost out of time, sending my gun from my hands with the rapidity of electricity. However, I avoided for a second the effort that was made to lay hold of me; the next instant my right hand drew my revolver; one—two shots were fired in rapid succession into the creature's mouth and chest, which was almost within touching distance, when he heeled over, quivered for a moment, gave several convulsive struggles, and what had possessed animation became a corpse."

As a rule, the male grizzly bear does not hibernate, but only the female when with young.

These animals are not easily tamed unless they are caught when mere cubs, and even then their strength and the roughness they display make them dangerous. Occasionally in the United States and Canada at the present day, men may be seen exhibiting them in the streets, leading them about with a chain, and secured by a strong muzzle; but the last one seen by the writer in Canada, attacked and killed his owner a few days afterwards.

The Zoological Society have possessed several very fine specimens of these animals, but, in common with all the other bears in confinement, they are particularly subject to cataract, and are thereby rendered blind; sometimes, however, after an operation conducted by the aid of chloroform, the disease has been partially removed.

The BLACK BEAR (*Ursus Americanus*) is also a dweller on the American continent, extending from the Atlantic to the Pacific, and from California to the Arctic Ocean, and is occasionally to be found as far south as Virginia. In the wooded districts, before civilization had made such gigantic strides over the country, they were to be found in large numbers, and were eagerly hunted for the sake of their fur. In one year alone, at the beginning of the

present century, over 25,000 skins of this animal were exported, their value being then anywhere from \$100 to \$200 each; now they are only procurable in much smaller numbers, and their value has diminished a quarter of the above prices. The fur is composed of soft smooth hairs, black and glossy, presenting a very fine appearance.

In size they are much smaller than the previously described animals, as they seldom exceed five feet in total length. They live chiefly on roots and berries, being especially fond of cherries, and only when these are not procurable resort to fresh eggs, insects (particularly ants), birds, and small quadrupeds; and although their diet is by preference a vegetable one, hunger will compel them to become carnivorous, and occasionally to steal a pig, or even, exceptionally, to kill a cow. They are said to be very destructive animals in the maize and melon fields, and they search with great assiduity for honey, in which they delight. Their keen powers of scent enable them to locate the trees where the bees have made a hive. Clambering up, for this species are great climbers, they soon find its correct position. They will then proceed to gnaw the trunk until an aperture is made large enough to admit the paws, which are inserted, and the honeycomb and bees are scooped with avidity into the capacious maw.

Purchas,⁵ in his collection of travels, gives Champlain's account of his explorations in "Nova Francia," and his penetrating to the "Great Lake," on whose shores he found "a store of bears" and many tribes of Indians. "But I dare not," he adds, "give for current that which Monsieur de Monto hath recited unto me, that these nations have tame bears which they teach to carry them upon trees for want of ladders."

Bears are excellent swimmers, and take readily to the water for the purpose of attaining the opposite side of a river, or even a broad lake.

"As a rule these bears den up in winter," says Dr. C. H. Merriam,⁶ in his able and accurate description of this animal, from

⁵ "Purchas, his Pilgrimes."

⁶ "The Vertebrates of the Adirondaek Region," in the "Transactions of the Linnean Society of New York."

personal study of its habits, "but their hibernation is not profound, and it is prudent not to take too many liberties with them when in this condition. The exact period when the event takes place is determined by the food supply and the severity of the season. If the beech-nut crop has been a failure, and deep snows come early, they generally den near the commencement of winter. If, on the contrary, there has been a good yield of mast, and the winter a mild one (and it is a fact that with us good beech-nut years are commonly followed by open winters), the males prowl about nearly, or quite, all winter, and the females only den a short time before the period of bringing forth their young. Indeed, it can be set down as a rule that so long as the male bear can find enough to eat he will not den, be the weather ever so severe; for it is evident that he does not den to escape either the low temperature or the deep snows, but to thus bridge over a period when, if active, he would be unable to procure sufficient food. And the female, under similar circumstances, remains out till the maternal impulse prompts her to seek a shelter for her prospective offspring; and in this wilderness they have been found travelling as late as the middle of January.

"The den is not commonly much of an affair. It is generally a partial excavation under the upturned roots of a fallen tree or under a pile of logs, with perhaps a few bushes and logs scraped together by way of a bed, while to the first snowstorm is left the task of completing the roof and filling the remaining chinks. Not unfrequently the den is a great hole or cave dug into the side of a knoll, and generally under some standing tree whose roots serve as side-posts to the entrance. The amount of labour bestowed upon it depends upon the length of time the bear expects to hibernate. If the prospects point towards a severe winter, and there is a scarcity of food, they den early, and take pains to make a comfortable nest; but when they stay out late, and then den in a hurry, they do not take the trouble to fix up their nests at all. At such times they only crawl into any convenient shelter, without gathering so much as a bunch of moss to soften their bed. Snow completes the covering, and as their breath condenses and freezes into it, an icy wall begins to form, and increases in thick-

ness and extent day by day, till they are soon unable to escape even if they would, and are obliged to wait in this icy cell till liberated by the sun in April or May."

These bears commonly have two or three cubs at a birth, and occasionally four; it is doubtful if they have young oftener than every other year. The cubs are, we learn, of such diminutive size that they are not six inches in length, weigh less than a pound, and it is necessary for their preservation that the mother should cover them nearly the whole time for the first two months.

Mr. Frank J. Thompson, Superintendent of the Zoological Garden at Cincinnati, published in "Forest and Stream," in 1879, an account of the early development of a litter of black bears in confinement, in which he states:—

"About the middle of January last, the female black bear in the society's collection refused to come out of her den into the open pit, and would not allow the male to approach her. She was immediately closed in and furnished with an abundance of hay, with which she busied herself in making a nice warm bed. At 4 p.m. on January the 26th, the young ones were born, and I did not see them until the third day after, when I was surprised by the keeper informing me that she would allow him to enter her den. On going with him, he unlocked the door, fearlessly walked in, and quickly began feeding her with bits of bread, which he sliced from a loaf held in his hand. By holding the bread just over her head he finally tempted her to sit up on her haunches, when I obtained a clear view of the two young ones, lying asleep just back of her front paws. From where I stood, about six feet distant, they did not seem to exceed six inches in length, were a dirty-whitish colour, and appeared entirely bare of hair. In about ten days their coats began to show and were of a greyish tint, which gradually passed through the various shades until they became a brownish-black. It was just forty days before the first one's eyes opened, and two days after the second followed suit. From that time forward I watched very closely to ascertain the exact time that would elapse before the young ones would leave the nest, and on the seventy-first day after birth, when the mother, as was her habit, came to the grating to be fed, one of the

youngsters left the nest and followed her. So soon as she found it out she immediately drew it gently back, and on its second attempt she cuffed it soundly, which put a stop to its wandering propensity. After a few days she allowed them to wander about at will, provided no one was immediately in front of the den; but so soon as a visitor put in an appearance they were driven back into the nest, and not allowed to emerge until the strangers were out of sight. . . . They soon became expert climbers, taking advantage of the slightest inequalities of the stone walls and the cracks between the heavy oaken planks to reach the ceiling of the den on three sides, whilst the grating in front served capitally for their skylarking. Occasionally they would have a regular sparring bout, standing erect, feinting, countering, and making use of many of the tricks of old votaries of the P. R. These frolics would generally end in a clinch, fall, and a regular rough-and-tumble fight, when the mother would abruptly put a stop to it by suddenly knocking both of the contestants completely out of time. In fact, as they grew apace, the parental visitations increased so rapidly I began to fear she would put an end to my bear investigations by chastising the lives out of them; but of late she has slackened in her attentions."

Dr. Merriam says that, "In traversing unfrequented portions of the wilderness one occasionally meets with a tree whose bark has been scratched and torn at some little height from the ground, in a manner that cannot fail to excite his attention and surprise. This is the work of the bear, but the object of it is not known. Hunters claim that whenever a bear passes one of these trees he stops, stands on his hind-legs, and gnaws and scratches it before resuming his journey. The only account of the strange proceeding that I have seen is given by Audubon and Bachman,⁷ who state, 'At one season the bear may be seen examining the lower part of the trunk of a tree for several minutes with much attention, at the same time looking around and sniffing the air. It then rises on its hind-legs, approaches the trunk, embraces it with the fore-legs, and scratches the bark with its teeth and claws for several minutes in continuance. Its jaws clash against each other

⁷ "Quadrupeds of North America," 1854.

until a mass of foam runs down on both sides of the mouth. After that it continues its rambles.' ”

The black bear is also the subject of certain superstitions among some of the tribes of North American Indians, who are said never to slay an animal of this species except through necessity, and even then express in many curious ways their sorrow for the act.

There is a variety of this bear to be found in California and west of the Rocky Mountains, which differs in colour considerably, and is called, in consequence, the cinnamon bear (*Ursus occidentalis*).

The two specimens of black bears in the possession of the Zoological Society are kept in the bear's pit. They have been so much over-fed with buns by the children and visitors to the Gardens, and have become so fat and lazy, that it is with difficulty they can now be enticed to climb the pole provided for the purpose of exhibiting their agility this way.

The following incident, which, although amusing, might have had a tragical termination, occurred at this pit. The scene was witnessed by a visitor to the Zoological Gardens, who says, in a letter to the *Times* of July, 1867, which he wrote thinking the account might be interesting as an illustration of the simplicity of the nineteenth century: “A youth, about twenty years of age, was amusing himself with the bears, and by some mischance let his hat fall into the bear-pit; not liking to lose his ‘covering,’ he gently let himself down into the pit, and on his descent one of the bears hugged him, threw him on his back, and tried to drag him into his den. A cry was immediately raised by the bystanders, and the keeper, who was fortunately near at the time, shouted to the animal, and he released his victim; the keeper then handed a stick to the youth to keep the bears in abeyance while he fetched the key. This was speedily done, and the young man was liberated uninjured in body, his coat only having suffered in the encounter, being slightly torn by the claws of the animal. When asked by the keeper how he came to do such a thing, he quietly replied, ‘He did not know their nature.’ I saw the young man in the Gardens a considerable time afterwards, without his hat (the bears having made a

meal of that), enjoying himself, apparently as if nothing had happened.”

How easily that youth's ignorance might have made him a victim of a tragedy can be gleaned from the narration of the following sad accident which happened in Berne, in March, 1861, and caused considerable sensation at the time. The victim was a young English officer who had served with distinction in the Crimea. The *Times* states that “On the 7th inst. Captain Lorts took a walk after dinner in Berne with the Secretary of the Embassy and visited the bear-pits. The pit was separated into two compartments: in one was a he-bear, and in the other the female and several cubs. While bending over the railing, Captain Lorts overbalanced himself and fell over into that part of the pit in which the old bear was confined, breaking his arm in the fall. One hour elapsed before any assistance was obtained and brought to the spot. Efforts were made to hoist him up with ropes; up to this, the bear, although a savage animal, did not attempt to injure him, but while he was half-way up the bear attacked him and tore him down, and, after a terrible struggle of nearly an hour's duration, the captain was killed. One of the party of Englishmen would have jumped into the pit to his friend's aid had he not been forcibly restrained by the bystanders. A policeman, against whom the greatest indignation was expressed, refused to render any assistance or even give up his gun to others for that purpose.”

CHAPTER XI.

BEARS (*Continued*).

THE BROWN BEAR (*Ursus arctos*) is an animal very widely diffused, one or other of its varieties being found in the north and south of Europe, Siberia, Kamtchatka, and even in Japan.

Its fur is generally brown-coloured, but is subject to variations; some animals being quite black, and others having a yellowish coat.

It is a solitary animal, hibernating during the winter, and living by preference on a vegetable diet. It exhibits but little hostility to man, but when forced to fight, through being unable to retreat, or when it has to defend its offspring, it will do so with great courage, despite its timid disposition, and rising on its hind-legs endeavour to grasp its antagonist in an embrace.

The brown bears, as a rule, are comparatively harmless animals, and instead of the savage look of the grizzly bears, they have rather a mild and good-humoured aspect, which in a great measure is due to their eyes being larger and more pleasing in expression.

The fat of the brown bear constitutes the "bear's grease" of the barber's shop, which is supposed to possess some attractive qualities for those people who delight in anointing their heads after the manner of the ancients, and against whose destructive powers the chairs and couches had to be disfigured with those abominations called "anti-maccasars." It is hardly possible that this special fat can have any virtues not common to some other fatty substances, but the use of it for this purpose dates very far back

for it was recommended by Dioscorides, the Greek physician of the first century; also by Galen, the medical author of the second century, and even before these writers, Pliny mentions it in his "Natural History," "as being very useful in preventing the hair from falling off."

An amusing article on the "advertising system," in the *Edinburgh Review* for 1843, states that the first English vendor of bear's grease cautioned his customers "to wash their hands in warm water after using it, to prevent them from assuming the hirsute appearance of a paw." Perhaps this was the enthusiastic tradesman mentioned by Mr. Samuel Weller in "Master Humphrey's Clock:"—

"His whole delight was in trade. He spent all his money in bears, and run in debt for 'em besides; and there they wos a-growling away down in the front cellar all day long, and ineffectually gnashing their teeth, vile the grease of their relations and friends wos being retailed in gallipots in the shop above, and the first-floor winder was ornamented with their heads; not to speak o' the dreadful aggrawation it must have been to 'em to see a man always a-walkin' up and down the pavement outside, with the portrait of a bear in his last agonies, and underneath, in large letters, 'Another fine animal was slaughtered yesterday at Jenkinson's!' Hows'ever, there they wos, and there Jenkinson wos, till he wos took very ill with some inward disorder, lost the use of his legs, and wos confined to his bed, where he laid a very long time; but sich wos his pride in his profession even then, that wenever he wos worse than usual the doctor used to go downstairs and say, 'Jenkinson's very low this mornin'; we must give the bears a stir;' and as sure as ever they stirred 'em up a bit, and made 'em roar, Jenkinson opens his eyes, if he wos ever so bad, and calls out 'There's the bears!' and rewives again."

This species was at one time common in the British Isles, and large numbers were exported to Rome for exhibition and combat in the amphitheatres. It was one of the Welsh beasts of chase; and Pennant is the authority for the statement that it infested the mountainous parts of Scotland up to the year 1057.

Among the Kamtchatkans the brown bear is almost a necessity, for they put its skin to divers uses and rely upon its capture

for a great portion of their food; the flesh they describe as being delicious eating. "The skin of the bear," says a traveller, "forms their beds and coverlets, bonnets for their heads, gloves for their hands, and collars for their dogs. The flesh and fat are their dainties. Of the intestines they make masks or covers for their faces to protect them from the glare of the sun in the spring, and use them as a substitute for glass by extending them over their windows. Even the shoulder-blades are said to be put in requisition for cutting grass."

The humming noise made by the telegraph-wires, seems to puzzle the brown bears of Scandinavia, for they mistake it for the buzzing of bees, and by report do considerable damage through persistently scratching away the earth around the telegraph-poles under the deluded idea that they will discover honey.

These bears when kept in confinement have to be approached with caution. In the Rosherville Gardens some few months ago, one lacerated the arm of a man who was feeding him, in a frightful manner. The bear caught him with its paw, and then seized his arm in its jaw. On assistance arriving, a large rake was procured and the animal beaten over the head with it, which only made matters worse, for it became infuriated to such an extent that it gripped tighter and absolutely scrunched the arm till the muscles were destroyed and the bone splintered. The man fainted, and was taken to the hospital. His arm was useless afterwards. In a suit he brought against the owners of the bear, the jury awarded him 500*l.* damages. His accident was due partially to his own ignorance and the idea which seems to prevail among a large section of the public that animals when confined lose all their ferocious attributes and cease to be dangerous, whereas it is frequently the other way; the incarceration makes them savage and willing to attack.

Another exhibition of ignorance or daring took place at these gardens. A sailor's hat fell into the pit where a brown bear was kept. Jack immediately lowered himself after it. The animal at once commenced in its lumbering, heavy fashion to make towards him, but the cat-like agility of the sailor saved him, if not from death, from an ugly scrape, for seizing hold of a water-pipe

that ran down the side of the den, he swung himself clear and clambered out before the animal had time to do him an injury.

The following incident is narrated by the *British Medical Journal* of May, 1873: "The generosity of an Irish labourer was met in a most grasping manner a few days ago by one of the brown bears in the Zoological Gardens. The foolish fellow passed his arms through the bars of the cage and offered the animal a biscuit. Bruin being not unmindful of the fact that he belonged to the *carnivora*, preferred the upper extremity of the man to the biscuit which he presented, and accordingly proceeded to avail himself of the rare opportunity. It was with the greatest difficulty, and after the severest punishment of the bear with an iron rod, that the man could be extricated from his dangerous position. The poor fellow was at once taken to the Middlesex Hospital, when his arm was found to be terribly mutilated. He is, however, we are informed by Mr. Lewis, senior house-surgeon, doing well, and is not likely to lose his arm."

The animal that in former times was regularly baited as a popular amusement, which was enjoyed not only by the lowest riff-raff of the community, but by all classes, even to royalty itself, was the brown bear. This sport, although continued until a very late date, was of ancient origin, for in the twelfth century bear-baiting was one of the favourite holiday pastimes of Londoners; and although Edward III. seems to have disapproved of it, for he included it in a proclamation among "dishonest, trivial, useless games," the sport continued to increase in popularity with all classes. It was thriving in the time of Henry VII., for Crowley, the printer, in his epigram written when that monarch was on the throne, mentions the bear-garden on the Bankside in Southwark, close to the Thames, as drawing full assemblies; that the exhibitions were on Sundays, and the price of admission was one halfpenny.

Gilpin in his "Life of Cranmer" tells us: "Bear-baiting, brutal as it was, was by no means an amusement of the lower people only. An odd incident furnishes us with a proof of this. An important controversial manuscript was sent by Archbishop Cranmer across the Thames. The person entrusted bade his

waterman keep off from the tumult occasioned by baiting a bear on the river *before the king*; he rowed, however, too near, and the persecuted animal overset the boat by trying to board it. The manuscript, lost in the confusion, floated away, and fell into the hands of a priest, who, by being told that it belonged to a privy counsellor, was terrified from making use of it, which might have been fatal to the head of the reformed party."

In the romantic age of Queen Elizabeth it even formed one of the favourite amusements, and one that seems to have afforded special delight to the queen. She is reported in the chronicles of her period to be frequently "commanding the *beares*, the bulls, and the ape to be bayted in the tilt-yard" or in other places, for she used to entertain foreign visitors and ambassadors with the sport, and it is stated on one occasion that "the Queen's Grace herself stood on the gallery looking on the pastime till six at night."

When she visited Kenilworth Castle in 1575, bear-baiting was among the princely pleasures provided by the Earl of Leicester for her entertainment; and in an account of this visit, written by an author of the period, one Robert Laneham, a droll letter to Mr. Martin, a mercer of London, is printed, which gives an amusing history of the performance.

In the present day when the popularity of the theatres is perhaps greater than at any period of English history, and acting has become a profession, it sounds strangely to read that three hundred years ago the queen, who was the royal patron of Shakespeare, and inclined to favour all players in every way she could, yet waxed indignant when the attractions of the bear-garden were eclipsed by those of the theatre. In 1591 she caused an order to be "issued from the privy council forbidding plays to be acted on Thursdays, because bear-baiting and such pastimes had usually been practised on that day. This order was followed by an injunction from the Lord Mayor to the same effect, in which his lordship complained 'That in divers places the players do use to recite their plays to the great hurt and destruction of the game of bear-baiting and such-like pastimes, which are maintained for her Majesty's pleasure.'"

Sunday had been the great day for bear-baiting, but in 1583 an

accident befell the spectators; the scaffolding gave way, and miserably maimed many people. There are several accounts of this occurrence: one in Vaughan's "Golden Grove," 1608; and the other in that quaint work, "The Anatomie of Abuses,—containing a description of such notable vices and enormities—made dialogue-wise by Philip Stubs, gent; and imprinted in London, 1595." "Upon the 13 day of Januarie last, being the Sabaoth day, anno 1583, the people, men, women, and children, both yonge and old, an infinite number flocking to these infamous places, where these wicked exercyses are usuallie practised (for they have their courts, gardens, and yards for the same purpose), when they were all come together and mounted aloft upon the scaffolds and galleries, and in midst of all their jolytie and pastime, all the whole building (not one stick standing) fell down with a most wonderfull and fearefull confusion; so that either two or three hundred men, women, and children (by estimation), whereof seven were killed dead, some were wounded, some lamed, and other some brused and crushed almost to death. . . . This wofull spectacle and heaive judgement pitifull to heare of, but most ruefull to behold, did the Lord send down from heaven, to show unto the whole world how greuously He is offended with those that spend the Sabaoth in such wicked exercyses; in the meane tyme, leaving His temple desolat and emptie. God graunt all men may take warning hereby to shun the same for feare of like or worsor judgement to come!"

This accident was looked upon by many other people as a judgment for the continued breach of the Sabbath, and ¹"afforded the Puritans an opportunity for declaring the popular sport to be under the ban of heaven—a mode of argument anticipated years before by Sir Thomas More in his 'Dialogue.' 'At Beverley late, much of the people being at a bear-baiting, the church fell suddenly down at evening time, and overwhelmed some that were in it. A good fellow that after heard the tale told, 'So,' quoth he, 'now you may see what it is to be at evening prayers when you should be at the bear-baiting!'"

Edward Alleyn, the actor, who performed Shakespeare's principal

¹ Chambers' "Book of Days."

characters, owned the bear-garden at Bankside (where this accident happened), and the sport was so popular during his time that he accumulated a considerable portion of his fortune there. He subsequently founded Dulwich College with a part of the money, so it was put to a good use, and the present generation are benefitting by it.

Shakespeare, who knew Alleyn well, no doubt frequently visited the bear-garden; at any rate he makes use of the sports practised there as similes or illustrations in many of his plays; for instance in the second part of "King Henry VI.," act v., there is the following dialogue:—

YORK: "Call hither to the stake my two brave beares,
That with the very shaking of their chaines,
They may astonish these fell lurking cures;
Bid Salisbury and Warwicke come to me.
[Enter WARWICKE and SALISBURY.]

CLIFFORD: "Are these thy beares? we'll baite thy beares to death;
And manacle the bear-ward in their chaines,
If thou dar'st bring them to the bayting-place.

RICHARD: "Oft have I seen a hot o'erweening curre,
Run, bucke, and bite, because he was withheld;
Who being suffer'd with the beare's fell paw,
Hath clapt his taile between his legges and cry'd."

And again in the third part of "King Henry VI.," act ii. :—

"Or as a beare, encompass'd round with dogges;
Who having pincht a few, and made them cry,
The rest stand all aloofe, and barke at him."

In 1598 Paul Hentzner, tutor to a young German nobleman, visited England, and in an account of his journey which he published when describing London remarks: "There is still another Place, built in the form of a theatre, which serves for the baiting of Bulls and Bears. They are fastened behind and then worried by great English Bull-dogs, but not without great Risque to the Dogs, from the Horns of the one, and the Teeth of the other; and it sometimes happens they are killed upon the spot: fresh ones are immediately supplied in the Place of those that are wounded or

tired. To this Entertainment there often follows that of whipping a blinded Bear, which is performed by five or six Men, standing circularly with Whips, which they exercise upon him without any mercy, as he cannot escape from them because of his chain; he defends himself with all his Force and Skill, throwing down all who come within his reach, and are not active enough to get out of it, and tearing the Whips out of their Hands and breaking them. At these Spectacles and everywhere else, the English are constantly smoking Tobacco. The general drink is Beer, strong, and what soon fuddles. They are good Sailors and better Pirates—above 300 are said to be hanged annually at London. If they see a Foreigner very well made or particularly handsome, they will say, ‘It is a Pity he is not an Englishman.’”

In 1623 a white bear was baited for the amusement of the Spanish ambassador.² Chamberlain writes: “The Spanish ambassador is much delighted in bear-baiting. He was the last week at Paris Garden, where they showed him all the pleasure they could both with bull, bear, and horse, besides jackanapes, and then turned a white bear into the Thames, where the dogs baited him swimming, which was the best sport of all.”

This episode was evidently not known to the individual who inserted the following notice in the *Daily Advertiser*, January 29th, 1747: “At the particular request of several persons of distinction, the celebrated white sea-bear, which has been seen and admired by the curious in most parts of England, will be baited at Mr. Broughton’s amphitheatre, this day being the 29th instant. This creature is now supposed to be arrived at his utmost strength and perfection, and though there never yet was any one of this kind baited in Europe, it is not doubted from his uncommon size, excessive weight, and more than savage fierceness, but he will afford extraordinary entertainment, and behave himself in such a manner as to fill those who are lovers of diversion of this kind with delight and astonishment. Any person who brings a dog will be admitted gratis.”

James I. did not discourage the sport, but he prohibited it on the Sunday. Still it continued to flourish, except during the period

² Nichol’s “Progresses.”

of the Commonwealth, when Cromwell set his face against it and had the bears killed.

In Dr. Zachery Grey's edition of "Hudibras," 1744, there is a foot-note in part i., canto i., which gives an extract from a paper called "A Perfect Diurnal of some Passages of Parliament, and from other parts of the Kingdom, from Monday, July 24th to Monday 31st of July, 1643." It refers to an incident of the period illustrating Cromwell's antipathy to the sport of "*Cynarcotomachy*, which is, as Dr. Johnson remarks, a word apparently coined by Butler to signify a fight between dogs and bears. "Much less did any think that *brute* and *savage* beasts should be fetched from foreign parts to be a terror to the English Nation, to compel their obedience to the king, and yet we find it true, and are credibly informed that upon the queen's coming from Holland she brought with her, besides a company of savage *Russians*, a company of savage bears, to what purpose you may judge by the sequel, for these bears were left about Newark, and were brought into country towns constantly on the Lord's Day to be baited . . . but some of Colonel Cromwell's forces coming by accident to Uppingham town, in Rutland, on the Lord's Day, found those bears playing there in their usual manner and in the height of their sport, caused them to be seized upon, tied to a tree and shot."

The following two jeering lines from the "Loyal Songs" of the period are also quoted:—

"We tax'd you round, Sixpence in the Pound,
And massacred your Bears."

The Rump Parliament passed an Act in 1647 to suppress public playhouses, dancing on the ropes, and bear-baiting, and in 1655 instructions were given their major-generals to enforce it.

In a quaint little book "*Mercurius Rusticus*," printed in 1646, one of the "complaints" alludes to a curious incident of the times, wherein a bear declared for the cavaliers. It is stated that the rebels murdered a barber and stole his bear. They then forced it upon old Mr. Jones, vicar of Wellingborough, and the animal "running between his legs took him upon her back, and laying aside the untractableness of her nature grew patient of

her burthen ;” but when the Rebels dismounted him, and one of their Ringleaders bestrode the Bear, she at once threw her rider, “and as if she had been robb’d of her whelps, did so mangle, rend and tear him with her teeth and paws, that the presumptuous wretch died of these hurts suddenly after.”

When the reaction from Cromwell’s puritanic rule set in the sport of bear-baiting was revived.

During the reign of Charles II. a grant was made to Sir Sanders Duncombe “of the sole practising and profit of the fighting and combating of wild and domestic beasts within the realm of England for the space of fourteen years.” Despite this monopoly, bear-baiting was very popular during this reign, and continued so for several succeeding ones, until, having fallen in public estimation through the upper classes gradually abandoning the sport, a bill was passed in 1835 for its suppression, “and, after an existence of at least seven centuries, it ceased to rank among the amusements of the English people.”

In 1802 the sport of bull and bear-baiting gave rise to a strange debate in parliament, on a bill being introduced for the suppression of the practice altogether. “Mr. Windham opposed the measure as the first result of a conspiracy of the Jacobins and Methodists, to render the people grave and serious, preparatory to obtaining their assistance in the furtherance of other anti-national schemes, and argued as if the British constitution must stand or fall with the bear-garden ; and Colonel Grosvenor asked if ‘the higher orders had their Billington, why not the lower orders their bull?’ This extraordinary reasoning prevailed against the sarcasm of Courtenay, the earnestness of Wilberforce, and the eloquence of Sheridan, and the House refused, by a majority of thirteen, to abolish what the last-named orator called ‘the most mischievous of all amusements.’ The decision of the legislature doubtless received the silent approval of Dr. Parr, for that learned talker was a great admirer of the sport. A bull-baiting being advertised in Cambridge, during one of his last visits there, the doctor hired a garret near the scene of action, and taking off his academic attire and changing his notorious wig for a night-cap, enjoyed the exhibition *incog.* from the windows. This predilection was unconquerable. ‘You see,’ said he on one occasion, exposing his muscular hirsute

arm to the company, 'that I am a kind of taurine man, and must, therefore, be naturally addicted to the sport.'"

That the sport sank to a very low ebb is evident from a letter in *Notes and Queries* for 1871, wherein the writer remarks: "I was never a witness of a bear-bait, but I well remember a poor brute who was kept alive for this sole purpose at F—— in Lancashire. He was confined, as a general rule, in a small back yard, where sightless, dirty, stinking, and perhaps half-starved, his sole and constant exercise appeared to be moving his head and forequarters from side to side. When taken to other villages to be baited, his advent there was announced by a wretched fiddler, who walked before him and the bear-ward. Upon one occasion, the story goes that he and a second champion of the like kind, arrived in W—— on the wakes-day, before the evening church service was completed. This, however, was rapidly brought to a close by the beadle calling to the preacher from the church door: 'Mestur, th' bear's come, and what's more, there's two of 'em.' This freedom of speech in a holy place is less to be wondered at when it is known that the good rector and a party from the rectory usually witnessed the bear-bait from the churchyard adjoining the village green."

In Doctor Giles Fletcher's treatise on Russia, to which country he went as ambassador from Queen Elizabeth to the Emperor Theodore in 1588, which is published in "Purchas: his Pilgrimes," 1625, with the quaint note, "I have in some places contracted, in others mollified the biting, and more bitter stile, which the author useth of the Russian government, that I might do good at home without harme abroad" (which careful consideration might be followed by editors at the present day), there is a description of the beare-bayting enjoyed by the emperor, which shows the kind of sport the Russians loved in those days. "One other special recreation is the fight with wild beares, which are caught in pits or nets, and are kept in barred cages for that purpose, against the emperor be disposed to see the pastime. The fight with the beare is on this sort. The man is turned into a circle walled round about, where he is to quite himselfe as well as he can, for there is no way to flye out. When the beare is turned loose, he commeth upon him with open mouth; if at the first push he misse his ayme, so that the beare come within him, he is in great

danger. But the wilde beare being very scare, hath this quality, that gaineth advantage to the hunter. His manner is when he assayleth a man, to rise up right on his two hinderlegs, and so to come roaring with open mouth upon him. And if the hunter then can push right into the very brest of him betwixt his fore-legs (as commonly he will not misse), resting the other end of their boare-speare at the side of his foot, and so keeping the pike still towards the face of the beare, he speedeth him commonly at one blow. But many times these hunters come short, and are either slaine or miserably torne with the teeth and talents of the fierce beast. If the partie quite himselfe well in this fight with the beare, he is carried to drinke at the emperour's seller door: when he drinketh himselfe drunke for the honour of Hospodare. And this is his reward for adventuring his life for the emperour's pleasure. To maintayne this pastime, the emperour hath certayne hunting men that are appointed for the purpose to take the wilde beare. This is his recreation commonly on the holy dayes."

In the "Everyday Book" for November, 1827, among the notices appears the following: "'Bears' are seen on the Stock Exchange in human shape; natural ones are kept by fiseurs to supply grease for the hair. 'The Black Bear,' in Piccadilly; Taylor's 'Bear,' in Whitechapel; 'The White Bear and Ragged Staff,' as a punster would say, are *bear-able* enough; but I reprehend the 'dancing bears' being led through the streets to perform antics for money. Two have appeared this month, each with two monkeys, a camel, dromedary, and organ. Travellers have told of their sagacity, we believe them; but that bears are made to stand upon hot iron and undergo the severest discipline before they are fit for public exhibition, is a truth which harrows the feelings, and makes me wish the dancing bears unmuzzled and let loose upon those who have the guidance of their education. The *ursa major* of the literary hemisphere, Dr. Johnson, might have been a match for them."

The cruelty that was practised in teaching the tame bears which used to be led about the country to dance and go through their amusing antics becoming known, the public refused to encourage it. Performing bears became in consequence an investment of labour that did not pay, and might lead to a prosecution,

hence the British nomads ceased to keep them, and very few are now to be seen in England, though in some places on the Continent they are occasionally to be met with.

Robert Southey³ observes: "At Bristol I saw a shaved monkey shown for a fairy, and a shaved bear, in a check waistcoat and trousers, sitting in a great chair as an Ethiopian savage. This was the most cruel fraud I ever saw. The unnatural position of the beast, and the damnable brutality of the woman-keeper, who sat upon his knee, put her arm round his neck, called him husband and sweetheart, and kissed him, made it the most disgusting spectacle I ever witnessed."

However easily bears may be tamed, yet they are rough pets, and have generally to be confined when they are full-grown. In the *Field* for 1867, "Old Log" gives an account of a bear he owned that had been captured when a cub. "It was perfectly good-natured and full of frolic, and though apt to scratch suddenly when young, lost all propensity to violence as it grew big and powerful. Its great delight was to wrestle with any one who would so indulge it; standing bolt upright, when its muzzle was about level with a man's chin. On such occasions it would never put forth its great strength, but appear to enjoy rolling over on its broad, bushy back. One of the officers of the Ramgurrh battalion had a rough, stumpy "tangun" or hill-pony, between which and the bear a singular friendship was struck up, and to watch their antics together was a frequent source of amusement with us. The bear would receive the pony standing upright, in ursine fashion, and after some mutual snuffing and gamboling about, administer a tolerable whack on the latter's face, which was usually returned by a vigorous pawing out of the pony's fore-hoofs, sending the bear head over heels. Sometimes this kind of sham-fight waxed warm, and the squealing and roaring of the combatants produced shouts of laughter even amongst the staid native servants looking on."

In the year 1847, when Frank Buckland was at Christchurch, Oxford, a hamper arrived for him by the railway, and on its being delivered he proceeded to open it, being unaware of the contents. On the lid being removed there jumped out a creature

³ "Common-Place Book."

about the size of an English sheep-dog, covered with long, shaggy, brownish-coloured hair. This was a young bear, born on Mount Lebanon, in Syria. Directly he found himself free, he proceeded to make the most of his liberty, and the door being open, away he rushed down the cloisters and made straight for the chapel, where service was being performed. As soon as he had reached the door, the verger, who was standing there, made a tremendous flourish with his silver wand, and darting back into the chapel, bolted himself into a tall pew. The bear then amused himself by scampering about the large quadrangle and frightening all the dogs that used to congregate there; at last, after a sharp chase, he was recaptured, a gown being thrown over his head, and led back and secured. This bear, named Tiglath-pileser, being both a goodnatured and amusing beast, full of tricks, became a great favourite with the undergraduates. A cap and gown were made for him, and to the great scandal of the dons, he used to be attired in these articles whenever he accompanied his master to breakfast and wine parties, where he was said to have contributed greatly to the diversion of the company, while he regaled himself on the good things procurable, his favourite dainties being muffins and ices. Tig, as he was familiarly called, used often to accompany his master when he took walking exercise, and at other times rode on horseback with him. Despite Tig's amiable disposition, he was subject to fits of rage, during which his violence was extreme, but a little humouring soon brought him round. When left alone he would cry for hours. This propensity soon brought him into disfavour with the authorities, and it resulted in his master being informed that "he or the bear must leave Oxford the next morning;" accordingly, there being no other way out of the difficulty, the animal had to go. He was first sent to Islip, a living held by Dean Buckland, near Oxford, and getting into mischief there, was shipped off to the Zoological Gardens, but the change was too great, he refused food, paced restlessly up and down his cage, trying to escape, and had hardly become reconciled to his altered circumstances when one morning he was found dead.

The collection of bears in the possession of the Zoological

Society is generally very complete, and usually contains, besides specimens of the foregoing animals, fine examples of some of the rarer species, such as the Sloth bear (*Ursus labiatus*), Syrian bear (*Ursus syriacus*), Spectacled bear (*Ursus ornatus*), Malayan bear (*Ursus malayanus*), Himalayan bear (*Ursus tibetanus*), and the Hairy-eared bear (*Ursus lascotis*).

The Sloth bear (*Ursus labiatus*) is rather an uncouth-looking animal, very little smaller than the brown bear. It is found throughout India and Ceylon, being very abundant in some parts, and affords good hunting to the sportsmen, by whom it is called the Indian black bear. In some districts it is spoken of as the sloth bear, and in others as the jungle bear; in fact it is an animal of many names. It lives in the natural caverns and recesses of the rugged hills or rocky places that occur in many parts of the peninsula. Its food consists of honey, fruits, and the white ants, also the larvæ of huge longicorn beetles, which issue from the ground on the top of the high ranges of mountains during certain seasons.

These bears are dangerous, and can inflict fearful wounds; they often attack the wood-cutters and others who come accidentally across them when returning to their lairs in the morning, or at other times when moving their quarters in consequence of being disturbed, and they sadly maul and often kill these unfortunate people.

When they are pursued, they carry their cubs on their backs, and can travel at considerable speed with them in this position.

Tickell⁴ states, "The power of suction in the bear, as well as of propelling wind from its mouth, is very great. It is by this means it is enabled to procure its common food of white ants and larvæ with ease. On arriving at an ant-hill, the bear scrapes away with the fore-feet until he reaches the large combs at the bottom of the galleries. He then with violent puffs dissipates the dust and crumbled particles of the nest, and sucks out the inhabitants of the comb by such forcible inhalations as to be heard at 200 yards' distance or more. Large larvæ are in this way sucked out from great depths under the soil. Where bears abound,

⁴ See Jerdon's "Mammals of India."

their vicinity may be readily known by numbers of these uprooted ants'-nests and excavations, in which the marks of their claws are plainly visible. They occasionally rob birds'-nests and devour the eggs. In running, the bear moves in a rough canter, shaking up and down, but gets with great speed over very bad ground, regardless of tumbles down the rough places. The sucking of the paw accompanied by a drumming noise when at rest, and especially after meals, is common to all bears, and during the heat of the day they may often be heard puffing and humming far down in caverns and fissures of rocks."

The animals in the Regent's Park collection can often be heard making this purring or humming sound, which is a continuous and monotonous note, not entirely unmusical, and in consequence has been termed "the singing of the bears." When it is heard they can always be seen either sucking their own paws or the paws of their companions, and when in a tame state will whine in the same way if they are allowed to suck any person's hands.

Another characterizing feature of these bears is their extensible lips, which protrude considerably when they require to seize something a little distance beyond the reach of the nose. At an early age they lose the front teeth or incisors, and the cavities close up, hence the front of the mouth has a smooth and toothless appearance.

"The specific name, *labiatus*, meaning lipped, is well given, for emphatically it is a much-lipped creature. In fact, as a show animal, its fortune consists in its labial opulence. No other of the whole ursine tribe can produce such facial grimaces as can this our jungle bear. Not only are its lips long and flexible, but there is a singular mobility in the snout. Sitting on its hind-feet, with this curious labial and nasal dexterity, it will attract attention. The nose, as if gifted with a caudal capacity, perhaps to make amends for the absence of that member from its proper place, will move from side to side, a genuine nasal wag, and the lips will go up and down, then shoot out to an extraordinary length; then will come a labial clap, or smack, if an actual slap of the lips may be so called. This series of contortions of the countenance is irresistibly comical, and the entire performance

constitutes a grotesque beseechment which is sure to win a cake from the laughing spectators.”⁵

They readily submit to taming, but their clumsy forms convey the idea that they are deformed. They are often to be seen accompanying the Indian mountebanks or jugglers, who put them through many amusing performances, to the delight of the crowd which inevitably gathers on such occasions.

The Syrian bear (*Ursus Syriacus*) is a yellowish-brown coloured bear which is found in the mountains of Palestine, and it was probably one of this species that was slain by David when a shepherd-boy. And the two she-bears which came out of the wood and “tare forty and two” children, the mockers of Elisha, must have been Syrian bears; they are therefore the oldest animals of their family of which there is any record.

The quaint chronicler, Roger of Wendover, in his “Flowers of History,” also gives an account of an historical bear-fight with one of these animals, for he tells us that Godfrey (Dux Godefridus), riding for recreation during the siege of Antioch, saw a man loaded with a bundle of dry wood flying from an angry bear, and on his going to the rescue was unhorsed, and the horse being terribly lacerated by the bear, Godfrey fought then on foot. After a severe struggle, in which the bear hugged the duke with its fore-paws and tried to throw him down that it might tear him in pieces, the duke being a strong and athletic soldier, plunged his sword up to the hilt in the ferocious animal and killed it, but not before he had been himself most dangerously mauled. His injuries were so severe that he had to be carried back to camp. The historian informs us that on his recovery there was great joy in the army.

The Spectacled bear (*Ursus ornatus*) is an American animal, restricted to the mountainous regions of Chili. It has a smooth, shining, black fur, except on some parts of the throat and neck, which are whitish, and the muzzle which is yellowish or buff coloured. It derives its name from the peculiar rings of the same hue that surround both eyes, which convey the idea to the observer of spectacles.

⁵ “The Standard Natural History.”

The Malayan bear (*Ursus Malayanus*) comes from Burmah, Malayan Peninsula, and the Bornean Islands. It is a smaller species of bear than any of the foregoing, and has a grotesque appearance. Its claws are of great length. The tongue is very flexible and has considerable power of extension, which enable it to reach the honey in the depth of the wild bees' nests. These bears exhibit great sagacity, and are very fond of delicacies of all kinds. The animal now in the Gardens is a great favourite with the visitors, owing to his funny tricks to draw attention and solicit the buns with which they feed him, perhaps to too great an extent. He either turns somersaults over and over on the bars of his den, dances about or waddles on his short bandy legs round and round in a small circle in a most ludicrous manner, and apparently is a perfectly tame and harmless animal. He is certainly the most amusing creature in the Gardens, with the exception perhaps of one or two of the monkeys.

The Himalayan bear (*Ursus tibetanus*) is an animal of moderate size, called by some writers the Thibet bear, but it is rather rare in that country, being more common in the mountainous districts of India, on the Himalayas and hill-ranges of Assam. Jerdon describes this bear as being generally found in summer at a considerable elevation, 9000 to 12,000 feet or so, and often close to snow, but in the winter it descends to 5000 feet, and sometimes even lower.

It has a remarkably thick neck and a flattened head, so much so that the muzzle and forehead form almost a straight line. The ears are large, the body compact, and supported on thick and clumsy limbs. Its general colour is black, but the lower lip is white, and there is a large crescentric mark of the same colour on the breast, which branches out on each side in front of the shoulder, forming a letter Y.

It lives chiefly on fruits, roots, grain, and other things of the same nature. Bennett says in his "Tower Menagerie" that the one exhibited there, which had been brought from Sumatra, could never be prevailed on to touch flesh, either raw or cooked, and bread and fruits were the substances on which he was constantly fed. In disposition he was moderately tame and particularly fond of play.



BENGALEE WITH DANCING BEAR.

From a photograph taken by Messrs. Lambert and Co., of Singapore.

Jerdon states, however, that in their wild state they will now and then kill sheep, goats, &c., and are said occasionally to eat flesh. "This bear has bad eyesight, but great power of smell, and if approached from windward is sure to take alarm. A wounded bear will sometimes show fight, but in general it tries to escape. It is said sometimes to coil itself into the form of a ball and thus roll down steep hills if frightened or wounded. If met suddenly where there is no means of escape, it will attack man at once; and, curious to say, it always mauls the face, sometimes taking off most of the hairy scalp and frightfully disfiguring the unfortunate sufferer. There are few villages in the interior, where one or more individuals thus mutilated are not to be met with. It has been noticed that if caught in a noose or snare, if they cannot break it by force, they never have the intelligence to bite the rope in two, but remain till they die or are killed. In captivity this bear, if taken young, is very quiet and playful, but is not so docile as the black bear. Like others of its kind it is fond of sucking its own or its neighbour's paws."

Bears seem to have been favourite beasts with the Romans for their sports in the circus, and evidently were the first animals used for the purpose of combats, for the introducers of this form of entertainment, Scipio Nasica and Publius Lentulus, exhibited more than fifty at a time; and subsequently Caligula, the Roman Emperor (37—41), alone caused 400 to be slaughtered. Pliny states that the head of the bear is extremely weak, and in the arena of the circus they are often to be seen killed by a blow on the head with the fist. He further adds that it is recorded in their annals that in the consulship of M. Piso and M. Messala, Domitius Ahenobarbus, the curule ædile, brought into the circus one hundred Numidian bears and as many Æthiopian hunters (61 B.C.).

Du Halde states the bear's flesh was much esteemed by the ancients, and was at the time he wrote served up at the table of princes. The Emperor of China would send a hundred leagues to procure bears for an entertainment. There is also strong evidence that in early times the barbarous nations of Germany bred and fed bears simply for the supply of food.

The Romans were fond also of keeping tame bears which were led about by their keepers, and upon some lamps of the period they are depicted being exhibited by showmen; upon one the bear is seen mounted upon a ladder. The great families among them kept servants called Ursarii, who attended to the feeding, breeding, and had general care of their bears. The English nobility had also retainers of this kind, for it is recorded that the Earl of Northumberland paid a salary of twenty shillings to one of them.

The taste for these amusements or shows has undergone very little change, and bears are as much a delight to children and even to grown-up people in the present day as they were in the most remote periods. For the love of sight-seeing is inborn in the human race, and any exhibition in which animals take a prominent part will always prove attractive, probably for all time. Bears have generally been popular beasts, and, as Down Piatt ⁶ says, "Consult any number of boys as to the favourite animal, and nine out of ten will cast their free suffrage in favour of Bruin. There is something about the bear that fascinates a boy. The little four-year-old, climbing upon your knee, will call for a story about bears, and after hearing the thrilling recital, he will get down behind a chair and act the part, to the mute amazement of his little sister. This interest in the clumsy creatures seems to be as instinctive as our horror of snakes."

⁶ "Galaxy," 1871.

CHAPTER XII.

THE CAMEL (*GENUS CAMELUS*).

A COLLECTION of wild animals would be but a poor one that did not contain some specimens of camels; yet, as a matter of fact, these animals can hardly be said to have existed in a wild state for centuries or even for thousands of years.

The Russian traveller, Colonel N. Prejevalsky, reports having seen the two-humped camel (*Camelus bactrianus*) wild in the mountain ranges of Central Asia; and lately camels in a feral state have been seen in Spain by Mr. Abel Chapman, which, as he states, are probably the descendants of domesticated animals that some comparatively short time ago were allowed to roam free. In a communication to the *Field* lately on the subject of these wild creatures in Europe, the writer says: "Mr. Saunders has recently informed us that he believes the introduction of the camel into the district is antecedent to the time stated by Mr. Chapman, carrying it back to the date of the expulsion of Godoy, the Prince of Peace, about 1810, when the populace broke up his menagerie at St. Lucan de Barrameda and scattered the camels, which had been rather extensively employed by him." In this case they can hardly be described as wild or ownerless animals, for they are the property of the heritors of the prince's estate.

The camel must in any case remain the one species of animal that has been man's most thorough conquest from the very earliest ages. There are no records now existing that give any clue to their wild ancestors. All assertions on the subject made by ancient writers, such as Diodorus and Strabo, are entirely of a hearsay character, and unreliable. And as other animals that are in complete

subjection to man's controlling power, such as horses, asses, sheep, oxen, pigs, &c., have still numerous congeners in a state of nature roaming free, the camels, when even the small herd of wild ones are taken into account, remain man's most complete slaves of the animal world. And of all creatures that God made to have a co-existence with him on this earth none have been so useful, or so necessary; neither are there any to whom he is indebted more than to these most ancient and laborious servants.

If, as it has been asserted by some historians, human civilization has in a great measure been dependent on the presence or absence of animals capable of domestication, camels must have contributed very considerably to the world's progress, as from time immemorial they undoubtedly have to its wealth. In the earliest chapters of the Bible we are told that Jacob divided "his flocks and herds and camels into two bands," and that he gave his brother Esau "thirty milch camels with their colts."

This animal, so aptly called "the ship of the desert," was even then a beast of burden and the medium of commerce, for when Joseph was sold into captivity by his brethren "they lifted up their eyes and, behold, a company of Ishmaelites came from Gilead with their camels, bearing spicery and balm and myrrh, going to carry it down to Egypt." In fact it was a trading caravan, and the camels were the most conspicuous objects in it, just as they are at the present day. And not only did they carry merchandise and produce to other countries, but they were the means whereby information and news were disseminated, and by enabling intercourse were instrumental in uniting different tribes and people; and in this way an interest in each other's welfare was fostered, the concomitant result being that enterprise was stimulated, knowledge spread, and civilization advanced.

These strange and uncouth-looking animals are, in fact, wonderful and unaltered links in the chain that binds us to the past. Reviewing ancient history from our present standpoint, it is difficult to surmise what the world would have done without them. By their subjection those most interesting dwellers of the desert, the nomadic people of the Eastern plains and those merchant princes of olden times, who were the first traders from the great cities,

were able to communicate with each other, to barter goods, and to travel and extend their sphere of operations. Even in this the nineteenth century the deserts of the globe and the arid plains of Egypt, Persia, and Arabia would be rendered impassable by their extinction. The animals still are, in fact, an indispensable necessity to the mundane existence of the teeming population of certain places in the world which, without their aid, would become uninhabitable, and of necessity revert to the lonely and desolate condition of the pre-adamite age. Their importance in the economy of desert life is beyond calculation, and their wonderful aptitude for the life they are intended to lead, and for thriving under circumstances and among surroundings that would mean misery, prolonged suffering, and death to other animals not similarly constituted, forms one of the marvels of creation.

Camels are not only patient and indispensable beasts of burden, but in many other ways contribute to the comfort of their masters. To the thirsty traveller the female animals yield their milk, which is a sweet and nourishing beverage. From the hair they shed, which is spun upon hand-spindles, most useful articles of clothing and of luxury are made. Even when dead they still continue to be useful, for the flesh is eaten, being sweet and nutritious; their hides make tent-covers, water-bottles, and clothing; their bones are shaped into weapons of defence, or carved into articles of domestic utility, and the hair is exported for manufacturing purposes, being largely used for artists' brushes. The raiment of John the Baptist is described as having been of camel's hair. Many beautiful fabrics are made with cloth of this material; but the finest and most expensive of those wonderful shawls, with their exquisite colourings, that not only adorn the sultanas and beauties of the East, but are deemed fit covering for the shoulders of the highest and the wealthiest ladies of the Western world, although called "camel's hair," are not in reality from the hair of this animal, which is too coarse, but are made from the selected hair of the goat. It is said they are so fine they can be drawn through a wedding-ring; certain it is that our modern delicate machinery, aided by the latest discoveries in chemistry, have failed to weave a more delicate web or secure more brilliant colouring.

When we read of the number of camels men in former ages were enabled to assemble together at one time for special purposes it becomes obvious that these animals are gradually becoming scarcer, although they are still numerous in many places. Bagdad's celebrated ruler of the eighth century, Haroun-al-Raschid, made nine pilgrimages to the prophet's shrine with a caravan of 120,000 camels. It would be almost impossible to collect so many together at the present day.

The uses and abuses of the camel have been the prominent feature in the East from time immemorial to the days of Lord Wolseley and the futile Soudan campaign. The history of this animal is woven in the web of the history of the world. From the earliest age of which we have any record we find the camel associated with either the commerce, conquest, or civilizing influences of the people. The wealth of the Jewish forefathers, those dwellers on the plains, was not in gold or silver, but in flocks and camels. The Reubenites, when they made war on the Hagarites, the Arabs of the Western Beka took 50,000 camels, and when the Midianites and the Amalekites invaded Israel in the days of Gideon, "Their camels were without number, as the sand by the sea-side for multitude." The conqueror of Scinde, some thousands of years later, marching to the conquest of the Ameer's stronghold, used them, and cursed them, exclaiming, "Oh! the baggage, the baggage! it is enough to drive one mad! We have fifteen hundred camels, with their confounded long necks, each occupying fifteen feet! Fancy these long devils in a defile, four miles and a quarter of them!"

And again he pities them, for describing an Indian army on the march, with its enormous baggage-train, requiring perhaps 20,000 camels, he writes: "Here they are jostling—crowding in now—spreading widely then—at times the strong animals far in front—the weaker as far in rear—some dying—some throwing their loads and running away—the tired servants labouring after, and often—very often getting slain, or, losing the column, perishing miserably—thousands of camels dying, not only from fatigue, but from ill-usage by both soldiers and the drivers, and from being always overloaded. Such is the picture of the baggage of an

Indian army; Smithfield Market alone can rival it!" On the effects of the camels being overloaded, he continues: "Down—down—down the poor animals go, one after another, under their crushing loads, all along the march. Their ears and their tails are immediately cut off by the drivers, to prove that they are dead or useless; a cruel precaution, but said to be requisite to prevent the cheating tricks played by the contractors, who get paid for the camels that die, on producing the ears and tails. The animals are often not quite dead, but are unable to stand; and where the camel falls, there this ill-treated, patient creature lies, bleeding, and without food or water, till death puts an end to its sufferings. If there happen to be trees or other forage for him near where he falls, and that in despite of the mutilation and fatigue, he recovers a little, he *may* live; but he is of course stolen by the country people, who find him afterwards, and without a master. However, camels when overworked rarely recover, as horses and other animals do, by rest; they are generally observed to become daily weaker till they die, and when a camel dies the loads of his survivors increase, as I have stated, and the more they are laden, the slower they move; and the slower they move, the more they are beaten; and the more they are beaten, the faster they perish. Sticks, stones, butts of muskets, points of bayonets, are all vigorously put into action to urge the overloaded camels on their weary march, which is tracked by their dead bodies."¹

History in some of its phases keeps repeating itself. The Soudan campaign resounds with cruelty to these animals, some of it unavoidable, but a great deal of it that could have been prevented. The habits of the beasts were not taken into account, and they died like sheep with the murrain in consequence, and still the telegrams kept pouring in to headquarters from the front: "More camels wanted—more camels wanted!"

Despite their ungainly, stupid-looking appearance, the events connected with these animals cast a certain reverence around them, even when we see them shambling along with their burden of children in the gardens of the Zoological Society. In the coun-

¹ "Letter to Sir J. Hobhouse," by General Sir Charles James Napier.

tries, however, where they are indigenous, namely, the hot, sterile regions of the earth, they are different-looking creatures altogether. It certainly requires some effort of the imagination while gazing at the animals in Europe to fully understand the picturesque and appropriate objects they become when seen in their proper sphere—their desert home—accompanying the Arabs on their peregrinations, and, harmonizing with their surroundings, forming part and parcel of the scenery. In “An Officer’s Sketches in Egypt,”² there is a description of the animal’s appearance under these circumstances. “The grazing camel, at the hour when the desert reddens with the setting sun, is a fine object to the eye which seeks and feeds on the picturesque—his tall, dark form, his indolent, leisurely walk, his ostrich neck, now lifted to its full height, now bent slowly and far around, with a look of unalarmed inquiry. You cannot gaze upon him without, by the readiest and most natural suggestions, reverting in thought to the world’s infancy—to the times and possessions of the shepherd-kings, their tents and raiment, their journeyings and settlings.”

Mark Twain³ sketches their appearance and the train of thought they suggested when seen in Smyrna. It being a thoroughly Eastern scene, it is worth quoting. “These camels are very much larger than the scrawny specimens one sees in the menagerie. They stride along these streets in single file, a dozen in a train, with heavy loads on their backs, and a fancy-looking negro in Turkish costume, or an Arab, preceding them on a little donkey, and completely overshadowed and rendered insignificant by the huge beasts. To see a camel-train laden with the spices of Arabia and the rare fabrics of Persia, coming marching through the narrow alleys of the bazaar, among porters with their burdens, money-changers, lamp-merchants, alnaschars in the glass-ware business, portly cross-legged Turks smoking the famous narghili, and the crowds drifting to and fro in the fanciful costumes of the East, is a genuine revelation of the Orient. The picture lacks nothing. It casts you back at once into your forgotten boyhood, and again you dream over the wonders of the ‘Arabian Nights;’ again your companions are princes, your lord is the Caliph Haroun-al-Raschid,

² Published in 1824.

³ “The New Pilgrim’s Progress.”

and your servants are terrific giants and genii, that come with smoke, and lightning, and thunder, and go as storm goes when they depart."

The camel's area of servitude is a wide one, embracing Arabia, Persia, India, all the country from North Tartary to the confines of China and the coast of the Persian Gulf; the Canary Islands, and a large portion of Africa, from the Mediterranean to the equator, and from the Red Sea to the Atlantic Ocean.

In the sixth century the animal was frequently used in Gaul, and the Moors, while ruling in Grenada, introduced it into Spain.

In recent days both the American and the Australian Governments tried to naturalize it in their countries, but so little success attended their ventures that they were practically failures.

Why this should be so does not appear, for in certain countries of South America, and in many parts of Australia, they ought to thrive and be profitable. In 1856 the newspapers of Texas spoke in a most favourable manner respecting the experiment of introducing the animals into their state. A writer from Indianola remarks: "It has become quite a common sight to see camels and dromedaries marching through our streets. The camels are now employed in carrying Government freight from Powder Horn to the depot. They carry the enormous weight of 1600 lbs., and with the greatest ease. The sight of them stampedes all the horses and mules that come within sight of them. . . . A horse at a brisk trot can scarcely keep up with the camels when in a walk. They apparently go slowly, with their long and measured tread, but in reality they are moving along rapidly. The dromedaries, with the riders and gorgeous trappings, move along at a brisk trot at the rate of 100 miles a day." Lieut. Beale, in his exploration from New Mexico to the Colorado river, reports enthusiastically about the service the camels rendered. He says also that he did not find any difficulty in making them swim, for "they not only swam with ease," he writes, "but in this particular, as in others, they seemed to outdo the horses and mules." Sir Charles Wilson, in describing the camels crossing the river, when he was making his way to Khartoum, says they swam readily enough, but their heads had to be supported to prevent them drowning.

In a late number of the weekly paper, *Colonies and India*, there is the following paragraph respecting the employment of the animal in Queensland. "*Camels versus Horses.*—The heavier animal of burden is preferred to the lighter one in the back districts of Queensland, where the police are being supplied with camels, and pastoralists in the north and north-west are employing them in preference to horses for the conveyance of rations and water to out-stations and well-sinking parties. A number of camels are employed on the Hergott and Strangways Railway works, and the other day the resident engineer, Mr. Mann, inspected, passed, and took delivery of fifteen camels imported by Mr. T. H. Scott (whose name is familiar to all South Australians in connection with exhibitions in divers countries on the *Bucephalaus*). The camels are from the Bikanier district of Rajpootana, where the soil, climate, and herbage are very similar to those of the northern country, the pasturage being chiefly salsolaceous and closely allied in nutritive properties to the Colonial salt blue and cotton bush. The only drawback to the extensive employment of camels is the initial expense, which, as a matter of course, is not light. But it should be remembered that camel-breeding is highly profitable, and offers far better returns than can be obtained from horse stock. The substitution of camels for horses for all heavy work in the interior can only be a question of time, and as the demand increases those who go in for breeding early will reap a rich reward."

At St. Roque, near Pisa, the camel has been acclimatized for several centuries, the original stock, according to tradition, having been brought over by the Crusaders, but more likely it was introduced about the middle of the sixteenth century; but the breed has become degenerated, dwarfed, and miserable-looking, the fact being evident that the animals are constructed and constituted to thrive only on a dry, sandy soil, and when transported from such elements they lose many of their peculiar uses, and do not answer the expectations formed of them.

The whole family of *Camelidæ* belong to the ruminant order of mammalia. The camel of the East, and the llama, guanaco, and vicuña of the New World, are the only existing species. The

members of this limited family all show a wonderfully complete adaptation to the peculiarities of those regions where they exist. Their dentition differs in some respects from the other ruminants, and they seem in consequence to form a link between the *Ruminantia* and *Pachydermata*. Camels have thirty-four teeth, sixteen in the upper jaw, namely two incisors, two canines, and twelve molars; eighteen in the lower jaw, namely, six incisors, two canines, and ten molars. The incisors of the upper jaw are conical, compressed at the sides, pointed, and somewhat curved or hooked, bearing in consequence a close resemblance to canine teeth.

There are two species of camels, the one known as the Arabian camel (*Camelus dromedarius*), with only one hump on its back, and the Bactrian camel, with two humps (*Camelus Bactrianus*). Many people are still in confusion on this subject, calling the one-humped animal the dromedary, and the two-humped one the camel. They are both camels, the word dromedary being only applied to a particularly graceful and slender variety of the one-humped species that are used for speed on account of their greater fleetness.

Mr. W. G. Palgrave⁴ explains the difference. "The camel and the dromedary in Arabia are the same identical genus and creature, excepting that the dromedary is a high-bred camel, and a camel a low-bred dromedary, exactly the same distinction which exists between a race-horse and a hack—both are horses, but the one of blood, the other not. The dromedary is the race-horse of his species, thin, elegant (or comparatively so), fine-haired, light of step, easy of pace, and much more enduring of thirst than the woolly, thick-built, heavy-footed, ungainly, and jolting camel. But both and each of them have only one hump, placed immediately behind their shoulders, where it serves as a fixing-point for the saddle or burden. Owing to this similarity they are often confounded in the common appellations of 'Baa'reer' or 'Nôk,' male or female, though yet more often the dromedary enjoys the special title of 'hejeen' or 'dolool.' For the two-humped beast, it exists indeed, but it is neither an Arab dromedary nor camel; it belongs to the Persian breed called by the Arabs 'Bakhtree,' or

⁴ "Narrative of a Year's Journey through Central and Eastern Arabia."

Bactrian. Perhaps there may be a specimen of it at the Zoological Gardens, and thither who chooses may go and have a look at it, only let him not profane the name of 'dromedary' by applying it to the clumsy, coarse-haired, upland Persian beast before him. To see real live dromedaries my readers must, I fear, come to Arabia, for these animals are not often to be met with elsewhere, not even in Syria, and whoever wishes to contemplate this species in all its beauty must prolong the journey to 'Omān, the most distant corner of the peninsula, and which is for dromedaries what Nejed is for horses, Cashmere for sheep, and Thibet, I believe, for bull-dogs."

The most conspicuous points about the camel, besides its uncouth appearance and its hump, are the long neck, prominent eyes, and peculiar feet. But in all these outward deviations from other animal types, as well as in sundry anatomical distinctions, we see the wondrous adaptation of their structures, so that their wants and requirements can be supplied in the localities they frequent. In such places they are speedy, untiring, sure-footed, and capable of subsisting where vegetation is scanty and water scarce. Their spare, sinewy form is devoid of all superfluous weight, but possesses muscular power and strength in one of its highest developments. The head is small, and carried rather high and horizontally, about nine feet from the ground, away from the reflected heat of the sandy plain. The neck is long and slender, and being set well down, seems to grow out of the lower part of the body, between the fore-legs. The ears are short and small, a distinct advantage in countries where sand-storms are prevalent. The eyes, which are bright and sparkling, have a considerable range of vision, for they are placed on the sides of the head in such a manner that the animal is enabled to see on every side, also before and behind to a certain extent, but its upward view is limited, for the brow hangs well over the eye, which is in this manner sheltered from the blinding rays of the sun. The tail is short, with a small bunch at the end. The legs, which are long and slender, are provided with callosities about the knees, the animal having seven altogether, one on the breast, two on each fore-leg, and one on each of the hind ones, which protect

the various parts from injury, and prevent the skin from cracking while it is kneeling down, or otherwise in contact with the hot sand. The feet are divided in a somewhat similar manner to those of an ox, but the toes are not externally separated, and have hoofs on the extreme points. The soles are soft, elastic, remarkably broad, and are made spongy or like a cushion to prevent the animal sinking in the yielding sand, on which it is consequently enabled to advance with only a slight impression. They also give the creature that silent tread for which it is noted. Mr. Charles MacFarlane⁵ says about this peculiarity: "What always struck me as something extremely romantic and mysterious was the *noiseless* step of the camel, from the spongy nature of his foot. Whatever be the nature of the ground, sand or rock, or turf, or paved stones, you hear no footfall; you see an immense animal approaching you *stilly*, as a cloud floating in air, and unless he wear a bell your sense of hearing, acute as it may be, will give you no intimation of his presence."

Camels have long joints, which give them a lofty step and a consequent rapid progression over soft surfaces. The nostrils, which are narrow, oblique slits defended with hair at their margins, are further provided with a beautiful muscular arrangement that enables the animal to open or close them at will, after the manner of the eyelid, and it is thus in a position to contract the apertures and exclude from the tender air-passages the burning particles of sand that sweep across the desert in those terrible simooms or sand-storms common in the East. The upper lip, it is worthy of notice, is split from the nostril to the mouth by a deep fissure.

The powerful upper incisor teeth with which the jaw is provided confer on the animal the ability of gathering the prickly shrubs or dry, stunted herbage of the desert. The tough stems are easily cut by their aid, and they can eat as they go along.

Camels are said to be endowed with an acute sense of smell, which is often strikingly displayed on the long and weary marches across unknown tracts, for they have been known to break away and make straight for a spring some distance off that remained undetected by other animals or by the accompanying men. Their

⁵ "Constantinople in 1828."

discovery of water in this way has sometimes saved human beings from perishing with thirst.

The colour of the hair of the camel varies considerably from white to such a dark-brown that it approaches black, but it is more often either of a light or darkish grey; the prevailing colour being one that very closely resembles sand. Pure white animals of the dromedary breed are occasionally seen, and are considered very valuable. The hair is shed and renewed once a year about the commencement of the summer.

The average camel stands between seven and eight feet at the shoulder, and measures between ten and eleven feet in length. The hump or humps certainly do not confer elegance to the animals, but they are, nevertheless, most useful for their welfare. In the highly-bred species it is considered the aristocratic mark of beauty and blood, as it is only developed in perfection in these animals. When certain varieties of the camel are well cared for, the hump has been known to weigh one quarter of the animal's whole body. It is merely a protuberance on the back composed of gelatinous fat, unsupported by any bony formation, and by reabsorption into the system assists materially in nourishing the animal when the nature of the country or unfortunate contingencies deprive it of a supply of food proportionate to its exertions. "So well is this understood in the East that the condition of an animal after a long and trying journey is measured by it. It is not uncommon to see camels come in from such expeditions with backs almost straight, showing but little if any hump. Indeed, the condition of the animal is, throughout camel-land, invariably denoted by the development of this singular excrescence. When after a journey of extraordinary hardship a caravan has suffered great privations, the Arabs are accustomed to say, 'the camels have lived on their humps.'"

In other ways the hump does not appear to be intimately connected with the vitality of the animal, for it is said that large portions can be removed without in any manner injuring the beast or disturbing its general health.

This disappearance of the hump prior to the complete exhaustion of the animal, and its reappearance when thoroughly



recuperated, is admirably exhibited in the two illustrations given herewith, which are reproductions of photographs taken by Messrs. Briggs and Son, of High Street, St. John's Wood. The first one was taken a few days after the animals, at present in the Zoological Gardens, arrived there, which they did in a fearful condition of sickness and prostration. Their history is this: After the battle of El Teb, and the complete rout of Osman Digna's brave Soudanese, an officer observed among the dying and the dead that lay scattered over the battle-field, several wounded animals, and noticeably a fine female camel, with the blood flowing from several cuts, and by her side was the young one, who appeared to have been untouched. He determined to try and save the poor beasts, and succeeded so far that he had them conveyed to the steamer and shipped home to the care of the Zoological Society. On their arrival at Portsmouth they were met by a man sent down on purpose. They were absolutely so exhausted they were unable to stand up, and had to be placed in slings before they could be moved. In this way they were taken off the ship and placed on a railway car, ultimately, after considerable trouble, reaching the gardens alive. The wounds on the older animal refused to heal; she was merely a bag of bones, could not stand on her feet, and was a most unpleasant object in every way to contemplate. It was decided at last to put her out of her misery, and Mr. Bartlett had reluctantly to telegraph to her owner, Mr. J. T. St. Aubyn, for permission to do so. He was, fortunately, away on leave, so the telegram did not reach him until ten days afterwards; for meanwhile the careful attention and humane treatment shown the poor beast had begun to tell, and she showed signs of increasing strength, and ultimately absolutely recovered. Both these animals now do their daily share to amuse the visitors to the gardens by carrying the children about on their backs, and they are in splendid condition, as is shown by their appearance in the second photograph.

A camel requires to drink about once in three days, and it generally imbibes from thirty to forty pints at once. It will drink anything that can be called fresh water, however foul it may be. The animal's stomach is beautifully constructed to hold water in

reserve for its requirements, and according to Cuvier it can also secrete it. In common with all ruminants it has four stomachs; one of these is a congeries of cells that form a reservoir wherein about twenty pints can be stored away, and it is said, retained there for a considerable time without undergoing deterioration. One celebrated traveller asserts that three pints of not unpleasant water were found in the stomach of an animal that had been dead ten days. Another states that the camels are frequently killed by their thirsty masters for the water they contain, but this fact has not gained credence.

Camels exhibit a peculiarity in their motion which is unlike that of the majority of animals. Both feet on the same side are lifted successively similar to the stride of the *felidæ*, and not alternately, like the horse for instance. Each step equalling therefore two of the latter animals, the exertion required to go over an equal distance is considerably less; but it gives their pace a curious amble, which as it combines a rolling and pitching motion becomes very exhausting to their riders when they are unaccustomed to it.

The mistake is frequently made by artists of drawing the camel bounding along with the same swinging stride and movement of the limbs exhibited by the horse; which is of course incorrect. Elijah Walton, in his delineation of the various movements of the camel, made after careful study from life, shows that the animal has a very distinct action, in many respects, totally unlike that of any other quadruped not belonging to the same family.

Camels being so organized that the desert is their appropriate home, they are necessarily capable of living in regions where but scanty nourishment of vegetation can be found, and when in good pasturage they will eat enough in two hours to satisfy them for a whole day. They are said to eat as they go along; stretching their lengthy necks from one side to the other, they browse on any herbage the earth produces in their route and they can find within their reach. They also ruminate during the night or the noonday halts of the caravan, for they require only about four hours' sleep or rest during the twenty-four. They appear to have a preference for gathering their own food, and only become fastidious when it is given them ready cut, under these circumstances refusing to

THE TWO SOUDAN CAMELS.

(Recuperated.)

eat anything but thistles and tender herbs ; but when green food cannot be procured they have to remain content with barley and straw broken up.

Camels are taught to kneel to receive their packs. They will travel along patiently thirty or forty miles per day for weeks at a time with loads varying according to their size and strength from 500 to 800 lbs. For a shorter journey very much heavier burdens can be put upon them, but this matter of weight is altogether one of breed and the condition of the animals. In the Soudan, Sir Charles Wilson says 700 lbs. was the weight allotted to each camel, but the baggage animals appear to have been poor creatures and ill-treated.

Camels are subject to attacks of great excitement at certain seasons, especially the male animals, when besides getting obstinate and unmanageable they become absolutely dangerous. The utility or cause of a peculiarity they exhibit at such periods has never been accurately accounted for by scientists. They project from the mouth a peculiar bladder, which is apparently the loose membraneous lining of the throat, and this unpleasant exhibition is accompanied by a low bubbling noise made by the passage of the air with which it is inflated.

The duration of a camel's life is between forty and fifty years.

Away from their native haunts the camels lose some of their advantageous qualities and exhibit many drawbacks by comparison with our domestic beasts of burden. They are vicious, and to some extent untameable, and the construction of their feet causes them to slip about terribly on any firm soil with a wet clay or muddy surface, and in this way they frequently disjoint their hips. They do not bear cold or wet weather well. Their recuperative powers are not very great, for even on the desert marches, when thoroughly exhausted, they succumb altogether, and are left to become the prey of the jackal and vulture. Nearly all camels may be said to literally die in harness, for the bleached bones of thousands of them mark the paths of the caravans across the otherwise trackless deserts of Africa and Arabia. They also emit a powerful and unpleasant odour, which is said to be a subject on which few travellers who have experienced it can talk with patience,

Long ages of servitude and harsh treatment have made the camel anything but a docile or intelligent animal. Yet that he was not always the stupid, obstinate, revengeful brute which modern writers now say he is, becomes evident from the accounts given of him in ancient histories, for we do not read of the camel being described in any way different to the horse or dog, although the old travellers were not prone to under-estimate the bad or savage qualities of the animals they described, but had rather a tendency to exaggerate these points on purpose to arouse interest and fear. In Gesner's account we read: "The epithets given to this beast are not many among authors, for he is termed by them rough, deformed, and thirsting."

John Leo, surnamed Africanus, the Moorish geographer of the sixteenth century,⁶ writes: "A camel is a gentle and pleasant tame beast, whereof there are plenty, especially in the deserts of Lybia, Numidia, and Barbary, by which Africans estimate their own wealth; for when they contend who is the richest prince or nobleman among them, they say he was worth or hath so many thousand camels, and not so many thousand crowns. And he that hath camels liveth among them like a gentleman, because he can at his pleasure travel into the deserts, and fetch merchandise from far, which the greatest prince or nobleman cannot without them, by reason of the drought of those places."

It would only be natural that, after the ages of ill-usage and cruelty to which they have been subjected, their breed as well as their temper and intelligence should degenerate.

Mr. Palgrave, in common with many modern travellers, found the camel, to his surprise, anything but the patient servant

⁶ "Purchas, his Pilgrimes," 1655. This Leo appears to have had a most adventurous life. Born in Grenada, he left that city for Africa, from whence he procured his surname, on it being conquered by Ferdinand and Isabella in 1492. He learnt the Arabic language so thoroughly that he wrote a book in it. After travelling in Europe, Asia, and Africa, he fell into the hands of pirates on the island of Zerb and was sold as a slave. His master presented him to Leo X. That Pope, finding out the knowledge and learning possessed by his slave, received him graciously, converted him, and gave him his own names in baptism. Before Leo's death he mastered the Italian language and translated into it his African work, from whence both the Latin and French versions of his travels were made.

that writers in former days were so fond of describing. "I have while in England," he says, "heard and read more than once of the 'docile camel.' If 'docile' means stupid, well and good; in such a case the camel is the very model of docility. But if the epithet is intended to designate an animal that takes an interest in its rider so far as a beast can, that in some ways understands his intentions, or shares them in a subordinate fashion, that obeys from a sort of submissive or half fellow feeling with his master, like the horse or elephant, then I say that the camel is by no means docile, very much the contrary; he takes no heed of his rider, pays no attention whether he be on his back or not, walks straight on when once set agoing, merely because he is too stupid to turn aside; and then, should some tempting thorn or green branch allure him out of his path, continues to walk on in this new direction, simply because he is too dull to turn back into the right road. His only care is to cross as much pasture as he conveniently can while pacing mechanically onwards; and for effecting this his long flexible neck sets him at great advantage, and a hard blow or a downright kick alone has any influence on him, whether to direct or impel. He will never attempt to throw you off his back, such a trick being far beyond his limited comprehension; but if you fall off, he will never dream of stopping for you, and walks on just the same, grazing while he goes, without knowing or caring an atom what has become of you. If turned loose, it is a thousand to one that he will never find his way back to his accustomed home or pasture, and the first comer who picks him up will have no particular shyness to get over. Jack or Tom are all the same to him, and the loss of his old master and of his former cameline companions gives him no regret and occasions no endeavour to find them again. One only symptom will he give that he is aware of his rider, and that is when the latter is about to mount him, for on such an occasion, instead of addressing him in the style of old Balaam's more intelligent beast, 'Am not I thy camel upon which thou has ridden ever since I was thine unto this day?' he will bend back his long, snaky neck towards his master, open his enormous jaws to bite if he dares, and roar out a tremendous sort of groan, as if to com-

plain of some entirely new and unparalleled injustice about to be done him. In a word, he is from first to last an undomesticated and savage animal, rendered serviceable by stupidity alone, without much skill on his master's part or any co-operation on his own, save that of extreme passiveness. Neither attachment nor even habit impress him; never tame, though not wide-awake enough to be exactly wild.

“ One passion alone he possesses, namely, revenge, of which he furnished many a hideous example, while in carrying it out he shows an unexpected degree of far-thoughted malice, united meanwhile with all the cold stupidity of his usual character. One instance of this I well remember; it occurred hard by a small town in the plain of Ba'albec, where I was at the time residing. A lad of about fourteen had conducted a large camel, laden with wood, from that very village to another, at half an hour's distance or so. As the animal loitered or turned out of the way its conductor struck it repeatedly, and harder than it seems to have thought he had a right to do. But not finding the occasion favourable for taking immediate quits, it 'bode its time,' nor was that long in coming. A few days later the same lad had to reconduct the beast, but unladen, to his own village. When they were about half-way on the road, and at some distance from any habitation, the camel suddenly stopped, looked deliberately round in every direction to assure itself that no one was within sight, and, finding the road far and near was clear of passers-by, made a step forward, seized the unlucky boy's head in its monstrous mouth, and lifting him up in the air, flung him down again on the earth, with the upper part of his skull completely torn off, and his brains scattered on the ground. Having thus satisfied its revenge, the brute quietly resumed its pace towards the village as though nothing were the matter, till some men who had observed the whole, though unfortunately at too great a distance to be able to afford timely help, came up and killed it.”

We have inserted this story exactly as it is narrated, and no doubt the main incidents were just as Mr. Palgrave states, and are certainly sufficient to prove that individual camels can develop treacherous and savage traits. Travellers, however, destroy the

value of these histories by not confining themselves to the facts, but, after the manner of the modern novelist, must inform their readers what the animals,—their heroes and heroines,—not only do but what they think, and the chain of reasoning by which they arrive at their conclusions. No villain of a “penny dreadful” could have matured and perpetrated a better revenge than this camel. Mr. Palgrave, who appears to have been a Cumberland or “thought-reader” among camels, tells us that the animal thought the boy had no right to strike it hard; having arrived at this conclusion it resolved to take revenge, but it would dissemble for the present and bide its time. There was no certainty that it would again have an opportunity, for the boy might never again have been its driver; but perhaps camels may have the power of seeing into the future as well as of reasoning. When at last, after brooding over its wrongs, the opportunity for the *dénouement* of its plot arrives, the camel, the villain of the melodrama, peers carefully around in every direction to see no one was looking, and finding the road apparently clear, perpetrates the crime, and, as usual, made some fatal blunder that led to its own undoing.

Animals will undoubtedly take dislikes and hatreds to certain human beings, and evince it by attacking or even killing them; but whether they are capable of concocting plots, reasoning from deductions, logically thinking out the method of their revenge, patiently and with self-communion awaiting their opportunity, and behaving generally as though their reasoning powers were greater than those of a large portion of the human race, is one that on the face of it is absurd, for if it were the case, the horse, elephant, and camel would never be subservient to man at all, and the animals would soon gain the ascendancy, for they could never be kept in subjection. The dog, that most intelligent of all animals, does not exhibit any such powers, although its instincts enable it to perform duties and deeds that are in full sympathy with those of its master. Camels are, moreover, the most stupid perhaps of all domesticated beasts. Mr. Palgrave proves too much.

Some few years ago a correspondent of the *Times*, probably Dr. W. H. Russell, writing from India, remarks: “The *utile* was

never so little mingled with the *dulce* as in the instance of the camel. He is a horribly necessary animal, ungainly in his gait, disagreeable in his disposition, misanthropical and dyspeptic and teetotal in his habits, sharp and unrelenting in his bites, of unaccountable phantasies in his likings and dislikings, unreasonably susceptible of pressure and oppression—a sort of inborn animal democrat, of a querulous and morose turn of mind—and possessed of the power, which he delights to use, of making the most horrible noises with his throat, his jaws, his tongue, and his stomach. With loud protestations they submit to monstrous cruelties from their keepers, and bite innocent, well-meaning people who are like to take an interest in them. They will allow without anything more than a grunt, their leader to tear open their nostrils with a jerk of the string which is passed through the cartilage; ten to one they will spit at you spitefully if you approach to offer them a piece of bread. They will march for days, the nose of one fastened to the tail of another in endless procession, and never seek to escape from bondage; and yet the same creatures will gnash their tushes awfully at an unhappy European who ventures to rub their rugged sides. However, they form an institution of India—possibly a part of the traditional policy—and they must be respected accordingly.”

Mark Twain after his experience of the camel in the Holy Land, spoke of him in anything but a complimentary manner; he says, describing the journey from Tabor to Nazareth:—“In this part of the country his load is oftenest in the shape of colossal sacks—one on each side. He and his cargo take up as much room as a carriage. Think of meeting this style of obstruction in a narrow trail! The camel would not turn out for a king. He stalks serenely along, bringing his cushioned stilts forward with the long, regular swing of a pendulum, and whatever is in the way must get out of the way peaceably or be wiped out forcibly by the bulky sacks. I cannot think of anything now more certain to make one shudder than to have a soft-footed camel sneak up behind him and touch him on the ear with its cold, flabby underlip. A camel did this for one of the boys, who was drooping over his saddle in a brown study. He glanced up

and saw the majestic apparition hovering above him, and made frantic efforts to get out of the way, but the camel reached out and bit him on the shoulder before he accomplished it. This was the only pleasing incident of the journey."

Camels are said to be strangely influenced by musical sounds, which certainly seem to soothe their savage breasts. When they are fatigued with the day's long march and no amount of beating will make them hasten their speed, the singing by the driver of some Arabian melody, will so revive their dejected spirits, that, as John Leo writes, "they set forward so fast, forgetting their tired limbs, to their journey's end, that their keepers can hardly follow."

Camels are trained when extremely young for the labours which they are afterwards to perform in the way of bearing burdens. Their limbs being folded under their body, they are kept lying down whilst they are loaded with a weight which is gradually increased as they grow stronger, and in this way they become accustomed to it. They are often employed in heavy work before they are mature, which is another species of cruelty to which they are subjected, for in reality they are not fitted to bear burdens until they are nearly five years old.

According to General Sir Charles W. Wilson's⁷ account of the behaviour of the camels in the fight for the Nile after Abu Klea, they must be peculiarly insensible to pain, for he says while going his rounds in the zeribah being formed, he could not help noticing and feeling for the wretched animals tied tightly down. "The most curious thing was," he remarks, "that they showed no alarm and did not seem to mind being hit; one heard a heavy thud, and looking round, saw a stream of blood oozing out of the wound, but the camel went on chewing his cud as if nothing at all had happened, not even giving a slight wince to show he was in pain." On another occasion, a gun in the enemies' battery opened fire on the square; luckily only one blind shell came into it. "I heard the rush of the shot through the air," he writes, "and then a heavy thud behind me. I thought at first it had gone into the field-hospital, but on looking round found it had

⁷ "From Korti to Khartoum." 1886.

carried away the lower jaw of one of the artillery camels, and then buried itself in the ground. The poor brute walked on as if nothing had happened, and carried its load to the end of the day." This either shows that camels have little nervous organization, or they were too completely exhausted on this occasion to exhibit pain or alarm.

CHAPTER XIII.

THE CAMEL (*Continued*).

THERE are several breeds of camels, for in this respect they exhibit nearly as many distinctions as those observable in horses. The higher bred animals of the dromedary class are finer shaped and in no way so coarse as the common camels. They have a speed that outstrips the best Arab horses, and their astonishing powers of endurance make them capable of travelling such long distances in so short a space of time that the descriptions given of certain performances in this way would be incredible if not corroborated by reliable authorities. John Leo,¹ in enumerating the three kinds of camels, says the Raguahills, which are a small species, and unfit for burden, are so swift "that in the space of one day they will travel one hundred miles, and will so continue over the deserts for eight or ten days together with very little provender, and these do the principal Arabians of Numida and the Moors of Libya usually ride upon. When the King of Tombuto is desirous to send any message of importance unto the Numidian merchants with great celerity, his post or messenger, riding upon one of these camels, will run from Tombuto to Darha or Segelmesse, being 900 miles distant, in the space of eight days at the farthest." The speed of the breed Heirie, El Heirie, or Maherry of the desert is also unquestionably very great. "When thou shalt meet a heirie," the Arabs remark in their poetical mode of expression, "and say to the rider 'Salem Aleik,' he will be afar off, and nearly out of sight, for his swiftness is like the wind."²

Modern writers have also asserted from their personal experience that these animals are so hardy, they can travel in the desert

¹ "Purchas, his Pilgrimes." 1625.

² Knight's "Cyclopedia."

for eight or ten days at the rate of from 125 to 150 miles a day, during which time they require very little food or water. This fact required very strong evidence to substantiate it before it would gain belief. Mr. Heap, who reported on the subject for the American Government, states in the appendix to his book,³ that he saw a party of Arabs mounted on dromedaries arrive in Tunis in four days from Tripoli, a distance of 600 miles. On these journeys they do not of course bear heavy loads, but the weight of the rider, with his arms and provisions, is equivalent to about 250 lbs.

Captain William Peel refers frequently to the camel and its utility in his book, "A Ride through the Nubian Desert." Sailor-like, he appears to have kept a log that enabled him to calculate the speed and position of "the ship of the desert." He writes: "In crossing the Nubian desert I paid constant attention to the march of the camels, hoping it might be of some service hereafter in determining our position. The number of strides in a minute with the same foot varied very little, only from 37 to 39, and 38 was the average; but the length of the stride was more uncertain, varying from six feet six inches to seven feet six inches. As we were always urging the camels, who seemed, like ourselves, to know the necessity of pushing on across the fearful tract, I took seven feet as the average. These figures give a speed of 2.62 geographical miles per hour, or exactly three English miles, which may be considered as the highest speed that camels lightly loaded can keep up on a journey. In general it will not be more than two and a half English miles. My dromedary was one of the tallest, and the seat of the saddle was six feet six inches above the ground."

A little further on he observes: "We met once, at a hollow where some water still remained from the rains, 2000 camels altogether, admirably organized into troops, and attended by only a few Arabs. On another occasion we passed some camels grazing at such a distance from the Nile that I asked the Arab attending where they went to drink. He said he marches them down all together to the Nile, and they drink every eleventh day. It is now the cool season, and the heat is tempered by fresh northerly

³ "Central Route to the Pacific." 1854.

breezes. The Arab, of course, brings water-skins for his own supply. All these camels were breeding-stock. They live on thorns and the top shoots of the gum-arabic tree, although it is armed with the most frightful spikes. But very little comes amiss to the camel; he will eat dry wood to keep up digestion, if in want of a substitute. Instinct or experience has taught him to avoid the only tempting-looking plants that grow in the desert,—the green rasha-bush, which is full of milk-coloured juice, and a creeper that grows in the sand where nothing else will grow, and which has a bitter fruit like a melon. I was surprised to learn that the leopard does not dare to attack the camel, whose tall and narrow flanks would seem to be fatally exposed to such a supple enemy. Nature, however, has given him a means of defence in his iron jaw and long powerful neck, which are a full equivalent for his want of agility. He can also strike heavily with his feet, and his roar would intimidate many foes. I never felt tired of admiring this noble creature, and through the monotony of the desert would watch for hours his ceaseless tread and unerring path. Carrying his head low, forward, and surveying everything with his black, brilliant eye, he marches resolutely forward, and quickens his pace at the slightest cheer of his rider. He is too intelligent and docile for a bridle; besides, he lives on the march, and with a sudden sweep of the neck will seize, without stopping, the smallest straw. When the day's march is over, he passes the night in looking for food, with scarcely an hour to repose his limbs, and less than that for sleep. He closes the eye fitfully, the smallest noise will awake him. When lying down for rest every part of the body is supported; his neck and head lie lightly along the sand, a broad plate of bone under the breast takes the weight off his deep chest, and his long legs lay folded under him, supporting his sides like a ship in a cradle."

Captain Peel overrated their intelligence, or other travellers underrate it. Sir Samuel Baker in his work, "The Albert N'Yanza," gives from personal experience quite a different account of the animal. On one occasion a man ran into his tent with the news that one of the camels had dropped down and was dying; and he writes, "The report was too true. He was poisoned by a well-

known plant that he had been caught in the act of eating. In a few hours he died. There is no more stupid animal than the camel. Nature has implanted in most animals an instinctive knowledge of the plants suitable for food, and they generally avoid those that are poisonous; but the camel will eat indiscriminately anything that is green; and if in a country where the plant exists that is well-known by the Arabs as the 'camel poison,' watchers must always accompany the animals while grazing. The most fatal plant is a creeper, very succulent, and so beautifully green that its dense foliage is most attractive to the stupid victim. The stomach of the camel is very subject to inflammation, which is rapidly fatal. I have frequently seen them, after several days of desert marching, arrive in good pasture, and die, within a few hours, of inflammation caused by repletion. It is extraordinary how they can exist upon the driest and apparently most non-nutritious food. When other animals are starving the camel manages to pick up a subsistence, eating the ends of barren, leafless twigs, the dried sticks of certain shrubs, and the tough, dry, paper-like substance of the dome-palm, about as succulent a breakfast as would be a green umbrella and a *Times* newspaper. With intense greediness the camel, although a hermit in simplicity of fare in hard times, feeds voraciously when in abundant pasture, always seeking the greenish shrubs. The poison-bush becomes a fatal bait. . . . Their peculiarity of constitution enables the camel to overcome obstacles of nature that would otherwise be insurmountable. Not only can he travel over the scorching sand of the withering deserts, but he never seeks the shade. When released from his burden he kneels by his load in the burning sand, and luxuriates in the glare of a sun that drives all other beasts to shelter. The peculiar spongy formation of the foot renders the camel exceedingly sure, although it is usual to believe that it is only adapted for flat sandy plains. I have travelled over mountains so precipitous that no domestic animal but the camel could have accomplished the task with a load. The capability is not shared generally by the race, but by a breed belonging to the Hadendowa Arabs, between the Red Sea and Taka. There is quite as great a variety in the breeds of camels as of horses. Those most

esteemed in the Soudan are the Bishareen ; they are not so large as others, but are exceedingly strong and enduring.

“The average value of a baggage camel among the Soudan Arabs is fifteen dollars, but a good ‘hygeen,’ or riding dromedary, is worth from fifty to a hundred and fifty dollars, according to his capabilities. A thoroughly good hygeen is supposed to travel fifty miles a day, and to continue this pace for five days, carrying only his rider, and a small water-skin, or groba. His action should be so easy that his long, ambling trot should produce that peculiar movement adopted by a nurse when hushing a child to sleep upon her knee. This movement is delightful, and the quick elastic step of a first-class animal imparts an invigorating spirit to the rider, and, were it not for the intensity of the sun, he would willingly ride for ever. The difference of action and of comfort to the rider between a common camel and a high-class hygeen is equal to that between a thoroughbred and a heavy dray-horse.”

McMaster, in his “Notes on Jerdon’s Mammals of India,” writes: “Like many human beings, camels get credit for good qualities which they do not possess; for example, patience is popularly supposed to be one of their virtues. Now I do not know a more discontented, fidgetty, ill-behaved animal than a camel when being detailed for duty.

“Some Indian traveller—if I mistake not, Russell, of the ‘thin red line’ fame, gives an excellent description of the objections raised by baggage camels to being laden; but the impatience of one of these is trifling to that shown by many of the highly-bred and light animals, kept solely for saddle work, most of which are really very beautiful, game, and blood-looking creatures, in appearance as different from a baggage camel as a thoroughbred from a dray-horse. Unless a saddle camel is very well broken, the moment the rider’s foot is in the stirrup up springs the camel, hind-quarters first, so that, as the beast’s knees are still on the ground, the rider is shot well forward, to be the next moment as rapidly jerked back, as the fore-legs are brought into play; then probably the beast makes a bolt for a hundred yards or so, perfectly regardless of the reins, or whatever may be the proper term

for the tiller-rope-like guiding strings attached to the wooden studs let into his nostrils. Then they give themselves as many airs, and they are as fanciful about the particular objects they elect to shy at, or to object to, as many horses, and to make one go pleasantly a light hand is even of more consequence than in horsemanship, for these beasts have as many peculiarities of tender or hard nostril as a horse has of mouth. This, however, once understood, I do not know a more pleasant hack, or one of greater service to a sportsman than a well-broken riding camel; one that will sit quietly while being mounted, and will not pull. The exertion, so often spoken about, of camelmanship, if there be such a word, is only imaginary; the rider has only to sit as loosely as possible—that is, not to grip the saddle, and to give his arms, legs, and body any play that will prevent their resisting the motion of the huge animal; to sit native-like; in fact, all ‘legs and wings.’ This once accomplished, he may ride for hours and for days together without feeling fatigued. . . .

“A camel must be a very tender-skinned animal, for the slightest prick with a hunting spur will cause blood to spring from the shoulder, the place where the rider’s heels naturally come to. The enforced acknowledgment of the rank of my dog was the only act of intelligence I have ever known any camel display. Much as we were together, I could never get my camel to feed from my hand, an expression of confidence in me that I have gained from every other animal that I have tried to be on good terms with except all the camels I have ever been acquainted with, some members of a herd of Burman buffaloes I possessed while at Tounghoo, and a wild dog. The most ridiculous instance of this impatience of camels I have ever seen was at an inspection of that well-known regiment, Ross’s Camel Corps, by a general on whom I was in attendance as a staff officer.

“The corps, consisting, if I remember right, of four troops of one hundred men each, two of British soldiers—picked, I believe, principally from the Rifle Brigade—and two of Seikhs, the most warlike race in India, was a sight to gladden the eye of any man proud of being a soldier. They were drawn up in column and dismounted, with their four hundred camels, also in column of

troops, seated, each animal with its driver, about one hundred yards to a flank.

“The ordinary infantry inspection being over, the men were ordered to file to their camels, which up to this time had been sitting most demurely, and to all appearance quite unconscious of what was to take place. As the men approached, each camel pricked up its head in great excitement, and looked most ludicrously like a gigantic turkey.

“The men having taken post, and ‘prepare to mount’ being ordered, the anxiety of the animal increased fifty-fold, and almost every one of the four hundred commenced that wonderful and horrible turkey-like gobble all camels delight in; the uproar increased at the word ‘mount,’ and continued until the commandant, on seeing every man in his place, ordered the ‘rise,’ when in a second every animal returned to its normal state of quiet.”

Men of all nations and all ages seem to delight in watching animals fighting, and camel-combats furnish one of the favourite holiday amusements of the Turks of Asia Minor. MacFarlane describes one of these curious encounters:—“An enclosure is made, and two camels, previously muzzled so that they cannot hurt each other much, are driven in and incited to fight with each other. Their mode of combat is curious; they knock their heads together (literally), twist their long necks, wrestle with their fore-legs, almost like bipeds, and seem to direct their principal attention to the throwing down of the adversary. During this combat, the Turks, deeply interested, will back, some one camel and some the other; and they will clap their hands and cry out the names of their respective favourites, just as our amateurs do with their dogs, or as the Spaniards, at their more splendid and more bloody bull-fights, will echo the name of the hardy bull or the gallant *matador*. The Pasha of Smyrna used frequently to regale the people with these spectacles in an enclosed square before his palace; and I saw them besides, once, at a Turkish wedding at the village of Bournabah, near Smyrna, and another time on some other festive occasion at Magnesia.”

John Leo, before quoted, gives a description of another way in which these animals used to afford amusement. He writes:—

“I have also seen, in Alcair, a camel that could dance at the sound of a timbrel, being thereunto taught when he was young; by this means—first he was brought into a room like a stable, the pavement whereof was made hot by a fire underneath it, and without door stood a musician playing on his timbrel; the camel, not for love of the musick, but for the heat under his feet, lifted up first one foot and then another, as they do which dance, and so, the heat increasing, he likewise did lift up faster, whereunto he was accustomed for the space of ten months, at every time one hour and a half, during which time the timbrel still sounded, so that at last use fained nature to such a strain that, hearing a timbrel, he instantly remembered the fire that was wont to punish his feet, and so presently would leap to and fro like a dancer in publick spectacle, to the admiration of all beholders.”

Camel races are often held in eastern countries. The various festivals of the Mahomedans are generally celebrated by this form of sport. But the powers of the camels as well as the skill of the riders are exhibited in perhaps their highest perfection in those wonderful warlike games practised by the desert Arabs, in which the speed, grace, and velocity of the various movements have elicited the admiration of every traveller who has been fortunate enough to witness one of these interesting and truly eastern spectacles.

It is a singular thing that although the camel was known in Egypt from the earliest antiquity, yet no ancient sculpture or painting has been discovered in which it is represented. On the Assyrian bas-reliefs it is, however, frequently depicted. In the volume on “Menageries” in the “Library of Entertaining Knowledge” this question, which is a very interesting one, is discussed, and for those who do not possess the work it is worth while quoting some portion of the article. “In a building at Ghirza, in the state of Tripoli, Major Denham found the remains of a Roman temple, probably executed after the Christian era, of which he has given a drawing; and upon the frieze of the entablature we observe a delineation of the camel. Near Mount Sinai, in Syria, there are rude representations upon the rocks, which are described by Niebuhr and Burckhardt, of goats, antelopes, and camels. But with regard to Egypt, Burckhardt says, in a note to the passage

where he mentions these figures, which appear to have been cut by the shepherds of the country, 'Among the innumerable paintings and sculptures in the temples and tombs of Egypt, I never met with a single instance of the representation of a camel.' Whether we are to infer from this circumstance that the camel was only partially known in Egypt, and did not cross the Nile till a period more recent than that of the Egyptian temples, we will not undertake to determine. M. Desmoulins, however, has written a very learned, and in most respects satisfactory, essay, to prove that the camel was not spread over Africa till after the Christian era. He considers that the question of existence, or the absence of the camel in Africa, at the periods of the great prosperity of that country, inasmuch as it belongs to the history of civil society, and to the theory of the means by which society is established and perfected, demands an especial solution. He shows on the one hand, that, from the highest antiquity, the camel was employed in the domestic and military service of the Asiatic people; and that the ancient writers constantly speak, both incidentally and directly, of this animal when they notice Asia generally, or Arabia particularly. On the contrary, he affirms that all the Greek or Latin writers from the time of Herodotus, in describing the wars with Africa, or the peaceful voyages that were made thither—whether their descriptions be given as geographers or naturalists—whether they describe the singularities of the country, or enumerate its animals—never once mention the camel. M. Desmoulins maintains that the necessity of the subject would have compelled such notices, if the animal had existed on the African continent. He goes on to show, from various authorities and inferences which appear sound, that until the third century of the Christian era there were no camels west of the Nile; and these animals did not pass the isthmus of Suez until the first excursions of the Arabs or Saracens, who, about the middle of the fourth century, according to *Ammianus Marcellinus*, wandered with their camels upon the deserts which extend from Assyria to the cataracts of the Nile. The appearance of camels on the west Nile took place, he affirms, for the first time when the Vandals and Moors revolted, after the departure of Belisarius for the reconquest of

Italy. It has often been remarked as singular that Procopius first notices camels in Africa, when he describes the Moors in arms against the lieutenant of Belisarius as mounted on them; this was in the middle of the sixth century. M. Desmoulins concludes that from the time of their first introduction by the wandering Saracens, two centuries before they had multiplied over the great desert of Africa, Sahara, in the same proportion as the Arab tribes had spread thereon; and he shows that there is nothing to be thought extraordinary in this rapidity of their multiplication, when we consider the immense increase of horses and oxen in the Pampas of Buenos Ayres and the Llanos of Apuria, from the period of the discovery of America. M. Desmoulins contends from these circumstances that the camel is not a native of Africa, but that the original species came from Arabia, where it existed in a wild state in the time of Artemidorus, as mentioned by Diodorus and Strabo.

“At the time when the camel was unknown in Africa beyond the Nile, the country was overrun with lions. Many hundreds of them were annually sent to Rome by the kings and proconsuls of Africa, for the brutal amusements of the circus. About the middle of the third century, which corresponds with the period of the Arabian migration into Africa, the number of lions diminished; and their destruction became so rapid, that the chase of the lion was forbidden, except to particular individuals, lest the circus should want its victims. This game law of the Romans was abrogated under Honorius. The destruction of the lions then became in great measure complete; the people could cultivate the land, without being exposed to danger from this fearful beast; and they introduced camels, to facilitate the communication from one place to another, without the apprehension that these, the most valuable of their servants, would be devoured in the plains where they sought their subsistence. The civilization of mankind is advanced or retarded by apparently trivial causes; the vast number of lions in Africa checked, in all probability, the progress of civilization in the interior of that country, at the period when Carthage was powerful and Egypt enlightened; and it is not unreasonable to conclude that the influence of these causes may have been felt

through centuries, in perpetuating the ignorance and wretchedness of many of the African tribes. The lion is represented as having an especial partiality for the flesh of the camel. Herodotus states that while Xerxes was on the march for the invasion of Greece, lions came down from the mountains and devoured the camels which carried his luggage, without attacking either horses or men."

The possibility of the existence of a herd of wild camels somewhere on the face of the earth has been surmised by many naturalists, for since Shah Rukh's ambassadors to China (A.D. 1420) reported having seen wild camels in the great desert other statements of their existence have been circulated. For instance, Du Halde, in his account of China and Chinese Tartary, compiled from *data* furnished him by the Jesuit missionaries who had resided in the various parts of these extensive countries during the seventeenth century, writes that in the northern territories "the wild camels are so swift that the hunters can seldom reach them with their arrows."

Pallas, the German naturalist of the eighteenth century, also stated—on Tartar evidence—that there were camels existing in a wild state in Central Asia, and Cuvier accounted for them by showing it was the Buddhist custom to give liberty to domestic animals. But as geographical and other explorations were rapidly being extended, and no trace of them were discovered, it began to be assumed that the race of camels were completely domesticated, and disbelief in the reports to the contrary were strongly expressed.

In a letter from Dr. O. Finch, of Bremen, dated Saissan, southwest Siberia, May, 1876, which was read at a meeting of the Zoological Society, the first intimation was given that these wild camels had again been heard of, and some information respecting them, which was not from personal observation, but from evidence collected from a native, was added. This only, however, corroborated the opinion which had been previously expressed, that these wild animals were merely the descendants of camels which had once been domesticated, and were not from the original stock, for an intelligent and experienced Kirgiz is reported to have said: "According to an old legend there was a

rich Kirgiz, who had so many horses and camels in his possession that he was unable to take care of them. A great number escaped and the camels became wild." In a subsequent account of these animals we are told that caravan camels have been known to elope with their wild mates and never return to their owners.

Colonel N. Prejevalsky,⁴ the Russian traveller, in his journey saw one wild camel, which he did not succeed in killing, for firing at it when 500 paces away he missed it, which, as he says, was a memorable miss for a sportsman. His inquiries on the subject of these animals elicited considerable information, from which we quote the following:—"The chief habitat of the wild camel at the present day is the desert of Kumtagh, to the east of Lake Lob; this animal is also occasionally found in the Lower Tarim, in the Kuruk-tagh mountains, and more rarely still in the sands bordering with the Cherchen-daria; beyond the town of Cherchen, in the direction of Khoten, its existence is not known. Twenty years ago wild camels were numerous near Lake Lob, where the village of Chargalik now stands, and further to the east, along the foot of the Altyn-tagh, as well as in the range itself. Our guide, a hunter of Chargalik, told us that it was not unusual in those days to see some dozens, or even a hundred, of those animals together. He himself had killed upwards of a hundred of them in the course of his life (and he was an old man) with a flint-and-steel musket. With the increase of population at Chargalik, the hunters of Lob-nor became more numerous, and camels scarcer. Now the wild camel only frequents the neighbourhood of Lob-nor, and even here in small numbers. Years pass without so much as one being seen; in more favourable seasons again the native hunters kill their five and six during the summer and autumn. The flesh of the wild camel, which is very fat in autumn, is used for food, and the skin for clothing. . . . Unlike the domesticated animal, whose chief characteristics are cowardice, stupidity, and apathy, the wild variety is remarkable for its sagacity and admirably developed senses. Its sight is marvellously keen, hearing exceedingly acute, and sense of smell wonderfully perfect. The hunters told us that a camel could

⁴ "From Kulja across the Tian Shan to Lob-nor." 1879.

scent a man several versts off, see him, however cautiously he might approach, from a great distance, and hear the slightest rustle of his footsteps. Once aware of its danger, it instantly takes to flight, and never stops for some dozens or even hundred of versts. A camel I fired at certainly ran twenty versts without stopping, as I saw by its traces, and probably farther still, had I been able to follow it, for it turned into a ravine, off our line of march. One would suppose that so uncouth an animal would be incapable of climbing mountains; the contrary, however, is actually the case, for we often saw the tracks and droppings of camels in the narrowest gorges, and on slopes steep enough to baffle the hunter. Here their footprints are mingled with those of the mountain sheep (*Pseudo Nahoos*) and the arkari (*Ovis Poli*). So incredible did this appear that we could hardly believe our eyes when we saw it. The wild camel is very swift, its pace being almost invariably a trot. In this respect, however, the domesticated species will, in a long distance, overtake a good galloper. It is very weak when wounded, and drops directly it is hit by a bullet of small calibre, such as the hunters of Lob-nor use."

That there are camels of the Bactrian or two-humped species in small numbers roaming wild, does not rest on Colonel Prezhevsky's evidence alone, for other writers of a later date have seen them; but whether they belong to the original stock that existed in a state of nature is still, and probably will remain, an unanswerable question. Arguments are freely used on both sides, and even dogmatic assertions appear occasionally in the public prints upon the subject, but invincible proof is wanting.

The Bactrian camel (*Camelus Bactrianus*), besides having the distinguishing sign of the two humps, is a coarser-looking animal than the Arabian beast. It is also stouter and more muscular, and is covered with shaggy hair, which is very long under the throat, and generally of a dark or dirty brown colour, but it also varies, not only in colour, from dark to light, but in size, strength, speed, and endurance, according to the breed and climate.

They are much rarer camels than their one-humped brethren.

They are inhabitants of Persia, Northern and Central Asia from Turkestan, the ancient Bactria, to China, and are occasionally to be found in Arabia.

Colonel Prezhevsky, who for three years was never separated from his Bactrian camels, and had ample opportunity of studying their nature and habits, describes them as being the most characteristic and remarkable animals of Mongolia. They are the constant companion of the nomad and often the source of his prosperity, and are invaluable to the traveller who wishes to cross that northern and inhospitable desert. The good points of this animal are a well-ribbed body, wide feet, and high, upright humps far apart. The first two qualities denote strength, and the upright humps show the beast is fat and capable of undertaking a long journey. This writer states that the camel's hump is sometimes broken, and, in consequence, will not stand erect; but this accident is of no importance, provided it remains hard and large. "The boundless steppe or desert is the home of the camel; here, like its master, the Mongol, it can be perfectly happy. Both the man and the beast shun fixed abodes. Confined in an enclosure, although supplied with an abundance of the best food, the camel will pine and die; excepting, perhaps, a few kept by the Chinese to transport coal, corn, or other loads. But they are poor, miserable creatures, compared with their fellows of the steppe; and even they will not bear confinement all the year round, and must be let loose in summer to pasture on the neighbouring plains and recruit their strength.

"The habits of the camel are very peculiar. It is anything but dainty in its food, and may serve as a model of moderation; but this is only true on the desert; take it to pasturage such as we have at home, and instead of becoming fat it grows leaner every day. It cannot thrive without salt, and eats with avidity the white saline efflorescence called *gudjir*, which covers all the marshes, and often exudes from the soil on the grass steppes of Mongolia. If there be none of this it will eat pure salt, which however, is not so beneficial and should only be given twice or thrice a month. If kept without salt for any length of time camels will get out of condition, however plentiful food may be,



A BACTRIAN CAMEL.

(*Camelus Bactrianus.*)

and they have been known to take white stones in their mouths, mistaking them for lumps of salt.

“ We ought also to mention that some camels are omnivorous, and will eat almost anything ; old bleached bones, their own pack-saddle stuffed with straw, straps, leather, &c., &c. Ours once ate up some gloves and a leathern saddle belonging to our Cossacks ; and the Mongols told me of camels which had been without food for a long while, and which devoured an old vest of their master’s in the coolest manner possible. They will even eat meat and fish ; one stole meat we had hung up to dry ; one voracious brute actually made off with the bird-skins ready for stuffing, and relished dried fish and the remains of the dog’s food ; but this was a singular instance, and his eccentric tastes were not shared by the others.”

The intelligence of these camels is described as being of a low order ; they are stupid and timid ; anything out of the common, even a hare starting from beneath their feet, has been known to throw a whole caravan into confusion. When attacked by a wolf, the animal never attempts to defend itself, although one of its powerful kicks would kill its enemy.

Between March and June they shed their coats, and the skin becomes quite bare, which renders them susceptible to cold. The new coat is not fully grown before the end of September. Although they may possess a constitution as strong as iron, they are so accustomed to dry atmosphere that a few nights on damp or moist ground will give them cold and start them coughing, and cause other complaints to which they are susceptible.

CHAPTER XIV.

THE GIRAFFE (*CAMELOPARDUS GIRAFFA*).

GIRAFFES, which are certainly the most ornamental animals of the African deserts, must, from their extraordinary height and peculiar structure, cause astonishment to any person who sees them for the first time. One has only to look at them to understand why the descriptions originally given of these creatures by those travellers in olden times who had seen them during their peregrinations were received with incredulity and ridicule. Certainly, as was their wont, they were not content to give a truthful narration of facts, but must furnish exaggerated accounts even of these animals, which certainly do not require any magnifying to make them marvellous enough. John Leo, in his "Ninth Booke of the Historie of Africa,"¹ states: "Hares, goats, harts, boars, elephants, camells, buffals, lions, panthers, tigris, rhinoceroses, and other creatures are there seen, and one so huge that a man sitting on horsebacke may pass upright under his belly; his shape is like a camell, but his nature divers, feeding on leaves, which he reacheth from the tops of trees with his necke stretched forth," and in the margin it is stated "This seemeth to be the *camelopardalis*," In the index of the same book a page reference is given thus: "*Camelopardalis*, a huge wilde beast." It would have to be a very little man on a very little horse to pass upright under a giraffe, and Leo's astonishment on seeing the animal must have caused the magnified impression he carried away with him. Nevertheless, although the elephants are the largest animals on the face of the globe, the giraffes are un-

¹ "Purchas, his Pilgrimes." 1625.

doubtedly the tallest, for they stand between fifteen and sixteen feet high, and attain in some instances a height of eighteen feet.

Giraffes belong to the ruminant order of mammals, and the present existing species form in themselves a distinct family. In some respects, however, they appear related to the deer tribe (*Cervidæ*), and in others to the oxen (*Bovidæ*) and also to the camel.

Fossil remains of extinct animals, apparently of the same species as the giraffe, have been found in certain parts of Europe and Asia. These beautiful creatures are now confined in their habitation entirely to Africa. They are scarce animals, even in their true home, and are only to be found on the great plains of the interior of the southern part of the continent. Although they are to a certain extent gregarious, they are nowhere to be met with in great numbers. Some travellers report having seen herds containing thirty and even forty individuals, but these are exceptional ones, for they are more often described as varying from twelve to sixteen. It is feared that the annihilation of these animals is not far off, for they are even now rapidly disappearing through both European and native sportsmen so constantly hunting them, the latter class for the sake of the flesh, which they hold in high esteem, and the thick skin, from which they make divers useful articles, such as straps, and bottles to hold their supply of water, and the former merely for the sake of killing.

Gordon Cumming,² describing the giraffe, states: "Some writers have discovered ugliness and a want of grace in the giraffe, but I consider that he is one of the most strikingly beautiful animals in the creation; and when a herd of them is seen scattered through a grove of picturesque parasol-topped acacias, which adorn their native plains, and on whose uppermost shoots they are enabled to browse by the colossal height with which Nature has so admirably endowed them, he must indeed be slow of conception who fails to discover both grace and dignity in all their movements. There can be no doubt that every animal is seen to the greatest advantage in the haunts which Nature destined him to adorn, and amongst the various living creatures which beautify this fair creation I have often traced a remarkable resemblance between the animal and

² "Five Years of a Hunter's Life."

the general appearance of the locality in which it is found." The harmony these large creatures exhibit to their surroundings gives them the power of remaining inconspicuous to a far greater extent than would be generally supposed. "In the case of the giraffe," continues Cumming, "which is invariably met with among venerable forests, where innumerable blasted and weather-beaten trunks and stems occur, I have repeatedly been in doubt as to the presence of a troop of them until I had recourse to my spy-glass; and on referring the case to my savage attendants I have known even their optics to fail, at one time mistaking these dilapidated trunks for camelopards, and again confounding real camelopards with those aged veterans of the forest."

It is obvious that to see them in their natural condition on the level plains, or in the mimosa woods of Africa, they must appear to more advantage than they do in any zoological collection, where everything around them seems so strangely out of proportion and unsuitable to these dignified but inoffensive-looking animals, and they appear in consequence more out of harmony with their surroundings than any of the other quadrupeds.

They are strange-looking because so unlike any other animal, in their peculiar shape, and in the extraordinary length of limb and neck which gives them their exceptional height. Inoffensive looking, consequent on the expression of their large, dark, lustrous eyes, which beam with such a peculiarly mild and fearless expression; also because of their comparatively small head, which is crowned with two apparently useless horns. They are not, however, so useless as they look, for at certain seasons of the year they fight furiously among themselves. Two of the male animals in the Zoological Gardens once had a desperate encounter; when the horns of the one were actually driven into the head of the other. Precautions are now taken to prevent such conflicts in the future. The way they fought was described as being very singular. They stretched out their legs behind and before, and then swung their heads the full length of the neck, and with sledge-hammer blows battered away at each other, their heads being kept in a slightly twisted position, so as to bring the full force of the horns to bear in the blow.

In Pliny's account of these animals, he says that as they are more remarkable for the singularity of their appearance than for their fierceness, they have obtained the name of "wild sheep." But this was only an epithet applied to them to signify the mildness of their dispositions.

They are not, however, perfectly defenceless, but occasionally prove themselves no mean adversaries for even their greatest enemy—the prowling lion. They have tremendously powerful feet, which they can use with remarkable rapidity. Frank Buckland makes the statement that the kick of a giraffe is the second most powerful thing in nature, the first being the blow of a whale's tail, and the third the pat of a lion's paw.

In the muzzle and the beautiful structure of their nostrils, the giraffes resemble camels, for they are also not only provided with hair growing from the margins, but with cutaneous sphincter muscles that enable them at will to close the narrow apertures and defend the air-passages and delicate membrane-lining from the injurious effects of the penetrating sand-storms.

They differ from every other member of the ruminating family in the shape of the mouth. The upper lip, which is unlike that of the camel in not being bifid or cleft, has a prolonged shape and is covered with hair, but has not the elegant and tapering form of the elk. They possess six molar teeth on each side of both jaws, and eight incisors on the lower, but none on the upper one; their dental formula being in fact identical with that of deer, sheep, goats, oxen, and antelopes.

The head has the two ears shaped something like those of the common deer, and, moreover, possesses two short bony appendages or horns, which are not, however, naked, but are completely covered with the skin of the forehead, and have short tufts of black hair or bristles on their summit. These horns, which are common to both sexes, though somewhat larger in the male animal, bear but little resemblance to the horns of the ox or deer tribe; they are attached partly to the parietal bones, and in the front of them there is a protuberance which Mr. Spencer Cobbold declares is a third horn. Dr. Rüppel also described the Nubian male giraffes as possessing a third horn occupying the middle of

the frontal suture. As the Cape giraffe, or at least the skulls that have been examined, have no such horn, this peculiarity in the Nubian animal, if not an accidental deformity, would certainly make them specifically distinct. "The existence of this third appendage is considered to furnish a complete refutation to Camper's theory with regard to the unicorn, namely, that such an occurrence is contrary to nature, and to prove at least the possibility of the existence of such an animal."³

In the food these animals live upon we see the reason for many of their peculiarities of structure. This is the leaves, shoots, blossoms, and small topmost branches of the mimosa, acacia, and other trees common in their native haunts from Nubia to the Cape, for they confine themselves to the regions where such trees are abundant, and their long necks enable them to reach, and their prehensile tongues to grasp, the tender shoots.

The neck, although so long, has only seven joints, requiring, therefore, but little muscular effort to keep it erect. It has none of the flexibility peculiar to the neck of the swan, but seems to move on a pivot only. In the articulation of the skull to the neck, however, considerable flexibility is apparent, for the animal is able to throw back the head until it is almost in line with the neck, thus forming a prolongation that confers upon it the power of reaching to a greater height than would otherwise be possible. The tongue is particularly worthy of notice, for its elasticity and prehensile powers. According to Sir Everard Home's description of it, besides being the organ of taste, it has many of the properties of the elephant's trunk, one being an elongation of the organ of smell, the other of taste. The proboscis is incapable of elongation, he observes, beyond one inch in extent, in consequence of its cartilaginous tubes, while the giraffe's tongue can be extended to such an extent that one measured seventeen inches long in a dead animal, yet when living could lie so diminished in size as to be enclosed within the mouth. It can also be tapered to so fine a point that Mr. Davis says it can be inserted into the ring of a very small key. The tongue is smooth, but at will can be made rough by the raising of the papillæ. The power of thrusting it so

³ Knight's "Cyclopedia."

far out of the mouth is to enable the animal to curl it around the branches, twigs, or other things it wishes to draw within the lips. It can also be used for the examination and selection of its food as well as to grasp things that it were otherwise impossible for the animal to secure. The tongue would be liable to blister while being so constantly exposed to the fierce rays of the sun when the animal is feeding if Nature had not supplied a preventative in the shape of a black *rete mucosum* with which it is covered presumably for this purpose.

The eyes of the giraffe, which are large and beautiful, are so situated as to confer on the animal a wide range of vision. This provision enables it to not only see what is passing on all sides, but even behind it, without turning the head. It is in consequence, even when feeding, able to detect the approach of its enemies, and, if surprised, to direct with accurate aim the rapid storm of kicks which, as before stated, is the mode of its defence.

At first appearance the hind-legs of the animal appear to be shorter than the front ones, and many naturalists, including Buffon, describe them as being so in reality. The statement is, however, an erroneous one, for if anything, the hind ones are slightly the longer. The shortness of the body, which is only about seven feet from the neck to the tail, together with the great falling away from the neck to the withers, and the still more rapid slant at the extremity, produces the peculiarity in shape which gives rise to the false impression.

The construction of the foot is a divided hoof, resembling that of an ox, and as beautifully proportioned as that of the smallest gazelle. The colour of the giraffe is a lightish orange-red, which deepens considerably as it advances in age, and mottled over with numerous triangular or oblong spots of a still darker tint, which, however, are not found on the under part or inside of the limbs, where the colour shades into almost pure white. The female is distinguished by being of a lighter tinge, more approaching to yellow, and shorter than the male. The neck is furnished with a short black mane, and the long tail which nearly reaches to the ground is terminated with a luxurious tuft of dark hair that enables the animal to keep itself, to some extent, free from the pestering

flies and stinging insects that swarm in their millions in Africa.

Mr. Selous, describing these animals quenching their thirst, observes, "It is a curious sight to watch these long-legged animals drinking, and one that I have had several opportunities of enjoying. Though their necks are long, they are not sufficiently so to enable them to reach the water without straddling their legs wide apart. In doing this, they sometimes place one foot in front, and the other as far back as possible, and then by a series of little jerks widen the distance between the two, until they succeed in getting their mouths down to the water; sometimes they sprawl their legs out sideways in a similar manner."

They have to go through the same performance when feeding from the ground, through being unable to reach there except by divaricating the fore-legs or straddling, which gives them an awkward appearance when so engaged.

They are peculiarly silent animals, and have never been heard under any circumstances to utter a cry or sound of any description. Their hide is very tough, and being an inch and a half thick, a rifle-ball does not easily penetrate it, unless it is fired from a rather short range.

The gait of a giraffe is generally an amble and a very peculiar one, due to their moving both legs on the same side together in each stride, which gives them a singular and very ungainly mode of progression; it is made still more clumsy-looking by the habit they have of stretching forward their long necks when galloping. Sir W. C. Harris says, "The rapidity with which these awkwardly-formed animals can move is beyond all things surprising; our best horses being unable to close with them under two miles. Their gallop is a succession of jumping strides, the fore and hind-leg on the same side moving together, instead of diagonally as in most other quadrupeds, the former being kept close together, and the latter so wide apart, that in riding by the animal's side the hoof may be seen striking on the outside of the horse, threatening momentarily to overthrow him. Their motion altogether reminded me rather of the pitching of a ship, or rocking of a rocking-horse, than of anything living; and the remarkable

gait is rendered still more automaton-like by the switching at regular intervals of the long black tail, which is invariably curled above the back and by the corresponding action of the neck, swinging as it does, like a pendulum, and literally imparting to the animal the appearance of a piece of machinery in motion."

The senses of sight, hearing, and smell appear to be acute, but the animal is incapable of any continued speed or exertion whatever; Dr. Livingstone is the authority for the statement that when pressed hard by a good horse for even two or three hundred yards it has been known to drop down dead without any wound being inflicted at all.

For a considerable period of comparatively modern times, this strange and rare animal was deemed a myth, and despite the descriptions and even illustrations of it that were extant, it was classed with the unicorn and sphinx of the ancients, being considered as a fantastic creature that only had had existence in their imaginations. Gesner stated authoritatively that it was without question such a beast existed, because it had been seen in Europe, yet he continued to attach to it the fabulous origin from whence it derived the name of camelopard, by saying it was the production of a cross between the camel and the leopard.

In 1769 Captain Carteret, in a letter addressed to Matthew Matty, Esq., M.D., published in the "Philosophical Transactions," there was an enclosed drawing of the camelopardalis caught near the Cape, about which the writer observes, "As the existence of this fine animal has been doubted by many, if you think it may afford any pleasure to the curious, you will make what use of it you please."

Although not a sacred animal with the Egyptians, yet it is figured on their monuments. It is seen on the walls of the sekos or cell of the Memnonium, and on the back of the temple of Ermento. Again on the walls of the vestibule of the rock-hewn temple of Beit-e'-wellee, or Beit-oualli, near Kalabshé, in Nubia, made by Rameses II., who reigned in Egypt about 1300 years before Christ, the battles and conquests of the king are depicted in basso and cavo-relievo. A cast of these scenes, made and coloured by Mr. Bonini, is in the British Museum. In one place the king is seen receiving the tribute of Kush or Ethiopia. The first bearers

bring two green monkeys, a log of ebony, and some panther skins, suspended from a pole carried on the shoulders; the second has a cheetah, held by a leash, and a gazelle; the third a giraffe, which is being driven with a cord round his neck. The drawing of the stately animal is excellently done, and conveys an exact idea of its figure and appearance; the only fault being that the man is out of proportion, being represented as of the same height as the giraffe, this being due, no doubt, to the limited space at the artist's disposal not allowing him to delineate the true proportions of the animal. Other men and animals follow, and the last are two negroes with a gazelle, logs of ebony, and another cheetah or panther, also an ostrich; this being the only representation yet discovered of this bird on an Egyptian monument.

Ippolito Rosellini in his exhaustive work⁴ also gives a coloured reproduction of a giraffe as figured in that wonderful tomb of Beni Hassan, which is the oldest drawing of the animal that has yet been discovered. The giraffe is portrayed, being led by men who are holding cords attached to the animal's legs below the knees. Climbing up the giraffe's neck is a green monkey with a long tail and a red face. The outline is very accurate, but the spots are too numerous and close together. A facsimile of this drawing is given herewith. It is the exact reproduction in every way of the figure as found within the tomb, but is drawn on scale to a quarter the size.

The giraffe must have been known to the Greeks, for although Aristotle does not speak of it—unless the Hippardion can be accurately identified to mean it—it was described by Agatharchides, the Grecian geographer and historian (B.C. 130). A camelopard is also enumerated among the rare animals seen in the procession of Ptolemy Philadelphus at Alexandria by one of the Deipnosophists.⁵

In the ruins of the temple dedicated to Fortune in Præneste, now Palestrina, a town in Campagna di Roma, about twenty-three miles south-east of Rome, was found the celebrated mosaic which was transferred in 1640 by the Cardinal Francis Barberini to a hall of his palace. This wonderful pavement, which is the finest

⁴ "I Monumenti dell' Egitto e della Nubia."

⁵ "Athenæus," lib. v.



A GIRAFFE.

Reduced facsimile of the drawing found in a tomb at Beni Hassan.

and most perfect ancient mosaic in existence, apparently represents an Egyptian festival held on the annual inundation of the Nile, and on it are to be seen numerous figures of men and animals; among the latter are the hippopotamus and the giraffe. This last animal is seen both grazing and browsing. It has been variously ascribed to the time of the later Ptolemies, and by some to the reign of Hadrian; others state it was made by the direction of Sylla, who held the office of quæstor in Numidia, the name given by the Romans to the territory on the north coast of Africa corresponding to some extent with the modern Algiers. The opinion has, therefore, been formed that the artists who executed this and other mosaic work both in Italy and Spain, were Egyptian Greeks.

Although thus figured in a temple close to their capital, the Romans do not appear to have seen the animal itself until a few years before the Christian Era. Heliodorus, writing in the fourth century, speaks of the camelopard being brought to Rome among other presents by the Ethiopian ambassadors. Pliny states it was first seen in the Circensian games held by Cæsar the Dictator (B.C. 46). But after Egypt belonged to the Romans, these graceful beasts were more frequently conspicuous at the games or shows, but at no time were they ever there considered common animals or seen in large numbers. The third Gordian Emperor, from A.D. 238 to 244, exhibited ten at one time, which was probably the largest number ever collected together away from their native land.

These animals can be traced through the various writers until "the great blank of literature intervenes." Gibbon⁶ describes the Emperor Commodus slaying in the amphitheatre, in addition to lions, elephants, and rhinoceros, several animals which had been seen only in the representations of arts, or perhaps of fancy, and says in a note, "Commodus killed a camelopardalis or giraffe, the tallest, the most gentle, and the most useless of the large quadrupeds. This singular animal, a native only of the interior parts of Africa, had not been seen in Europe since the revival of letters; and though M. de Buffon has endeavoured to describe, he has not

⁶ "Rise and Fall of the Roman Empire."

ventured to delineate the giraffe." The first part of this statement, it has been pointed out, is incorrect, for in 1472, Mr. Gilbert says, in his "Life of Lucrezia Borgia," a giraffe, the first seen in Europe in modern days, was brought to Ferrara by the Sultan of Egypt's ambassador.

The collection of animals made by the Emperor Frederick the Second in Sicily (1198—1227), included giraffes which were presented to him by the Prince of Damascus, and are described by Albertus Magnus, and referred to by Raumer in his work "Geschichte der Hohenstaufen." These animals must therefore have been known to the Sicilians, for the emperor's menagerie was exhibited for the popular amusement [in many places; in the early part of the thirteenth century, we consequently find them represented upon the tapestries and fabrics woven at that and a somewhat later period.

Specimens of work so figured can now be seen in the South Kensington Museum, and from Dr. Bock's able catalogue we learn that the Sicilians were taught the art of spinning silk by Mohammedans from Africa, and that "from the east to the uttermost western borders of the Mediterranean, the weavers of every country had been in the habit of figuring upon their silk those beasts and birds they saw around them."

Colonel Yule states that a giraffe was sent by Birbars to the Imperial Court in 1261, and several to Barka Khan at Sarai in 1263. The king of Nubia was bound by treaty in 1275 to deliver to the Sultan three elephants, three giraffes, and five shepanthers. These animals, which were called "seraphs" by the Italians, must therefore have been well known in Europe about this period.

Gibbon is correct in his remark that Buffon, although he described the animal, had never seen one. Levaillant, the French traveller, who sacrificed his fortune in journeys made in the interest of natural history, sent the Jardin des Plantes the first stuffed giraffe which the Parisiennes ever saw. In his description of how he obtained this specimen, after describing the chase and his success in killing the giraffe with his first shot, he continues, "Who would believe that a success like this could

excite in my mind transports of joy almost akin to madness? Pain, fatigue, cruel want, uncertainty as to the future, and disgust at the past, all disappeared, all vanished at the sight of my rare prize; I could not look at it enough. I measured its enormous height, and gazed with astonishment from the instrument of destruction to the animal destroyed by it. I called and recalled my people, one by one; and though each of them might have been able to do as much, and we had all slaughtered heavier and more dangerous animals, yet I was the first to kill one of this particular kind; with it I was about to enrich natural history, and, putting an end to fiction, establish the truth.”

At the end of the fifteenth century the giraffe that was in Florence and belonged to Lorenzo di Medici, and the one represented in the frescoes of a villa belonging to the Grand Duke of Tuscany, Poggio Acajano, between Florence and Prato was, we learn,⁷ very familiar with the inhabitants of the city. It lived on the fruits of the country, particularly apples, and when led about used to stretch up its long neck to the first floor of the houses, to implore a meal.

A giraffe was not again seen in Europe from this date until 1827, when the Pasha of Egypt presented one to the Sultan, another he sent to Venice, a third to King George, and a fourth to Paris. The consuls of each nation drew lots for the choice, and the French people seem to have got the most satisfaction out of their giraffe; it was the healthiest, and lived the longest. The account given of the arrival of this creature is amusing, and the *furore* created by it is curious reading in 1885, for the animals are now acclimatized and regularly bred in Europe. The *Penny Magazine* for 1832 says:—“The female giraffe brought to France, after passing a winter at Marseilles, in order to accustom her to a still more rigorous climate, was conveyed to the Garden of Plants, in Paris, where she is now in high health and beauty. Her arrival created the greatest satisfaction and enthusiasm. A professor from the garden went to conduct her to the capital, and watch over her welfare during the march. The prefect of Marseilles caused the arms of France to be embroidered in silver on her body-cloth, which, with her hood, was made of black oiled-silk,

⁷ “Library of Entertaining Knowledge.” Menageries.

bordered with red ; deputations from the various towns met her on her way ; the cows sent from Egypt with her, to supply her with milk during the passage, accompanied her ; and she was not only escorted by the before-mentioned gentlemen, but by Atie, her Darfour negro, Hassan, her Arab attendant, a Marseillois groom, and a mulatto who served as an interpreter to the two former. The Archbishop of Lyons being very desirous that she should pay him a visit, the prefect of the city and several horsemen set out to meet the cavalcade, and lead it to his Grace's house ; but unfortunately, the giraffe, frightened at their appearance, broke from her conductors and fled. The horsemen pursued, when turning suddenly round, she in her turn frightened the horses ; the prefect rolled on to the professor, the professor on to the ground, and the confusion was complete. The innocent cause of it, however, quietly walked back to the stable she had left in the morning, and no further attempt was made to introduce her to the archbishop. A party from Paris met her at Fontainebleau, and her entrance to the Garden of Plants resembled a triumphal procession ; she was led by her four attendants, was surrounded by the professors, troops kept the public from pressing on her, and her three cows and the antelope who came with her from Egypt, followed in a carriage. She was first placed in a large building called the Orangery, and was only suffered to walk out in that division of the garden named the School of Botany, when the weather was warm and sunny. Nothing could exceed the curiosity she excited. Her place of exercise was generally surrounded by 10,000 persons at a time, and 13,000 more than the usual number of passengers daily crossed over the Pont d'Austerlitz, which is opposite to one of the gates of the garden. This eagerness lasted for many weeks, and not only all the people of Paris, but of the environs, went to behold the giraffe. A fresh portrait of her was published every week ; representations of her in various attitudes decorated every box, every fan, and even the ribbons of the ladies ; and men and women wore gloves, shoes, waistcoats, gowns, and bonnets of the same colour as the spots on her sides."

In England there is no record of the animal ever having been seen until the one that fell to the lot of George the Fourth arrived.

It was the shortest and weakest of the four, and was roughly treated. It was kept at Windsor, in the king's menagerie, but it died in 1829. It had always been a poor sick specimen, and was so far gone in the legs that at one time a pulley had to be suspended from the ceiling, whereby the animal could be raised from the ground on to her feet, for she had apparently become incapable of the exertion herself.

Phil Robinson, in his amusing book, "Noah's Ark," considers it terrible to think what a giraffe's *seven feet of sore throat* must be like. It requires, however, but little imagination to picture the ridiculous appearance presented by such a long, stilt-legged animal when afflicted with the complaint from which human giants are said to suffer, namely, "weak in the knees!" At any rate a giraffe "gone in the legs" was not an attractive sight, and on her demise very little regret seems to have been expressed.

It inspired the Zoological Society, however, with some energy, for they determined to procure animals of this species for their gardens, and accordingly entered into a contract for the purchase of any specimens that could be procured. This resulted in 1836 in the importation of four young giraffes all at one time, three males and one female. This event was considered an era in the annals of natural history.

Mr. Broderip⁸ gives the following account of the circumstances attending their capture:—"M. Thibaut quitted Cairo in April, 1834, and after sailing up the Nile as far as Wadi Halfa, the second cataract, took camels and proceeded to Debbat, a province of Dongolah, whence he started for the desert of Kordofan. Being perfectly acquainted with the locality, and on friendly terms with the Arabs, he attached them still more by the desire of profit. All were desirous of accompanying him in the pursuit of the giraffes, for up to that time they had treated them solely for the sake of their flesh, which they ate, and the skin of which they made into bucklers and sandals. The party proceeded to the south-west of Kordofan, and in August were rewarded by the sight of two beautiful giraffes; a rapid chase of three hours, on horses accustomed to the fatigues of the desert, put them in possession of the largest of these noble

⁸ "Zoological Anecdotes."

animals; unable to take her alive, the Arabs killed her with blows of the sabre, and cutting her to pieces, carried the meat to their headquarters, which had been established in a wooded situation—an arrangement necessary for their own comfort, and to secure pasturage for their camels. They deferred to the following day the pursuit of the motherless young one, knowing they would have no difficulty in again discovering it. The Arabs quickly covered the live embers with slices of the meat, which M. Thibaut pronounces to be excellent.

“On the following morning the party started at daybreak in search of the young giraffe, of which they had lost sight not far from the camp. The sandy desert is well adapted to afford indications to a hunter, and in a very short time they were on the track of the object of their pursuit; they followed the traces with rapidity and in silence lest the creature should be alarmed whilst yet at a distance; but after a laborious chase of several hours through brambles and thorny trees, they at last succeeded in capturing the coveted prize. It was now necessary to rest for three or four days, in order to render the giraffe sufficiently tame; during which period an Arab constantly held it at the end of a long cord; by degrees it became accustomed to the presence of man, and was induced to take nourishment, but it was found necessary to insert a finger into its mouth to deceive it into the idea that it was with its dam, it then sucked freely. When captured its age was about nineteen months. Five giraffes were taken by the party, but the cold weather of December, 1834, killed four of them in the desert on the route to Dongolah. Happily, that first taken survived, and reached Dongolah in January, 1835, after a sojourn of twenty-two days in the desert.

“Unwilling to leave with a solitary specimen, M. Thibaut returned to the desert, where he remained three months, crossing in all directions, and frequently exposed to great hardships and privations; but he was eventually rewarded by obtaining three giraffes, all smaller than the first. A great trial awaited them, as they had to proceed by water the whole distance from Wadi Halfa to Cairo, and thence to Alexandria and Malta, besides the voyage to England. They suffered considerably at sea during a

passage of twenty-four days in very tempestuous weather, and on reaching Malta, in November, they were detained in quarantine twenty-five days more; but despite all these difficulties they reached England in safety, and on the 25th of May were conducted to the gardens. At daybreak the keepers and several gentlemen of scientific distinction arrived at the Brunswick wharf, and the animals were handed over to them. The distance to the gardens was not less than six miles, and some curiosity, not unmingled with anxiety, was felt as to how this would be accomplished. Each giraffe was led between two keepers by means of long reins attached to the head; the animals walked along at a rapid pace, generally in advance of their conductors, but were perfectly tractable. It being so early in the morning few persons were about, but the astonishment of those who did behold the unlooked-for procession was ludicrous in the extreme. As the giraffes stalked by, followed by M. Thibaut and others in Eastern costume, the worthy policemen and early coffee-sellers stared with astonishment, and a few revellers, whose reeling steps proclaimed their dissipation, evidently doubted whether the strange figures they beheld were real flesh and bone, or fictions conjured up by their potations; their gaze of stupid wonder indicating that of the two they were inclined to the latter opinion.

“When the giraffes entered the park, and first caught sight of the green trees, they became excited, and hauled upon the reins, waving the head and neck from side to side, with an occasional caracole and kick-out of the hind-legs, but M. Thibaut contrived to coax them along with pieces of sugar, of which they were very fond; and he had the satisfaction of depositing his valuable charges without accident or misadventure in the sanded paddock prepared for their reception. The sum agreed on with M. Thibaut was 250*l.* for the first giraffe he obtained, 200*l.* for the second, 150*l.* for the third, and 100*l.* for the fourth—in all 700*l.*; but the actual cost to the Society amounted to no less than 2386*l.* 3*s.* 1*d.*, in consequence of the heavy expenses of freight, conveyance, &c.”

These animals soon became acclimatized. One of the males died shortly after its arrival, but the others bore their confinement

very well, and the breed has been perpetuated ever since. The Society has sold several of the young ones, which are now scattered over various parts of the world. Some new blood was imported in 1850, but since then all the Zoological Society's giraffes have been of their own breeding.

In 1866 a sad accident happened to the animals that were then in the gardens. On the 7th November of that year the straw in their house caught fire through some unexplained cause, but supposed to have been due to a match being mixed with the litter under their feet, and ignited by one of the animals treading upon it. Two of the beautiful creatures were suffocated or burnt to death, but another two were fortunately saved by the exertions of Mr. Nurce, the anatomical prosector of the Society, who happened to be near the giraffe-house at the time, and was able, at considerable personal risk, to get them out into the yard at the back of their apartment.

The gardens now possess three animals—father, mother, and child, all good specimens of their species, which show that the careful attention, airy and well-ventilated pens, and out-door life in the summer sunshine suit the animals, and prevent them from degenerating. The average age they attain in the keeping of the Society is ascertained to be sixteen years. They are fed on the best hay, carrots, onions, and some lump sugar now and then by way of a treat, which they seem to appreciate. They eat altogether about eighteen pounds of food each a day, and drink four gallons of water.



GIRAFFES.

(Camelopardus giraffa.)

HIPPOPOTAMUS.

(Hippopotamus amphibius.)

The well-known "Guy Fawkes" belonging to the Zoological Society.

CHAPTER XV.

THE HIPPOPOTAMUS (*HIPPOPOTAMUS AMPHIBIUS*).

THIS strange and uncouth-looking animal, belongs to the pachydermatous order of mammals, and is partially amphibious, for, as a rule, it lives during the day-time, submerged in its native waters, rising every few minutes to the surface for the purpose of breathing and only comes to the land during the night to feed.

There are two species of the hippopotamus now existing, both belonging to the same family, *Hippopotamidæ*. At one time the race was more numerous, and their range much more diffused, for the remains of other species, one as small as the domestic hog, are found in the tertiary formation of Europe. And in Asia, at the base of the Himalayas, the bones of another extinct species were discovered that had six incisor teeth in each jaw.

The two varieties are known as the Liberian hippopotamus and the Hippopotamus amphibius. They differ in several minor points, the principal ones being that the former animal is much smaller in size, and possesses only one pair of incisor teeth instead of two. It is a very rare beast, and the only specimen ever brought to this country was a young one in a moribund condition.

The hippopotamus at the present day is only found in Southern and Central Africa, where it abounds in the various rivers and lakes; but, with the exception of that part of the Nile that runs through Upper Egypt, it is not to be found in any waters that have their outlet in the Mediterranean.

The specimens of these beasts now in the Zoological Society's gardens, occupy the adjoining apartments to the giraffe, where they have a roomy tank in which they pass most of their time. No greater contrast could be exhibited than is apparent between

these two different species of mammals, both of great size in their respective ways, and related by being inhabitants of the same continent. In the one instance, we see a creature beautifully marked, soaring gracefully aloft, mild featured, and of timid disposition; in the other, when on land, a shapeless beast resembling an immense German sausage, with formidable fangs, stupid appearance, and its cumbersome body grovelling on the earth.

The hippopotamus is undoubtedly the ugliest and most ill-favoured-looking quadruped that will come under our consideration. It is huge-bodied, short-limbed, immensely large-headed, and presents altogether an unwieldy, massive, and withal stunted appearance. These creatures measure when full-grown somewhere between twelve and thirteen feet from the snout to the tail, and round the body a little over ten feet. This great length and girth is supported on very short and feeble-looking legs, which are only a little more than eighteen inches high, so that the animal's body is barely lifted off the ground. Its full height at the shoulders is under five feet, which by the standard of the majority of other members of the animal creation, is out of all proportion. Their feet have each four toes, which are, however, enclosed in hoofs.

The huge head is ornamented near the summit with two very small ears, which are perpetually twitching, and is terminated by a heavy, massive jaw with thick upper lips bulging over and completely covering the mouth. Its eyes, which are very small, are situated but a little way apart, and in protruding sockets. The nostrils, ears, and eyes are nearly all on the same plane, the flat surface of the massive head. This very remarkable feature in the construction of this singular beast permits it to breathe, and use the senses of hearing, seeing, and smelling by only exposing a very small part of its body; hence the custom it adopts of floating in the water with only the upper level of the head resting a little above the surface. Its slow respiration enables it to remain under the water for long intervals at a stretch. It is, in fact, in every way adapted to live both in the water and on land. The massive body, ungainly as it may be, floats easily, and when beneath the surface the hippopotamus can exclude the water by

hermetically closing the nostrils, for they are supplied with a wonderful valve arrangement that enables the animal to do this at will. The mammals that are amphibious only possess this power ; but, as already described, the camel and giraffe have a similar construction as a protection when breathing the sand-laden air.

The hippopotamus has a tremendous gape, for it can open the jaws to a wider extent than can readily be believed without ocular demonstration. It has, in fact, far and away the largest mouth of any known animal. In this cavernous receptacle it displays six molar teeth on each side of both jaws, very strong and enormous ripping canines, forming the tusks, the upper ones being nearly straight, but the lower ones curved and working upon each other, so as to produce a chisel-like edge with which the animal can cut grass, vegetables, and river weeds, or uproot them with the ease of an agricultural implement. It has also four incisors in each jaw, the upper ones bent forward, the under ones long and cylindrical. The tusks, of the lower jaw especially, are harder and even of more commercial value than the ivory of the elephant. Tusks of the hippopotamus have been known to weigh twenty-one pounds ; this is of course exceptional, but conveys the idea of the formidable teeth that are hidden in the closed jaws of this singular-looking beast. No ivory keeps its colour so well, and large quantities of these tusks are imported into England, where dentists highly value them for making artificial teeth, and they are used for many other purposes. The skin is destitute of hair, except a few tufts on the lips, edges of the ears, and on the short thick tail. The colour is a dark pinkish-brown, and marked all over with dark spots, which are almost invisible, in some instances, without close inspection. The skin exudes some thick, oily matter from its numerous pores, which evidently acts as a protector against any injurious effects that might result from long immersions in the water.

Although the hippopotamus swims and dives with an agility that is astonishing considering its bulky form, it is far from an active beast when on land ; for the weight the dumpy legs have to support renders its gait anything but a rapid one. The consequence is that when out of the water it is not by any means a dangerous

animal, although, quoting Dr. Livingstone, "certain elderly males, which have been expelled the community, become soured in their temper, and attack every one that passes near them. One of these 'bachelors' issued out of his lair, and putting down his head ran after our company with considerable speed; another before we arrived had smashed to pieces a canoe by a blow from his hind-foot. I was informed by my men that, in the event of a similar assault, the proper course was to plunge to the bottom of the river and remain there a few seconds, because the animal after breaking a canoe always looks for the people on the surface, and if he finds none soon moves off. I have seen some frightful gashes made on the legs of men who were unable to dive. The hippopotamus uses his teeth against foes as an offensive weapon, but is altogether a herbivorous feeder."

Mr. Robert Moffat, the African missionary, states that on one occasion he was attacked by one of these animals, and another time, when speaking of a man he saw trying to escape an enraged hippopotamus, says "the sea-lion seized him, and literally severed his body in two with its monstrous jaws."

When in the water the animals are so formidable that care has to be taken to avoid passing near or through a herd of them, and in approaching near their haunts the greatest caution has to be exercised, for they have the power of grasping a canoe in their extensive jaws, and so wrecking it.

In a letter dated Zanzibar, 18th of February, 1873, reporting the progress of Sir Bartle Frere's expedition, which was published in the *Times* about a month later, there is the following paragraph: "With regard to the hippopotami, their numbers in the coast rivers make navigation in small boats anything but safe and easy. Not content with occasionally attempting an entrance over the gunwale of the boat, they often try to stove the boat in from underneath. An accident of this sort happened to two gentlemen of Sir Bartle Frere's *suite* in the river near Dar-es-Salaam. The boat was suddenly stove in from underneath, two large tusks made two gaping holes, through which the water rushed in, and they had barely time to reach the shore before sinking, not having been able to get a shot at their invisible enemy."

Dr. Livingstone also met, with a mishap, for he writes: "While proceeding down the river a female hippopotamus struck the canoe with her forehead, lifting one half of it quite out of the water, so as nearly to overturn it. The force of the butt she gave tilted Mashauana into the river; the rest of us swam to the shore, which was only about ten yards off. . . . There were eight of us in the canoe, and the shake it received shows the immense power of this animal in the water."

The hippopotami are gregarious, company-loving beasts. They associate together in herds numbering from five and six to thirty or forty; but it is impossible to accurately ascertain their numbers, for as they are generally hidden under the water, and only keep rising in constant succession, they cannot well be counted. They exhibit considerable intelligence in avoiding danger when once they are aware of it, for if shot at many times they profit by the experience, and are wont thereafter for some time to remain hidden and breathe quietly, which is the opposite to their custom prior to being disturbed, for then their heads are held well out of the water, which gives the rivers they frequent the appearance of being dotted over with small rocks, and they blow the water about in every direction, while they utter loud snorting grunts which may be heard a mile off.

Schweinfurth, in his book "The Heart of Africa," in describing the hippopotamus gives the following particulars: "The colour of nearly all these animals was a dark fleshy red, almost like raw meat, marked irregularly with large black spots. I also saw specimens of a lighter shade, but never of a pure white; in the sunshine their damp bodies assumed quite a bluish-grey hue. Half of the hippopotamuses that I noticed at this deep part of the river, which extended for about a mile, were females carrying their young, which at this season seemed very weak and undeveloped, and sat astride on the short necks of their mothers. The females appeared to rise to the surface of the water for the sake of their young far more frequently than was necessary for their own accommodation, and, unlike the males, which usually show their mouth and nostrils, they only lifted their young above the water, whilst their own heads generally remained invisible. The

animals seem to utter different sounds at different seasons; they now snorted and grunted, or rather groaned, and the sharp rattling gurgle was less distinct than in the spring. In the sunlight the fine spray emitted from their nostrils gleamed like a ray of light.

“Now and then, with a frightful roar that resounded far away, the males would leap violently from the water, displaying all the forepart of their huge body; they seemed to be scuffling together; but whether they were quarrelling for a monopoly of the limited space, or whether they had been hit by some of my bullets, I could not determine. Their small pointed ears were remarkably flexible, and were continually moving to and fro as the animals listened to distant sounds or flapped away the settling insects.”

Dr. Emil Holub¹ writes: “Of all the larger mammalia of South Africa I am disposed to believe that to an unarmed man the hippopotamus is the most dangerous. In its normal state it can never endure the sight of anything to which it is unaccustomed, or which takes it by surprise. Let it come upon a horse, an ox, a porcupine, a log of wood, or even a fluttering garment, suddenly crossing its path, and it will fly upon any of them with relentless fury; but let such object be withdrawn betimes from view, and the brute in an instant will forget all about it, and go on its way entirely undisturbed. (This peculiarity may perhaps be physiologically accounted for by the small weight of the brain as contrasted with the ponderous size of the body.) Although in some cases it may happen that an unprotected man may elude the attacks of a lion, a buffalo, or a leopard, except they have been provoked, he cannot indulge the hope of escaping the violence of a hippopotamus that has once got him within reach of its power. . . . While I was in Sesteke I heard of a sad casualty that had occurred near the town in the previous year. A Masupia, on his way down the river, saw a hippopotamus asleep on a sandy bank, and believing that he might make it an easy prey, approached it very gently, and thrust his spear right under the shoulder. The barb, however, glinted off its side, inflicting only a trifling wound. In a second, before the man had time to get away, the infuriated

¹ “Seven Years in South Africa,” 1881.

brute was up and after him. In vain he rolled himself over to conceal himself in the grass; the beast seemed resolved to trample him to pieces; he held up his right hand as a protection, and it was crushed by the monster's fangs; he stretched out his left, and it was amputated by a single bite. He was afterwards found by some fishermen in a most mutilated state, barely able to recount his misfortune before he died."

Sir Samuel Baker, in his book "Ismailia," relates the circumstances attending an unprovoked attack made on his boat by a ferocious hippopotamus in the White Nile. Quoting his own words: "The night was cold, and the moon clear and bright. Every one was wrapped up in warm blankets, and I was so sound asleep that I cannot describe more until I was suddenly awoke by a tremendous splashing quite close to the *diahbeeah*, accompanied by the hoarse, wild snorting of a furious hippopotamus. I jumped up, and immediately perceived a hippo, which was apparently about to attack the vessel. The main-deck being crowded with people sleeping beneath their thick mosquito curtains, attached to the stairs of the poop-deck and to the rigging in all directions, rendered it impossible to descend. I at once tore away some of the lines, and awakened the sleepy people. My servant, Suleiman, was sleeping next to the cabin door. I called to him for a rifle. Before the affrighted Suleiman could bring the rifle, the hippopotamus dashed at us with indescribable fury. With one blow he capsized and sank the zinc boat with its cargo of flesh. In another instant he seized the dingy in his immense jaws, and the crash of splintered wood betokened the destruction of my favourite boat.

"By this time Suleiman appeared from the cabin with an unloaded gun in his hand and without ammunition. This was a very good man, but he was never overburdened with presence of mind; he was shaking so fearfully with nervousness that his senses had entirely abandoned him. All the people were shouting and endeavouring to scare the hippo, which attacked us without ceasing, with a blind fury that I have never witnessed in any animal except a bull-dog.

"By this time I had procured a rifle from the cabin, where they

were always kept fixed in a row, loaded, and ready for action, with bags of breech-loading ammunition on the same shelf.

“The movements of the animal were so rapid, as he charged and plunged alternately beneath the water in a cloud of foam and wave, that it was impossible to aim correctly at the small but fatal spot upon the head.

“The moon was extremely bright, and presently, as he charged straight for the diahbeeah, I stopped him with a No. 8 Reilly shell. To my surprise, he soon recovered, and again commenced the attack.

“I fired shot after shot at him without apparent effect. The diahbeeah rocked about upon the waves raised by the efforts of so large an animal. The movement rendered the aim uncertain. At length, apparently badly wounded, he retired to the high grass; there he lay by the bank, at about twenty-five yards' distance, snorting and blowing.

“I could not distinguish him, as merely the head was above water, and this was concealed by the deep shadow thrown by the high grass. Thinking that he would die, I went to bed; but before this I took the precaution to arrange a white-paper sight upon the muzzle of my rifle, without which night-shooting is very uncertain.

“We had fallen asleep; but in half an hour we were awoke by another tremendous splash, and once more this mad beast came charging directly at us as though unhurt. In another instant he was at the diahbeeah; but I met him with a ball in the top of his head, which sent him rolling over and over, sometimes on his back, kicking with his four legs above the surface, and again producing waves which rocked the diahbeeah. In this helpless manner he rolled for about fifty yards down the stream, and we all thought him killed.

“To our amazement, he recovered, and we heard him splashing as he moved slowly along the river through the high grass by the left bank. There he remained snorting and blowing, and as the light of the moon was of no service in the dark shadows of the high grass, we waited for a considerable time, and then went to bed, with a rifle placed in readiness on deck.

“In a short time I heard louder splashing. I again got up, and I perceived him about eighty yards distant, walking slowly across the river in the shallows. Having a fair shot at the shoulder, I fired right and left with the No. 8 Reilly rifle, and I distinctly heard the bullets strike. He nevertheless reached the right bank, when he presently turned round and attempted to re-cross the shallow. This gave me a good chance at the shoulder, as his body was entirely exposed. He staggered forward at the shot, and fell dead in the shallow flat of the river.

“On the following morning I made a *post-mortem* examination. He had received three shots in the flank and shoulder; four in the head, one of which had broken his lower jaw; another had passed through his nose, and passing downward, had cut off one of his large tusks. I never witnessed such determined and unprovoked fury as was exhibited by this animal—he appeared to be raving mad. His body was a mass of frightful scars, the result of continual conflicts with bulls of his own species; some of these wounds were still unhealed. There was one scar about two feet in length, and about two inches below the level of the surface skin, upon the flank. He was evidently a character of the worst description, but whose madness rendered him callous to all punishment. I can only suppose that the attack upon the vessels was induced by the smell of the raw hippopotamus flesh, which was hung in long strips about the rigging, and with which the zinc boat was filled. The dead hippopotamus that was floating astern, lashed to the diahbeeah, had not been molested.

“We raised the zinc boat, which was fortunately unhurt. The dingy had lost a mouthful, as the hippopotamus had bitten out a portion of the side, including the gunwale of hard wood; he had munched out a piece like the port of a small vessel, which he had accomplished with the same ease as though it had been a slice of toast.”

The hippopotamus is a vegetable feeder, living entirely on grass, young reeds, and roots, and is very particular in its choice of a good pasturage, for it often travels a considerable distance along the river-bank to obtain it. During its nocturnal visits on shore in search of food it commits sad havoc in the rice and grain

plantations, if there are any in the district, for not only is its voracity great, its stomach having a capacity of containing five or six bushels, but it breaks down and tramples under feet large quantities, and, as a consequence, its destructive powers cause a great deal of hardship to the poor inhabitants of the river-side villages, which is frequently expressed by doleful lamentations and Hottentot maledictions. This habit of laying waste the standing corn is mentioned in Pliny's "Natural History," with the additional remark that the animal determines beforehand what part it shall ravage on the following day, and enters the field backwards, to prevent any ambush being laid for it on its return.

They rarely trespass far inland, but prefer to keep near the water, which is their retreat in case of danger. Occasionally, however, stray animals are found asleep in places ten miles or more away from a river, for as they are entirely dependent on their scent as a guide to the right direction, if they wander off the beaten track and a heavy rain-fall ensues they are apt to get bewildered, and lose their way. Under these circumstances they become easy victims to the native hunters, who are always on the look-out for them.

Nearly all travellers in Africa speak of the conspicuous tracks these animals make in their nocturnal journeys. In course of time they become so well worn that they form clearly-defined roads. Selous,² describing a place he visited, writes: "About here the river runs through a succession of rocky gorges, dashing over huge boulders of granite (?) rock. Through these ravines hippopotami must have wandered for countless ages, for in one place where a ledge of rock ran along the bank of the river, they had worn a path for about twenty yards across it, at least four inches deep into the hard stone. This path worn into the solid stone was the very facsimile of those recently made in soft ground, having the slight ridge along the centre. Now from the nature of the river, and the sparseness of vegetation along its banks, I do not think the hippopotami could ever have been much more plentiful about here than they are at the present day; so that as they do not every night make use of the same path, the time required by them

² "A Hunter's Wanderings."

to wear a track four inches deep with their soft feet in this excessively hard rock seems almost beyond calculation."

Sir W. C. Harris, in his "Field Sports of Southern Africa," says, speaking about his first experience of hippopotamus shooting: "Throughout the night the unwieldy monsters might be heard snorting and blowing during their aquatic gambols, and we not unfrequently detected them in the act of sallying from their reed-grown coverts to graze by the serene light of the moon; never, however, venturing to any distance from the river, the stronghold to which they betake themselves on the smallest alarm. Occasionally, during the day, they were to be seen basking on the shore amid ooze and mud; but shots were more constantly to be had at their uncouth heads when protruded from the water to draw breath, and if killed, the body rose to the surface. Vulnerable only behind the ear, however, or in the eye, which is placed in a prominence, so as to resemble the garret-window of a Dutch house, they require the perfection of rifle practice, and after a few shots become exceedingly shy, exhibiting the snout only, and as instantly withdrawing it. The flesh is delicious, resembling pork in flavour, and abounding in fat, which in the colony is deservedly esteemed the greatest of delicacies. The hide is upwards of an inch and a half in thickness, and being scarcely flexible, may be dragged in strips like the planks from a ship's side. Of these are manufactured a superior description of *sjambok*, an elastic whip, an indispensable piece of furniture to every Boer proceeding on a journey."

This gelatinous skin, when roasted, is considered a delicacy, though many European hunters do not like it. In addition to the articles made from it described by Harris, it is said, by another traveller, when in its raw state to make excellent handles for knives and workmen's tools, for it shrinks as it dries and takes firm hold upon the metal. Herodotus and Aristotle both assert that the hide is so hard that spears and other missiles are formed from it. This is doubtful; but Pliny's statement is probably more correct, for he says that the hide is impenetrable except after it has been soaked with water, and it is used for making shields and helmets. All these ancient writers give, however,

very inaccurate descriptions of the animal, sufficiently so to prove that they never saw it, although the portraits of it on the coins of the period are almost without exception fairly good representations of the animal.

Schweinfurth also gives some information regarding the eating qualities of the hippopotamus flesh, and the uses to which the skin is put; for he states in his travels that, on a certain occasion after killing one of these animals: "We were hard at work on the following day in turning the huge carcase of a hippopotamus to account for our domestic use. My people boiled down great flasks of the fat which they took from the layers between the ribs, but what the entire produce of grease would have been I was unable to determine, as hundreds of natives had already cut off and appropriated pieces of the flesh. When boiled, hippopotamus-fat is very similar to pork-lard, though, in the warm climate of Central Africa, it never attains a consistency firmer than that of oil. Of all animal fats it appears to be the purest, and at any rate never becomes rancid, and will keep for many years without requiring any special process of clarifying; it has, however, a slight flavour of train oil, to which it is difficult for a European to become accustomed. It is stated in some books that hippopotamus-bacon is quite a delicacy, but I can by no means concur in the opinion; I always found it unfit for eating, and when cut into narrow strips and roasted, it was as hard and tough as so much rope; the same may be said of the tongue, which I often had smoked and salted. The meat is remarkably fibrous, and is one continuous tissue of sinews.

"Several hundred mule-whips, or kurbatches, can be made from the hide of a single animal; and afterwards, in Egypt, my servants made a profitable little market by selling the whips, for which they found a ready demand. By a proper application of oil, heat, and friction, they may be made as flexible as gutta-percha. The fresh skin is easily cut cross-wise into long quadrilateral strips, and when half dry the edges are trimmed with a knife, and the strips are hammered into the round whips as though they were iron beaten on an anvil. The length of these much dreaded "knouts" of the south is represented by half the circumference

of the body of the hippopotamus, the stump end of the whip, which is about as thick as one's finger, corresponding to the skin on the back, whilst the point is the skin of the belly."

The destruction of the hippopotamus by the Africans is accompanied by all the cruelty that is characteristic of the people—spearing, poisoning, maiming, and pitfalls, being the methods most frequently adopted.

In the Natural History observations made by the Swedish naturalist Hasselquist, who published an account of his "Voyages and Travels in the Levant in the years 1749, '50, '51, and '52," some most extraordinary particulars are given for facts concerning the hippopotamus, and a remarkable method of destroying the animal adopted by the people of the country is narrated. His statement was made, he writes, on the authority of a "credible person" who lived twelve years in Egypt.

"The hide of a full-grown hippopotamus is a load for a camel.

"The river-horse is an inveterate enemy to the crocodile, and kills it whenever he meets it. This, with some other reasons, contributes much to the extirpation of the crocodiles; which, otherwise, considering the many eggs they lay, would utterly destroy Egypt."

He goes on to say that in consequence of the animal only appearing in Upper Egypt, where no European understanding natural history has travelled, "we know little of the history of this animal; such as have travelled in India, have had better opportunities of informing themselves in this matter. . . .

"The river-horse does much damage to the Egyptians in those places he frequents. He goes on shore, and in a short space of time destroys an entire field of corn or clover, not leaving the least verdure as he passes, for he is voracious and requires much to fill his great belly. They have a curious manner of freeing themselves in some measure from this destructive animal; they remark the places he frequents most, and there lay a large quantity of peas; when the beast comes on shore, hungry and voracious, he falls to eating what is nearest him, and filling his belly with the peas, they occasion an insupportable thirst; he then returns immediately into the river, and drinks upon these dry peas large

draughts of water, which suddenly cause his death ; for the peas soon begin to swell with the water, and not long after the Egyptians find him dead on the shore, blown up as if killed with the strongest poison.

“The oftener the river-horse goes on shore, the better hopes have the Egyptians of a sufficient swelling or increase of the Nile.”

The behemoth, as described in the book of Job, so accurately applies to the hippopotamus that the identity of the two animals has been accepted as a matter of fact, and Linnæus, in his “*Systema Naturæ*,” calls the hippopotamus “*Behemot Jobi*.”

The hippopotamus was known and exhibited to the Romans. It is evident that no trouble or outlay on their part was ever spared to procure at some time or another every animal that was known to exist, the rarer and more uncommon it was, the greater glory to the Emperor who exhibited it or slew it as an incident of “a holiday.” How these various animals were transported from their native homes is a question that has not received a satisfactory answer, but the fact remains that, like the lion, elephant, and giraffe, the hippopotamus and crocodile were made to add their share to the Roman craving for amusement. They were first brought to Rome, on the authority of Pliny, by Æmilius Scaurus, 58 B.C., during his edileship, when one of the former and five of the latter were exhibited at the games in a temporary canal built for their accommodation. On another authority, though one not so reliable, Augustus Cæsar was the first to exhibit a hippopotamus and rhinoceros to the Roman people in the year 29 B.C. as an appropriate memorial of his victory over Cleopatra. The next account of the animal being exhibited is given by Capitolinus, who states that Antoninus Pius imported them with various other foreign animals between A.D. 130 and 180. Commodus (A.D. 180 and 192), in his character of Gladiator, slew as many as five of these creatures at different times in the amphitheatre. Heliogabalus (A.D. 218-22) displayed some of these animals in public as part of his state. Firmus, the Egyptian pretender to the Empire in the time of Aurelian (A.D. 273), distinguished himself by riding on a hippopotamus. But this

curious feat was most probably performed in Alexandria, where he assumed the purple.

The 1000th anniversary of Rome (A.D. 248) was celebrated by the Emperor Philip in incessant games, continued for three days and three nights, when the animals collected by Gordianus Pius were exhibited. Among them, we learn, were 32 elephants, 10 tigers, 10 elks, 60 lions, 30 leopards, 10 hyænas, 1 *hippopotamus*, 10 *giraffes*, 1 rhinoceros, 40 wild horses, and 20 wild asses, a vast number of deer, goats, antelope, and other beasts, and this sight was crowned by brutal carnage, 2000 gladiators being matched in mortal affray. The hippopotamus which was exhibited on this memorable occasion was considered such a rare novelty, that its appearance was commemorated on the medals of Queen Otacilla Severa, the wife of Philip, and on the coins of their son Philip Junior.

In the middle of the sixteenth century a living hippopotamus was seen in Constantinople by two French travellers and described by Belon, but, with this exception, there is no record of any specimens of this animal being seen in Europe from the Roman period till the year 1850, when the council of the Zoological Society came to the conclusion that if the Romans could successfully transport the animal alive from its native river nineteen hundred years ago, the feat might surely be performed at the present day, and accordingly accepted the offer which the Viceroy of Egypt, Abbas Pasha, made of his assistance in the capturing of a hippopotamus for their gardens. Mr. Mitchell says in his "Popular Guide" to the Society's menagerie: "The difficulty of obtaining such an animal may be conjectured from the fact, that after the Viceroy of Egypt had determined to present one to the Society, it became necessary for his Highness to despatch an expedition to the Upper Nile for the purpose of making the capture, and that success was only achieved after two thousand miles of the river had been ascended. In the month of July, 1849, the chief huntsman of the party, in searching the reedy margin of an island in the White Nile, called Obaysch, at last discovered a little hippopotamus calf which, as he conjectured, had then been born about two days. It was so small that in his delight at having accomplished the Pasha's

orders, he seized it in his arms and would have carried it to the boat, which waited on him, had not the slimy exudation which is lavishly poured forth from innumerable pores in the skin of the young hippopotamus, rendered it so slippery that he was entirely unable to retain his hold. The animal having thus slipped from his grasp, all but escaped into the Nile, where the mother doubtless was lying near at hand. The hunter, however, with the presence of mind which characterizes a good sportsman, seized his spear, and with a sharp side-hook, which has been the fashion in Egypt for three thousand years or more, he succeeded in arresting the headlong plunge of his prize, without inflicting greater injury upon him than a skin-wound, which is marked by the scar upon his ribs to this day."

Dr. Sclater's "Guide," now being used, also gives an account of this interesting event, from which the continuation of the narration is quoted,—“From Obaysch, many hundred miles above Cairo, the hippopotamus travelled down in charge of the hunters and a company of infantry, who finally landed him at the British Agency in the month of November, 1849.

“By the obliging and liberal co-operation of the Peninsular and Oriental Company, an apparatus was constructed on board their steamer, the *Ripon*, by which the peculiar requirements of the animal were perfectly accommodated, and the result was, that on the 25th of May, 1850, the first living hippopotamus, since the tertiary epoch, was landed on English soil. A special train conveyed him to London; every station yielding up its wondering crowd to look upon the monster as he passed—fruitlessly, for they only saw the Arab keeper, who then attended him night and day, and who, for want of air, was constrained to put his head out through the roof.

“The hippopotamus, thus acquired, and called ‘Obaysch’ from the place of his capture, continued to be a prime favourite with the public, and the arrival of his mate, ‘Adhela,’ in 1853, did not diminish his attraction.

“For many years our hopes and expectations that the pair would breed together were doomed to disappointment. At length, in the spring of 1871, the female produced her first calf, and a

second about nine months afterwards. Both these, however, were lost shortly after their birth, in spite of every care and precaution. With the third calf, born on the 5th of November, 1872, more successful results were obtained. The little animal sucked freely shortly after its birth, and gave every sign of health and vitality. She increased rapidly in size and strength, and has continued to thrive up to the present time, when she is now nearly as large as her mother. Old 'Obaysch' died of a good old age in March, 1878, and 'Adhela' on the 16th December, 1882, after having lived thirty years in these Gardens. There is, however, still a pair in the collection, as the Society acquired in 1877, as a mate for the youthful 'Cleopatra,' a young male ('Anthony') born in the Gardens of the Zoological Society of Amsterdam, on July 3rd, 1876."

The arrival of "Obaysch," the first hippopotamus which it is said had breathed on English soil since the Deluge, created nearly as much *furor* in London as the giraffe had previously done in Paris; and perhaps, with the exception of a subsequent period when the public had the "Jumbo-fever," the Gardens were never so thronged by visitors, in fact, the fortunes of the society which had been anything but flourishing previously, began to revive in consequence, and have continued healthy ever since.

In the "Life of Frank Buckland," by his brother-in-law, George C. Bompas, there is a good story told *apropos* of this animal:—"Obash, the first hippopotamus once got loose. It was early in the morning before the gardens were opened, when a keeper rushed into Mr. Bartlett's house, exclaiming, 'Obash is out!' and sure enough there came Obash down the long walk, his huge mouth turned into a ghastly smile, as if he meant mischief. The cunning brute had contrived to push back the door of his den, while his keeper had gone for the carpenter to mend some defect in it. Having warned every one to keep out of the way, Mr. Bartlett called his keeper, who tried to coax the hippopotamus back with sweet hay. The brute munched the hay, but showed no sign of going back. What was to be done? Mr. Bartlett is a man of unflinching resource. There was one keeper Obash hated, and ran at him whenever he came in sight.

‘Scott,’ said Mr. Bartlett, putting a bank-note in his hand, ‘throw open the paddock gate, and then show yourself to Obash at the end of the path and run for it!’ The man looked at the note, and then through the trees at the beast, and going into the middle of the path shouted defiantly, ‘Obash.’ ‘Ugh!’ roared the beast, viciously, and wheeling his huge carcass suddenly round, rushed with surprising swiftness after the keeper. Scott ran for his life, with the hippopotamus roaring at his heels, into the paddock and over the palings, Obash close to his coat-tails; bang slammed the gate, and the monster was caged again.”

When “Adhela” arrived she was about four months old and weighed about a ton; and we learn from a description of this creature, that she was fed by the keeper opening her mouth and thrusting his hand covered with milk and corn-meal down her throat. She was not insensible to music, for it was noticed that when any of the musicians on board the vessel in which she was brought over, played his instrument near her, she invariably raised her head in the attitude of listening. “The keeper, also an Arab snake-charmer, was in the habit of exciting the attention of his charge, by a kind of musical call, which it answered by vibrating its great bulk to and fro with evident pleasure, keeping time to the measure of her keeper’s song.”

The female hippopotamus watches very carefully and jealously over her young when in a wild state, but in captivity she seems to lose some of the maternal instincts and exhibits a tendency to destroy her calf, either intentionally or by accident, when in one of the periodical fits of bad temper she suffers from if disturbed at such periods. When in the water, the young calf is supported by standing on the neck of the dam which brings its small head first to the surface whenever the mother rises to breathe the air.

After the successful arrival of a hippopotamus in England, the *Jardin des Plantes* in Paris procured two specimens, the first one died a few months after its arrival, but the second one lived and was exhibited for some time. The first animal of this species probably ever born out of Africa since its range was confined to that country, was born on the 10th May, 1858, in Paris, but the

little thing was accidentally killed by its mother. In the same place another little animal was killed at a later date, and it became evident that the mother could not be relied on to bring up her young, it was therefore doubtful if a hippopotamus would ever be reared in Europe. Up to the birth of "Guy Fawkes,"—which was the name given to the little creature born on the 5th November, 1872—there had been eight hippopotami born in Europe; only one of these survived its birth for any time, and that exception however lived to be the most unfortunate of them all. It was born in Amsterdam, and when it was a year old was sold to an American for 800*l.*, who intended transporting it to his own country. On its way through England he deposited it in the Crystal Palace, and it was burned to death in the disastrous fire that occurred there in 1868.

The photograph of "Guy Fawkes" accompanies this work. When she was born she excited as much interest as a young princess; periodical bulletins were issued regarding her health, and through the careful attention she received from Mr. Bartlett and the keepers, she was successfully reared, much to the satisfaction of the Society and their friends. Profiting by the experience gained, other zoological societies have since this event also succeeded in rearing these shapeless, uncouth denizens of the Nile.

In the summer of 1870 the bathers and pleasure-parties rowing on the river Seine, in Paris, were surprised and terribly alarmed by discovering a hippopotamus was enjoying himself in their midst, and the panic that ensued can be imagined; the bathers in particular did not stand upon the order of their going, but went at once. Happily this curious scene had no injurious consequences, but it attracted crowds of people to the banks of the river, and the bridges near the Jardin des Plantes were thronged. The reason of this alarm was, quoting from the description in a French newspaper, that, in consequence of the long drought, the reservoirs and basins of the Jardin des Plantes contained only a little stagnant water, quite insufficient for the requirements of some of the animals, especially the hippopotamus. It therefore became necessary to take this creature to bathe every day in the Seine. A car drawn by two horses conducted the amphibious beast to the river-bank, and

with a strong chain attached to his neck, he was allowed to enjoy his pastimes, without being able to evade the watchfulness of the keeper. On this occasion, however, he succeeded by a vigorous effort in breaking one of the rings of his chain, gained his liberty, and started off to enjoy it. After frightening the bathers, and sending them flying to the shore, the playful African paid a visit to the passenger-steamer which was just starting; the crew received him with loud shouts, but he took very little notice of them. Leaving the steamer he went to a small washing-barge, where the women were washing clothes, and, to their great terror, he lifted it up and shook it. He finished his "promenade" by an excursion to the *Établissement des Bains* at the Pont d'Austerlitz, which was deserted in the twinkling of an eye; and it became evident that, for once, the Parisian ladies that were therein paid but little attention to the fashionable details of their appearance when making their exit. Meanwhile about fifty boats had been sent in pursuit of their disturber. Many of the keepers even took to the water as he had done, but they could not get any hold on his slippery hide; and when one of them managed to climb upon him, he disengaged himself by taking a dive. At last, after more than an hour's labour, they succeeded in seizing the end of the chain, which was made fast to a strong cord; and the first hippopotamus that had roamed free in Europe for a few thousand years beyond even the far-back-reaching memory of the oldest inhabitant, was again a captive, and restored to his usual domicile.

In captivity a hippopotamus consumes daily about one hundred pounds weight of hay, chaff, corn, roots, and green food. The young animals are fed upon cows'-milk and Indian-corn meal finely ground. They become very much attached to their keepers, and are not nearly so stupid and sluggish as their appearance would seem to indicate.

CHAPTER XVI.

THE ELEPHANTS (*ELEPHANTIDÆ*).

WE now come to the contemplation of the animals that are, to many people, the most interesting of all living mammals. Elephants belong in natural history to the pachydermatous, or thick-skinned order, and to the section *proboscidea*. They are the only representatives of a family that were once more numerous, the other members being now extinct; their fossils or skeleton remains, which are occasionally found, being all that are left of a mighty race of giant animals, ancestors or near relations of the existing elephants, which roamed about on the face of the globe in a bygone age, had their day and disappeared, leaving but a few bones as memorials of their temporary existence for scientists to speculate about and ponder over.

And in these days of mighty hunters, armed with most deadly weapons, and of enterprising merchants ransacking all creation for supplies to meet the demand of their teeming markets, the one slaughtering ruthlessly for the mere sake of killing, and the other for the sake of skins or hides, or for horns and ivory—the elephants, among other animals, the descendants of a race older than the hills or the forests through which they roam, were becoming scarce and seemed doomed. In India, where their massacre was wanton, owing to the existence of a class of young sportsmen who killed for killing's sake, shooting females ruthlessly and not for ivory or food, the Government had at last to interfere and prevent the annihilation of their native elephants, being urged so to do by Lord Napier, the Governor, who pleaded most fervently in a minute on the subject for the noble animals' protection against the wholesale butchery. He pointed out the absolute necessity of

a law for the preservation of an animal so useful for the purposes of labour and so indispensable in India for military operations. The wise policy thus inaugurated being followed in other places, their numbers ceased diminishing; but civilization and wild animals cannot exist together, and the race must die off gradually as the country gets opened up and settled. When this happens, it is to be hoped the elephant will be found domesticated like the horse, dog, or camel, thriving and multiplying under man's protection as they have done.

In a work published in Leipsic forty years ago, "Travels in India," by Captain S. von Orlich, which was translated by Mr. H. E. Lloyd, we read: "In the neighbourhood of Sumalka, a town not far from Delhi, lying amongst ancient and beautiful tamarind-trees, fig-trees, and acacias, is the encampment of one hundred and twenty elephants. To this place I frequently and gladly go for the purpose of watching the sagacious beasts. By reason of the persecution it has endured from man, either merely for the pleasure of the chase or that when tamed it might increase the splendour of state, or serve as a beast of burden, and render assistance in battle, the elephant has nearly disappeared from the interior of India, and is found wild only in the less elevated portion of the Himalayan chain; namely, in the forest of Dshemna, Nepaul, some part of Ghauts, Tarvai, the Kingdom of Ava, and Ceylon. On the Upper Indus, near Attoch, where Alexander the Great had his first elephant-hunt, in the Punjab, and on the banks of the Jumna, not far from Kalpy, where the Emperor Baber was annually accustomed to enjoy the chase and capture many of these animals, there is not now a trace of this noble animal to be found."

Thanks, however, to the protection now given these noble creatures by the Indian and Ceylon Governments throughout those parts of the world over which they exercise jurisdiction, the Asiatic elephants seem to be in no immediate danger of extermination. Mr. Sanderson assured the public in a paper he read before the Society of Arts in March, 1884, that the Madras Presidency, withdrawing the reward previously given for the destruction of the animal, "and the representations of humane officials having further

led to the curtailment of the wasteful methods of trapping them practised by native hunters, the wild elephant now enjoys perfect immunity throughout the Western Ghats and those boundless forests extending for hundreds of miles along the foot of the Himalayas into Burmah and Siam. The number annually caught by the Government hunting establishment in Dacca (the only one at present in India), and by licensed native hunters is, comparatively speaking, very small; and there is no doubt that all the forest ground that can be legitimately allowed to the wild elephants is as fully occupied at present as is desirable. The elephant-catching records of the past fifty years attest the fact that there is no diminution in the numbers now obtained in Bengal, whilst in Southern India elephants have become so numerous of late years that they are annually appearing in places where they had never been heard of before." The concluding paragraph of his valuable and satisfactory communication is one that should find a response in the hearts of all interested in the animal world. He says: "I am sure it will be regarded as a matter for hearty congratulation by all that so grand, interesting, useful, and harmless an animal as is the elephant is in no danger of becoming extinct in India. Though small portions of its haunts have been cleared for tea and coffee cultivation, the present forest area of the country will probably never be practically reduced for reasons connected with the timber supply and climate; and as long as its haunts remain, the elephant must flourish under due regulations for its protection."

In Ceylon, some years ago, the elephants were also being perpetually hunted by sportsmen and shot by the native hunters, who were anxious to get the Government reward which was then paid as an encouragement to the slaughter of the animals, that they were rapidly being exterminated from this island. The Government fortunately saw their error in time, withdrew the inducement for their destruction, and, in its place, issued strict rules for the protection of the remaining elephants. Under this altered state of affairs, the Ceylon animals are again becoming somewhat more plentiful.

The necessity of this change of law was shown in an entertaining

article written in the *Times* of May 25, 1875:—"By the last accounts from Ceylon we hear that the Governor, with the full concurrence of the Secretary of State, has issued a prohibition against the destruction of elephants. This has already caused disappointment to sundry sporting travellers, and it is as well that it should be generally known, that others who are intent on the slaughter of big game may direct their steps elsewhere. The wholesale and wanton destruction of these useful and intelligent animals, which has too long prevailed, has at length aroused the attention of the Colonial Government. They ought to be largely employed in public works. Their strength, which enables them to draw stones of huge magnitude, and to place them with ease wherever required, renders elephant work far more valuable and substantial than that of the weak Indian labourers employed on the roads and irrigation works in Ceylon. It is particularly in the construction of bridges that the value of elephants is manifest. Nothing can be more interesting than to watch the docility and intelligence of these great creatures in the performance of their task, now dragging, now pushing, to the exact spot, gigantic stones, and placing them in their appointed position with the accuracy of a mason.

"Of late, unfortunately, the strength of the elephant department in Ceylon has dwindled down to the half of its full complement, and from every Province where works of any importance were going on demands come in for the assistance of elephants, but in vain. Formerly well-trained elephants were not difficult to purchase; many were owned by private persons, but still more by the representatives of the Buddhist temples, who let them out for hire when not wanted for religious processions. Now none of any value can be procured. The native headmen report that elephants are disappearing, and the wanton massacres of them in those parts of the island where there is sufficient population to capture them by kraal have rendered it unlikely that the public want can be supplied by this means. No doubt they can be supplied by the employment of elephant-catchers, but the cruelties practised on the wretched animals by this process, in which hardly one in three survives the tying-up operations after the elephants are

noosed, induce the Government to resort to it as seldom as possible.

“In former days the number and boldness of elephants rendered their destruction a matter of necessity; now they are fully alive to their danger, and instinctively keep away as a general rule from villages where they know they will be encountered with fire-arms. Complaints, no doubt, sometimes come in that an outlying crop has been ravaged, in which case the punishment of the invaders is permitted. Rewards are also given for the destruction of rogue-elephants, who occupy for a time some particular road, put to flight the post-runners and tear open the bags, which are abandoned to them to divert their attention. The letters scattered about are shown by the runners in attestation of their story. It has, however, been remarked that though ordinary letters in such cases are recovered, the registered letters have some particular attraction to the animal and are carried off by him into the jungle.

“In these circumstances it has been found necessary to put a stop to the issue of licences to shoot and capture, except for Government purposes, for some time to come; and it is desirable that sporting adventurers should be apprised that their only chance of being allowed a shot at an elephant in Ceylon is in the case of a notorious rogue, or a herd indulging in too frequent visits to irrigation works, and consequent destruction of the dams.”

In the Cape Colony the capture or destruction of elephants has also lately been forbidden by law, and Dr. Emil Holub¹ informs us that in consequence several wild herds, numbering twenty or thirty head, still exist there, whilst in the Transvaal, the Orange and the Bechuana country the race has been totally annihilated. In the whole of Africa no such law can be universally applied, hence it is now the one “happy hunting-ground” of elephant-shooters, both Hottentot and white man, and the race of the African animal is doomed.

A cursory view of the published trade-returns will soon give any one curious upon this point some idea of the wholesale slaughter

¹ “Seven Years in South Africa.”

that, even for commercial purposes, annually takes place. England alone imports over a million and a quarter pounds of ivory every year, which is mostly African, and represents the death of thirty thousand elephants. Several other countries are but a little way behind in their demand for this beautiful and valuable commodity; an estimate can, therefore, soon be made of the fearful numbers that are slain for ivory, add this to the numbers that are hunted for the sake of the flesh only by the Kaffir and Hottentot hunters, and the reported disappearance of the elephant in districts where formerly they abounded can hardly cause any surprise. The elephant is, moreover, the slowest breeder of all animals and, therefore, the more easily exterminated. The native Africans resort to most cruel methods of killing animals, especially those of the larger kind. One writer asserts that even now they sometimes adopt the horrible and barbarous practice of burning whole herds of elephants in the jungle simply to obtain the ivory.

This mode of procuring the article is described by Dr. George Schweinfurth.² He writes that when the dry, thick and high grass is fired "the elephants have no possible escape from certain death. The destruction is carried on by wholesale. Thousands of hunters and drivers are gathered together from far and wide by means of signals sounded on huge wooden drums. Every one who is capable of bearing arms at all is converted into a huntsman, just as every one becomes a soldier when the national need demands. No resource for escape is left to the poor brutes. Driven by the flames into masses, they huddle together, young and old; they cover their bodies with grass, on which they pump water from their trunks as long as they can; but all in vain. They are ultimately either suffocated by the clouds of smoke, or overpowered by the heat, or are so miserably burnt that at last and ere long they succumb to the cruel fate that has been designed for them by ungrateful man. The *coup de grâce* may now and then be given them by the blow of some ready lance, but too often, as may be seen from the tusks that are bought, the miserable beasts must have perished in the agonies of a death by

² "The Heart of Africa," 1878.

fire. A war of annihilation is this, in which neither young nor old, neither the female nor the male, is spared, and in its indiscriminate slaughter it compels us sorrowfully to ask and answer the question 'Cui bono?' No other reply seems possible but what is given by the handles of our walking-sticks, our billiard-balls, our pianoforte-keys, our combs and our fans, and other unimportant articles of this kind. No wonder, therefore, if this noble creature, whose services might be so invaluable to man, should even perhaps some time during our own generation be permitted to rank in the category of the things that *have been*, and to be as extinct as the ure-ox, the sea-cow, or the dodo."

What grand animals they are, these huge monsters with their massive heads, enormous bodies, colossal limbs, small but kindly eyes, and with what wonderful dexterity that wonderful trunk of theirs can be used, being equally available for picking up a crumb, or lifting an enormous weight. What relics of the past they seem with their majestic walk and solemn gravity, their imperturbable temper and dignified bearing, contrasting so strongly with the restless movements of the other animals around. Just think of their veritable age, the record of their ancestry lost in the pre-historic times. The lion with his imposing mane, and his deep-toned growl, even man himself is but of yesterday compared with these animals, their pedigree coming down to us from the long enduring and pre-adamite ages. Yet, with all their ponderous weight and fearful strength, how quiet and how docile they can be, how readily they obey their master, at one time his dutiful servants, at another his protector, now assisting him in his labour and anon ministering to his comfort or pleasure. The subjugation of these noble beasts should be one of man's proud boasts, and their race loyally protected, not exterminated.

The elephant is the largest land animal now existing, its height varying between eight and ten feet at the shoulder, its extreme length being between sixteen and twenty feet, and its weight somewhere between three and five tons. The head is very massive and unwieldy, in consequence of the neck being so short, a formation necessary to support the enormous weight; in fact, without the animal kneels down, the head cannot be made

to touch the ground, and it is therefore dependent on the tapering proboscis or trunk, which is its most striking feature. This wonderfully-constructed appendage is a prolongation of the nose or upper lip, and is generally between six and seven feet in length. With it the animal can readily reach any article it requires, either from the ground or from a height above the head, for the extremity, besides having the two openings of the nostrils through which the animal can breathe when necessary, is furnished with a finger and thumb arrangement, a small upper prolongation, which opens from or shuts on to an under tubercle, the pressure firmly holding anything it grasps, or the trunk can be wound round an article too large to be lifted in this way, and in the coil or folds the grip is of the most powerful kind. The trunk is endowed with such an exquisite sense of touch that, even without the aid of the eye, it can quickly find the most minute article; indeed, so sensitive is it, that in cases where animals become blind it enables them to move about and travel without much difficulty and at a considerable pace, for they can feel their way with the trunk and avoid all obstacles, so promptly can any little impediment or irregularity in the ground be detected.

This trunk is composed of a mass of interlacing muscles, marvellously arranged, numbering, Cuvier estimates, nearly forty thousand. Some running longitudinally and others radiating from the centre to the circumference, all so beautifully combined and adjusted to give it flexibility and strength, enabling it to be expanded or contracted, or wielded with that diversity of motion, and used in those manifold ways that must excite amazement when first seen, and from time immemorial have made the elephant's trunk an object of wonder and admiration. Some have described it as "the elephant's hand," others as "the snake hand," and the poor Kaffirs regard it with such superstitious awe, that when they kill an elephant they solemnly inter the trunk. It does, in fact, perform many of the offices of the hand; all the animal's food is lifted by it and conveyed to the mouth, the water by which its thirst is quenched, or that it stores up in that interior cistern it possesses, is all first sucked up into the trunk, which when filled is discharged into the mouth.

It can easily be seen how necessary the trunk is to the elephant's existence. Wild animals quickly die from starvation if it is severed from the body or otherwise incapacitated for use, so that its preservation is a matter of vital importance, and their sagacity is perpetually being exerted to preserve it from injury. They use it cautiously and rarely as a weapon of defence or offence, but if attacked hold it aloft and try in every way to keep it from being harmed. When they have to use it offensively, which they rarely do, as they rely more on their tusks or weight, they do not strike with it extended, or wield it as is generally imagined, but, rolling it up tightly, they suddenly unroll the vertical coils and send the trunk straight at the object of their attack "as scientifically as a well-trained boxer hits out from the shoulder." If they attack a man they seize the victim by the trunk, and throwing him beneath their feet, soon trample him into a mass of gory flesh that has little semblance of anything human left in it. Animals, such as tigers, lions, buffaloes, and others are treated in the same way when actually attacked; but elephants are, as a rule, very quiet and inoffensive beasts. Dogs, probably from their quick movements, sharp bark, and habit of snapping at the trunk, are objects of dread to an elephant, but if the animal has never suffered from being clawed by a tiger, which generally makes it fear these striped cats ever after, a rhinoceros is the only quadruped of which it is really afraid, or in a contest does not prove the victor. The trunk is also occasionally employed to throw any missile that can readily be seized upon, at the object of their enmity; and the beast has the power of aiming in this way with great precision and hurling with considerable force. Even in the case of a tame elephant, an injury inflicted to the trunk will make it so furious with rage and pain that its mahout or keeper will be powerless to control or quiet it. In fact, it is so sensitive that the animals never willingly use it for extremely rough work, and an authority on the subject says that the anecdotes told about elephants dragging timber, or using the trunk for similar purposes, convey erroneous conceptions and are misstatements of facts. "Elephants engaged in such work," he writes, "as dragging timber invariably take the rope between their teeth, they never attempt

to pull a heavy weight with the trunk. In carrying a light log they hold it in the mouth as a dog does a stick, receiving some little assistance in balancing it from the trunk."

The tusks constitute another striking feature of this strange animal, and in them we see the reason the head is made so massively. The brain appears to occupy but a small space, being far from large for so huge a creature and weighing only about nine pounds, the rest of the gigantic skull, which is not as heavy as is generally supposed, consists not only of huge bones, but is also largely composed of air-cells that form the mechanical support for the tusks and supply the extensive surface required for the attachment of the numerous muscles.

"Dentition in the elephant is very curious and interesting," remarks Mr. Andersson. "Besides the tusks, which correspond with the canine teeth in other quadrupeds, he has only grinders—the incisors or cutting-teeth being entirely absent. The total number of grinders consist of from twenty to twenty-three teeth, or rather laminæ, in each side of either jaw, but from the whole being enclosed in a bony case they have the appearance of forming only a single tooth or grinder. A very great number of years are supposed to be requisite for the full development of a set of grinders; indeed they may be said never to be completed, for as one set gradually wears away another is forming, a process which continues till the end of life. They are never supplied from beneath (as in animals in general), but from behind, from which circumstance they are not shed." The elephant may, therefore, be said to be in a constant state of teething.

A strange argument has been carried on for some years upon a point that still seems to be unsettled—some writers assert that the small milk teeth in the young animal are shed at the expiration of the second year and replaced by the permanent tusks, but this is denied by others, among them no less an authority than Mr. Sanderson, who says it is an error, the first tusks are permanent, and that he himself made particularly careful inquiries from experienced elephant attendants, and found them unanimous in dissenting from any such process of renewal, and he has many young elephants in his charge and never noticed anything of the

change alluded to. In the "Philosophical Transactions of the Royal Society" for 1799, there is an able paper on the elephant by Mr. Corse, accompanied by a number of plates, and he seems to have made a close and careful study of the teeth. He writes: "A young elephant shed one of his milk tusks on the 6th November, 1790, when near thirteen months old, and the other on the 27th December, when above fourteen months old, they were merely two black-coloured stumps, when shed, but two months afterwards the permanent ones cut the gum. Another young elephant did not shed his milk tusks till he was sixteen months old; which proves that there is considerable variety in the time at which this happens." This, Mr. Sanderson says, is incorrect, and if the skull does show at one period the milk teeth and the tusks (which fact is visible in one of the skulls in the Museum of the Royal College of Surgeons in London), that the desiduous teeth are not shed, but are absorbed in the gum. The tusks continue to grow during the animal's lifetime, and the strength required to sustain such enormous adjuncts can be imagined when it is remembered that they frequently weigh over sixty pounds, and occasionally considerably over two hundred pounds. Mr. Oswell killed an African elephant whose tusks weighed two hundred and twenty-four pounds, and near the head they measured twenty-three inches in circumference, their length being only one inch short of eight feet. Gordon Cumming shot one whose tusks were ten feet nine inches in length along the curve, their weight being over one hundred and seventy-three pounds. There are also numerous instances recorded in which these sizes and weights have been considerably exceeded. The greatest weight, however, known to modern times is that of a tusk which was sold in Amsterdam some time ago, for it turned the scale at three hundred and fifty pounds. Think for a minute of the strength required to carry such a weight, and in doing so remember that although a considerable portion of the tusk is embedded in the jaw and runs up into bone sockets to the forehead, yet the greater and weightier portion stands out unsupported from the head.

From the Ceylon species being nearly always tuskless and not in any way evincing the want of them, Sir Emerson

Tennent³ came to the conclusion that they were useless appendages to an elephant, and even of little service for offence; this opinion has, however, been contradicted, and the fact proved that they rank among the most formidable weapons with which nature has furnished any of her creatures, and none are employed with more address. They can be used almost at any angle, and in a herd of elephants the tuskers maintain the height of discipline. "Every individual gives way before them," writes Mr. Sanderson, "and in serious fights amongst themselves one or other is frequently killed outright. So great is the dread entertained by all elephants of a tusker, that our staunchest tame females shrank if any of the tame tuskers turned suddenly in their direction. Superiority in a herd appears to attach to the different tuskers in proportion to the size of their tusks; no tusker thinks of serious rivalry with one of heavier calibre than himself."

The domesticated animal uses his tusks in various ways, such as the lifting of weights, carrying timber, piling stones, &c., and the strength they possess can be imagined when it is stated that a powerful animal will carry upon them a log weighing half a ton or more.

Although lions are frequently alluded to in the Bible, and the Psalmist describes their habits accurately, yet, strange to say, no mention is made of elephants, although ivory is often spoken of, and we learn therein that Solomon in all his glory deemed it no unworthy material for his throne. Ahab built a palace of it, and the Phœnicians of Tyre, those merchant princes of antiquity, had their couches made of it. The Assyrians used it for works of art and for their ornaments, and the specimens brought to light by Layard, which are to be seen in the British Museum, elicit admiration for their skill and beauty, even when compared by the standard of the present day. The Romans used ivory and the Greeks delighted in employing it. At the hands of their sculptor Phidias, it was converted into a statue of Olympian Jupiter, the masterpiece of his productions and one of the wonders of the world. The exposed parts of the figure were of ivory and the drapery of gold. The god was seated on a

³ "The Elephant."

throne formed of gold, ivory, and cedar wood, adorned with precious stones; the whole being of such marvellous beauty and such imposing majesty that to die and not have seen it was considered a misfortune. He also used ivory for another of his masterpieces, the colossal statue of Minerva in the Parthenon at Athens, which was forty feet high. In fact, the world has never lost its admiration for ivory, and even at the present day, exactly as it was of old, objects made of this material or carved in it by the cunning workers of the East are among the most treasured possessions of the wealthy or the lovers of the beautiful. Alas! that it should be the cause of the reckless and cruel slaughter of such noble beasts as elephants. Still more is this fact to be deplored when it is remembered that ivory, beautiful as it undoubtedly is, can nevertheless easily be dispensed with for it is a luxury and not a necessity. Certainly the cruel massacre of so grand an animal for so trumpery a possession can only truthfully be described as an act bordering on the fiendish, and its encouragement in this the nineteenth century as a blot on civilization.

The skin of the elephant is very thick and of a dirty or dark-brown colour, and nearly destitute of hair, the small tail, however, which does not generally reach to the ground, and when it does is considered in India a great beauty, has a tuft of coarse bristles at the end. The skin is very tender, and when wounded heals very slowly, often ulcerating, and in the case of domesticated animals incapacitating them for work for months at a time. As the back is an especially tender part, great care has to be taken in harnessing them, or in placing the howdah in position, consequently cushions of hair or other soft material are used to guard against friction or injury. Although the hide is very thick, yet the pores being so large, flies of all sorts can suck blood through them, and in this manner are a constant source of annoyance to the animals. It is to get rid of these pests that elephants so frequently squirt dust over their backs or delight in covering themselves with mud, and when these methods are not available and trees are near, will break down branches, which, being swung backwards and forwards by the trunk, give them some temporary relief.

Elephants possess a delicate sense of hearing and a remarkably

keen power of scent ; these two senses enable them to keep clear of and detect danger, for their eyes are small and not very long-sighted, and the neck being so short the range that can be given their vision is somewhat limited. This fact is probably the reason that they express so much alarm at trivial noises or at indistinct objects, which necessarily must excite suspicions for their safety, and arouse the instincts given these huge creatures for their self-protection. The object of the eyes being so small may probably be found in the fact that they are comparatively less exposed to injury from the branches in the thick forests through which the animals have to force their way. Dust, dirt, or small insects that may accidentally get in the eyes are easily dislodged, for the nictitating membranes with which they are provided clear them at once. "Solid and imperturbable as the countenance of the elephant is, the eye is very eloquent of the animal's feelings," remarks a writer on this subject. "In a state of calm it is exceedingly mild and gentle in appearance, being shaded and softened by the ample lashes above and below, but when the animal is alarmed or angry the veil of hair is at once withdrawn and the eye-ball protrudes with a peculiarly keen look in its glittering iris." It is always well, therefore, in approaching a strange animal to look first at the eye, wherein you can at once detect whether the feelings with which it regards you are friendly or the reverse.

The legs of an elephant are peculiarly adapted for sustaining the enormous weight of such a ponderous body, for they are of solid construction and the joints so formed that each bone rests vertically upon the one beneath it. Owing to the apparent want of flexibility caused by the elbow and knee being so very near the foot, and to the fact that elephants lie down less than any other quadrupeds, it was for ages supposed that they were jointless, and lying down was an impossible position for them to assume. This is gravely stated in more than one natural history book of the present century. Elephants lie down to sleep every third or fourth night, but will occasionally sleep for months without doing so. An animal, owned by the Zoological Society in London, named Jack, "whose amusing tricks and docile manner," says the *Times* of June, 1847, "had rendered him everybody's favourite," died

in the summer of 1846, and he had not lain down to rest for two years previously. Certainly he was suffering from a disease of the joint of the fore-leg, but it proves how little necessity there is for elephants to assume such a position of rest. In fact, so little are they inclined to take it in that way, that when they do so in the day-time, even after hard labour, the keepers are generally led to suspect illness as the cause.

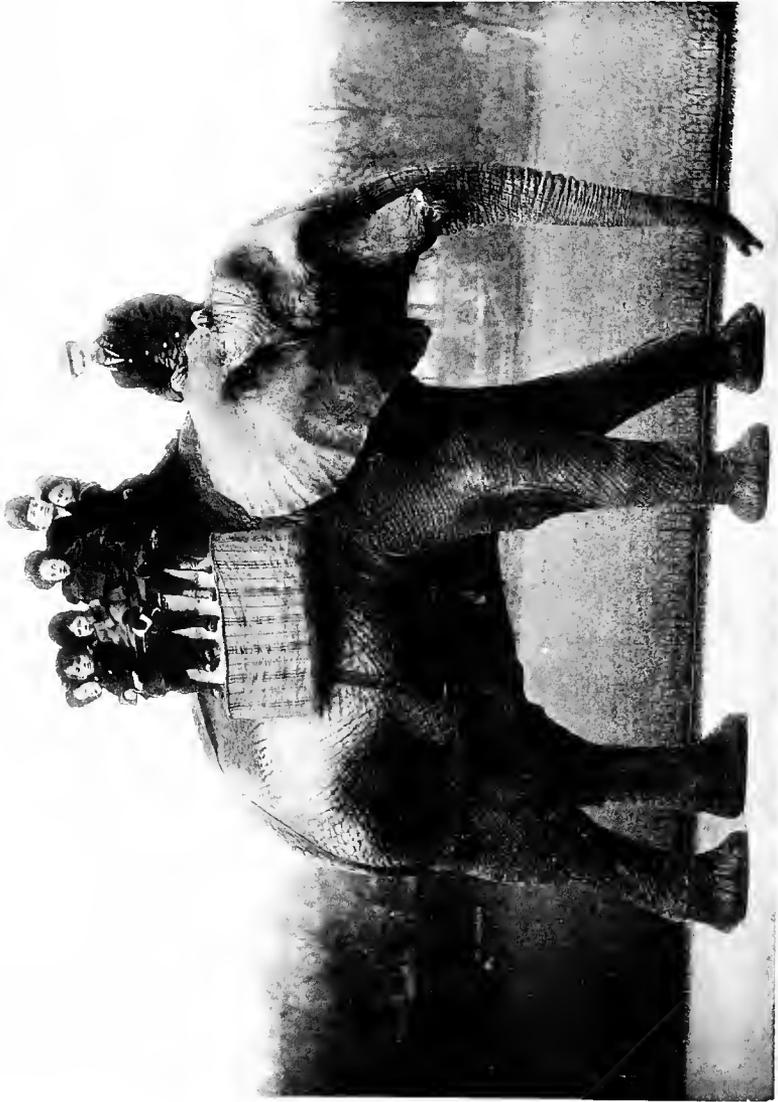
In lying down, which it does rather reluctantly when commanded, another peculiarity of the elephant is exhibited. It extends the hind-legs backwards instead of drawing them under the body like other animals. These legs are bent in the same manner that a man bends his legs when kneeling. The reversal of this action enables it to resume the standing position with little perceptible effort, much less than that exhibited by a horse trying to get up; similar exertion if rendered necessary in the case of such a heavy weighing animal as the elephant, would subject the muscles to a dangerous straining. This same formation gives the elephant that peculiar, clumsy shuffle its gait exhibits when increased from the walk, and although it cannot gallop—such a motion would be too violent for so huge a creature—yet it can increase its speed to one that will tax a fleet runner to keep up with it. An elephant can also easily ascend or descend steep activities, climb rocks, or traverse precipices where a mule would hardly venture; this it is enabled to do by exercising considerable intelligence in testing the capacity of the ground or projection on which it intends the feet to rest for bearing its weight, making sure upon this point before trusting to it. We learn that the Ceylon elephant actually delights in frequenting the most rugged localities, rambling about rocky hills and mountains with a nimbleness that, Sir S. Baker says, cannot be understood without personal experience.

The feet are composed of a succession of layers that act like springs and so break the jar of the animal's tread, and when travelling at any speed prevent the concussion it would otherwise sustain from the great weight of the body. They are divided into five large toes or rounded hoofs, all nearly covered with a thick protective skin, the whole being admirably adapted

by nature for the animal's safe progression in hilly or rough ground. The massive proportions of the feet can be imagined when it is stated that in nearly every case the measurement of twice round a full-grown animal's foot will give its height. The elephant's make and bulk will not allow it to perform any movement necessitating the raising of all the feet from the ground at once. Hence it is precluded from clearing objects by springing or jumping in any way.

Many things about the elephant are surprising, and one of them is that so clumsy a looking animal should exhibit such peculiar grace in its movements and that its tread should be so exceedingly light and inaudible. The spongy character of the large flat pads or layers that compose the foot enables it to move almost noiselessly and even stealthily when requisite; for instance, when escaping from a pursuer. "When suddenly disturbed in the jungle," says a well-known hunter, "it will burst away with a rush that seems to bear down all before it; but the noise sinks into absolute stillness so suddenly that a novice might well be led to suppose that the fugitive had only halted within a few yards of him, when further search will disclose the fact that it has stolen silently away, making scarcely a sound in its escape, and, stranger still, leaving the foliage almost undisturbed by its passage."

It is also a capital swimmer, taking readily to the water when necessary, and easily crossing the widest rivers. It can, and in fact generally does, go completely under, carrying its trunk well out, however, so that the organ can be used for breathing purposes. This, the elephant's favourite way of swimming is, in the case of a tame animal one fraught with danger to the rider, for in order to keep his own head above water it necessitates his standing up on the back of the animal in anything but a comfortable or safe position. It also makes it difficult work to keep the animal in a proper direction, and to get one safely across a river requires considerable dexterity even for a mahout. When the animal is a female, and is followed by a very young calf, the mother supports it with her trunk, or when able the young one is made to scramble on her shoulder, and hold on with its legs; if, however, it is a few months old and strong enough she makes it swim by itself.



AN AFRICAN ELEPHANT.

("Jumbo.")

From a photograph taken by Messrs. Briggs and Son, High Street, St. John's Wood.

Mr. Sanderson tells us that in November, 1875, he despatched a batch of seventy-nine elephants from Dacca to Barrackpur, near Calcutta, and that they had the Ganges and several of its large tidal branches to cross. In the longest swim they were six hours without touching the bottom; after a rest on a sand-bank they completed the swim in three more. Not one was lost, and he adds that he has heard of more remarkable swims than this. He also states that he saw an elephant swim a river three hundred yards wide with his hind-legs tied together, which proves that these massive animals have buoyant bodies.

Before quitting the water, and at other times when it gets the opportunity, it is curious to watch an elephant taking up a supply for future use; for its stomach somewhat resembles that of a camel in its conveniences, and possesses a chamber that can be cut off by a valvular arrangement from the one devoted to the process of digestion. In this receptacle the animal can store about ten gallons of water, which it can take back into the trunk at pleasure, and either employ it to assuage its thirst by re-swallowing it, or use it for the purpose of cooling the body by sprinkling the water over it, a species of shower-bath that seems to be very enjoyable judging from the number of times an elephant will indulge in it when water is plentiful.

The elephant utters a considerable variety of sounds, some through the trunk, and others through the throat. The one generally heard, which seems at one time to be indicative of pleasure, at another of anger, is a shrill, trumpet-like sound produced by blowing through the trunk; if, however, brooding by itself, it signifies its anger by a continued hoarse grumbling from the throat. Fear is expressed by a shrill, brassy trumpeting, or by a roar from the throat. Pleasure, we learn from one experienced in the matter, is manifested by a "continued low squeaking through the trunk, or an almost inaudible purring sound from the throat. Want—as a calf calling its mother—is chiefly expressed by the throat. A peculiar sound is made use of by elephants to express dislike or apprehension, and at the same time to intimidate, as when the cause of some alarm has not been clearly ascertained, and the animal wishes to deter an intruder.

It is produced by rapping the end of the trunk smartly on the ground, a current of air, hitherto retained, being sharply emitted through the trunk, as from a valve, at the moment of impact. The sound made resembles that of a large sheet of tin rapidly doubled. It has been erroneously ascribed by some writers to the animals beating their sides with their trunks."

The average size of the elephant depends on its species and the locality of its habitation. The African animal varies between ten and twelve feet, being generally over a foot larger than the Indian, which seems to average between eight and ten feet. Mr. Sanderson, after saying there is little doubt there is not an elephant ten feet at the shoulder in India, continues, "The usually received notions of the height which elephants attain are much in excess of fact; out of some hundreds of tame and newly caught elephants which I have seen in the south of India and in Bengal, also from Burmah and different parts of India, and of which I have carefully measured all the largest individuals, I have not seen one ten feet in vertical height at the shoulder." Subsequently he did see one ten feet seven and a half inches in vertical height at the withers, but he pronounced it to be not less phenomenal than a human being eight feet high.

Captivity reduces the longevity of the elephant considerably. There seems to be little doubt that in a wild state they will live to attain any age between a hundred and twenty and a hundred and fifty, but when deprived of freedom they very rarely live to be a hundred, occasionally attaining eighty, but more often dying at a considerably earlier age, the death-rate among the newly captured animals being very great after they have been subjected to the change of life for two or three years.

A writer in "Notes and Queries" says: "Lord Northbrook, in 1874, made public entry into Agra seated on the same elephant which since 1797 had borne Sir J. Shore, Lord Wellesley, Lord Hastings, and all the other Governors-General of our Indian possessions down to the present time. As in 1797 to take part in such an imposing ceremony as the public entry of a Governor-General into the second city of the old Mogul Empire the elephant would be at least twenty-five years old, it follows that now he

must be at least a centenarian." The only way of discovering approximately the age of an elephant is by the appearance of the ear. Until the sixth or seventh year the top of the ear does not curl, but in advancing years it does so and laps over, while its lower edges become ragged and torn. Elephants continue to grow until they are twenty-five years of age, and arrive at maturity during the next ten years.

A very singular thing, noticed by nearly every hunter and explorer in India and Africa, is the extreme rarity with which dead animals, or even any of their remains are found, and this is especially remarkable in the case of such a large beast as the elephant. So strange a fact has, of course, been the parent of many conjectures, but a true solution of the mystery has not yet been found. Some of the natives of both Africa and India say the elephant never dies; others, that there is a place in the hills, as yet unseen by human eye, where they retire to end their days. Be this as it may, the position of this *Pisgah* of the animal world has not yet been ascertained, and no man knoweth of their sepulchre unto this day. As a matter of fact, the complete disappearance of the bones of the thousands of animals that must die annually is a strange natural phenomenon.

Apropos of this subject, in Hone's "Every-Day Book" is the following: "If elephants meet with a sick or wounded animal of their own species they afford him all the assistance in their power. Should he die, they bury him and carefully cover his body with branches of trees." This is a popular belief among the natives of certain districts of India, and was also recorded as a fact by the Greeks in olden times, and some incidents that have been witnessed and commented on by modern travellers who were close observers of these animals' habits and peculiarities tend to prove there is more truth in it than at first may be supposed.

Elephants associate together in herds or families that may number only a few individuals, or be composed of much larger numbers, herds that contain even one hundred or more not being by any means uncommon. When the animals congregate together in such profusion they will occasionally subdivide for certain periods and in localities where their food is not very plentiful.

The wonderful growth and thickness of a tropical jungle can be imagined from the fact that a herd of elephants can be completely hidden in it, and wounded animals frequently baffle the hunter to discover their whereabouts by keeping quiet in the dense grasses although he may track them to a few yards of their hiding-place. Colonel Kinlock writes: "The marvellous growth of the long grasses and reeds, which spring up during the rainy season in the long belt of country lying along the foot of the Eastern Himalayas, and on the '*churs*' in the valley of the Brāhmāpūtrā and other great rivers, has often been described, and the accounts received with incredulity by those who have never seen how vegetation thrives under the combined influences of a tropical sun and abundance of rain. Let those doubt who may, however, the fact remains that, year after year, in the short space of two or three months, these giant grasses shoot up to a height of from twenty to thirty feet, forming, with the wild Cardamum, various other broad-leaved plants, and numerous creepers, a tangled cover which shelters the elephant, the rhinoceros and the buffalo, as effectually as a field of standing corn affords concealment to the partridge or the quail.

"I have seen a line of about fifteen elephants beating a strip of reeds not more than two hundred yards in width, and I could hardly see the grass shake. There was not as much commotion or indication of what was going on, as would be caused by a pack of beagles drawing a gorse covert."

Mr. Andersson describes in his book, "The Okavango River," a grand scene he witnessed on one occasion, for at rather close quarters he watched over one hundred of these huge beasts all drinking at a stream together. "I had returned," he writes, "but a short time to my ambush, when a large herd of female elephants with their calves came on, perfectly heedless of the firing which had previously taken place. With a rush they gained the water, exactly opposite to where I was perched on my ant-hill. Soon afterwards they were joined by several other troops pouring in from different directions, consisting of cows and bulls intermixed. It was quite remarkable to observe how they ranged themselves closely side by side, like a line of

infantry. They drew themselves up in single file, occupying the entire width of the water (which at that point was three hundred yards broad). I estimated their numbers at from a hundred to a hundred and fifty. The moon was just then nearly at its zenith, and shed a glorious and dazzling light on the huge creatures below. I felt no inclination to disturb so striking a picture, and, indeed, if I had been so disposed it would little have availed me, as the valley in the direction occupied by the elephants was totally destitute of cover. So all I could do, and did, was to look on, sigh, and admire."

Sir W. C. Harris also speaks most glowingly of the magnificent sight presented by a herd of these noble animals in their true home and in a state of liberty in the wilds of Africa. "A grand and magnificent panorama was before us which beggars all description. The whole face of the landscape was actually covered with wild elephants. There could not have been fewer than three hundred within the scope of our vision. Every height and green knoll was dotted over with groups of them, whilst the bottom of the glen exhibited a dense and sable living mass—their colossal forms being at one moment partially concealed by the trees, which they were disfiguring with giant strength, and at others seen majestically emerging into the open glades, bearing in their trunks the branches of trees with which they indolently protected themselves from the flies. The background was filled by a limited peep of the blue mountainous range, which here assumed a remarkable precipitous character and completed a picture at once soul-stirring and sublime."

These herds are generally led by one animal, and, on the authority of Mr. Sanderson, this animal is always a female, in India at any rate, and never a male as generally stated. When travelling from one district to another they march in strict Indian file. During the day the herds are generally quiescent, except so far as the perpetual fidgeting of the individual members, in the way peculiar to the animal, is concerned; for, though a heavy and sedate beast, the elephant is never entirely at rest while awake, neither when wild or in captivity. It will move its head round, flap its ears, the tail is switched, or the feet will be swung back-

wards and forwards, the legs crossed or swayed to and fro, or it will fan itself with a leafy branch, more it seems for the sake of motion than for the coolness it may derive from the operation. The jaws are incessantly munching or grinding, and the trunk, when not busy conveying something to the mouth or spurting water about, is kept in a perpetual movement, twisting and turning in every direction.

How these herds are governed or the method of communication existing between the leader and its followers cannot be ascertained. In Sir E. Tennent's book there is the copy of a letter written by Major Skinner, giving the details of a fact the author mentions, which is certainly worth quoting: "The case you refer to struck me as exhibiting more than the ordinary brute instinct, and approached nearer to reasoning powers than any other instance I can now remember. I cannot do justice to the scene, although it appeared to me at the time to be so remarkable that it left a deep impression in my mind. In the height of the dry season, in Neuera-Kalaiva, you know the streams are all dried up, and the tanks nearly so. All animals are then sorely pressed for water, and they congregate in the vicinity of those tanks in which there may remain ever so little of the precious element. During one of those seasons I was encamped on the bund or embankment of a very small tank, the water in which was so dried that its surface could not have exceeded an area of five hundred square yards. It was the only pond within many miles, and I knew that of necessity a very large herd of elephants, which had been in the neighbourhood all day, must resort to it at night. On the lower side of the tank, and in line with the embankment, was a thick forest, in which the elephants sheltered themselves during the day. On the upper side, and all around the tank, there was a considerable margin of open ground. It was one of those beautiful, bright, clear, moonlight nights, when objects could be seen almost as distinctly as by day, and I determined to avail myself of the opportunity to observe the movements of the herd, which had already manifested some uneasiness at our presence. The locality was very favourable for my purpose, and an enormous tree projecting over the tank afforded me a secure lodgment in its branches. Having ordered

the fires of my camp to be extinguished at an early hour and all my followers to retire to rest, I took up my post of observation on the overhanging bough; but I had to remain for upwards of two hours before anything was to be seen or heard of the elephants, although I knew they were within five hundred yards of me. At length, about the distance of three hundred yards from the water, an unusually large elephant issued from the dense cover, and advanced cautiously across the open ground to within a hundred yards of the tank, where he stood perfectly motionless. So quiet had the elephants become (although they had been roaring and breaking the jungle throughout the day and evening) that not a movement was now to be heard. The huge vidette remained in his position still as a rock, and then made three successive stealthy advances of several yards (halting for some minutes between each, with ears bent forward to catch the slightest sound) and in this way he moved slowly up to the water's edge. Still he did not venture to quench his thirst, for though his fore-feet were partially in the tank, and his vast body was reflected clearly in the water, he remained for some minutes listening in perfect stillness. Not a motion could be perceived in himself or his shadow. He returned cautiously and slowly to the position he had at first taken up on emerging from the forest. Here in a little while he was joined by five others, with which he again proceeded as cautiously, but less slowly than before, to within a few yards of the tank, and then posted his patrols. He then re-entered the forest and collected around him the whole herd, which must have amounted to between eighty and one hundred individuals, led them across the open ground with the most extraordinary composure and quietness, till he joined the advanced guard, when he left them for a moment and repeated his former reconnoissance at the edge of the tank, after which, having apparently satisfied himself that all was safe, he returned and obviously gave the order to advance, for in a moment the whole herd rushed into the water with a degree of unreserved confidence, so opposite to the caution and timidity which had marked their previous movements, that nothing will ever persuade me that there was not rational and preconcerted co-operation throughout the whole party; and a degree of responsible authority exercised

by the patriarch leader. When the poor animals had gained possession of the tank (the leader being the last to enter), they seemed to abandon themselves to enjoyment without restraint or apprehension of danger. Such a mass of animal life I had never before seen huddled together in so narrow a space. It seemed to me as though they would have nearly drunk the tank dry. I watched them with great interest until they had satisfied themselves as well in bathing as in drinking, when I tried how small a noise would apprise them of the proximity of unwelcome neighbours. I had but to break a little twig and the solid mass instantly took to flight like a herd of frightened deer, each of the smaller calves being apparently shouldered and carried along between two of the older ones."

Sir Samuel Baker says that in Ceylon he seldom met old bulls in parties, but in Africa large herds are met with consisting entirely of bulls, and he had frequently seen sixteen or twenty splendid bulls together, "presenting a show of ivory most exciting to a hunter."

For some reason or another, which has hardly been satisfactorily explained although variously accounted for, a single animal, generally a young male, will leave or be driven from the herd, and become in consequence that dreaded creature, "a rogue elephant," developing nearly always a very objectionable maliciousness, becoming savage, very destructive, and an object of terror to the villagers or tribes in his vicinity.

The most vulnerable place of the elephant that can be reached by a bullet is the brain, and hunters have to aim for certain particular places, such as the only opening between the bones that exists in the forehead, or some other exposed parts. The different methods are called the front shot, the side shot, the temple shot, and the shot behind the ear. If one of these spots is not reached the animal will become infuriated and charge, and elephant-hunting assumes at once a dangerous aspect, for it frequently becomes "hunting by the elephant," which often has a tragic termination. The opinion of several experienced hunters could be quoted on the subject. Gordon Cumming writes: "It is the fashion for some people to say the elephant is an innocent and

harmless creature, that like the giraffe it is almost a sin to destroy. I can only say that during eight years' experience in Ceylon and nearly five years in Africa I have found that elephants are the most formidable animals with which a sportsman has to contend. The African species is far more dangerous than the Indian." Mr. Andersson, in a letter to a friend, which was published in the *Times* in 1859, writes: "I have had some perilous adventures with these animals (elephants), and I have been taught some severe lessons, which I am not likely to forget, and if I have not got a great deal of ivory, I have gained a great deal of experience and some interesting insight into the natural history of the African elephant.

"The more I see of these stupendous animals the more I am surprised. I should very much like to know the real strength of a full-grown male; it must be something almost incredible. Nothing gives a person a better idea of their stupendous powers than a day's walk through one of their favourite haunts. There may be seen whole tracts of forest laid prostrate, and such trees sometimes! The trees, which are for the most part of a brittle nature, are usually broken short off by the beasts; but when they meet with a tree that seems to them too tough to snap at once, up it goes, root and all. If they can do this in mere play, or for the sake of feeding on the branches, &c., of the prostrate trees, what will they not effect in a paroxysm of rage?"

On one occasion he met a herd of these animals and fired at one of them, upon which the troop charged at him; but, for some reason, they stopped short. "I felt very much inclined to take to my heels," he remarks, "but a moment's reflection convinced me that safety lay in keeping close; and it was as well I did so, for in a few moments the paterfamilias made an oblique rush through the jungle with such force as actually to send a whole tree that he had uprooted in his headlong course spinning in the air. A huge branch remained fixed to one of his tusks. His head he carried aloft; his huge ears were spread to the full; while with his trunk he snuffed the air impatiently. In this position, when within less than a dozen paces of me, he remained, I should say, about half a minute. I think it was the most striking and thrilling sporting

scene that I ever saw; my assailant looked the very picture of grandeur and rage."

Dr. Holub writes that in the Cape Colony "the elephants' immunity from pursuit gives them an overweening assurance that is in striking contrast with the behaviour of the animals of their kind in Central and Northern South Africa. There a shot, even if two or three miles away, is enough to put a herd to speedy flight, and they seldom pause until they have placed the best part of twenty miles between themselves and the cause of their alarm; and although within the last twenty years 7500 elephants have been killed by Europeans, it is the very rarest occurrence for one of them to make an unprovoked attack upon a human being. Here, on the contrary, between Port Elizabeth and Grahamstown, it is necessary to be on one's guard against meeting one of the brutes. Just before I returned to Port Elizabeth, on my homeward journey, a sad accident had happened in the underwood by the Zondago River, which flows practically through the forest. A black servant had been sent by his master to look for some cattle that had strayed; as the man did not return, a search was made for him, but nothing was found but his mangled corpse. From the marks all around it was quite evident that a herd of passing elephants had scented him out, and diverging from their path had trampled the poor fellow to death. It should be mentioned that, although ordinarily living under protection, these ponderous creatures may be slain by consent of the Government."

CHAPTER XVII.

ELEPHANTS—(*Continued*).

THERE are three or four varieties of elephants, each possessing some peculiarity or mark that denotes the country of its habitation, but there are only two species now existing having prominent and conspicuous differences of structure. The one is the inhabitant of Asia (*Elephas Indicus*), the other has its home in Africa (*Elephas Africanus*).

Both these species are represented in the collection of the Zoological Society in Regent's Park, and in the illustrations that accompany this work some of the differences in their appearance can be seen. To the unobservant eye there may appear to be but a few minor points whereby the two species can be distinguished, but a closer scrutiny will reveal the fact that there are a number of important variations, and not only are these in their appearance, size, and colour, but they also differ somewhat in their habits and characters.

The Indian elephant has only comparatively small ears, while the African animal has ones more than three times the size, and that frequently overlap the whole shoulder and descend to the legs. They have been known to measure forty-two inches in length, and thirty inches in width. Some idea may be formed of the great size of these appendages, Andersson remarks, from the fact that when a full-grown bull-elephant advances in full charge, with his ears cocked, his head measures about fourteen feet from the tip of one ear to that of the other, in a direct line across the forehead. Another writer speaks of them as frequently completely hiding the mahout or rider on his back. Dr. Livingstone's party killed one whose ears measured four feet in

horizontal breadth, and four feet five inches in depth, and he says he has frequently seen a native creep under one and be quite covered up by it.

Another distinction can be seen when the animals open their mouths, for their molar teeth are very different, the Indian species having wavy, parallel, transverse ridges, while the African one has fewer divisions in the crown of the tooth, and they are broader and slightly curved, or lozenge-shaped.

There is also a slight difference in the structure at the end or aperture of the trunk. The African elephant has not the "finger" arrangement previously described, but the end is cleft horizontally into two equal divisions, an upper and lower part, which are pressed one on to the other. This formation confers greater strength and grasping power to the animal than is possessed by the Asiatic species. There is also a distinction in the appearance of the eye, which is easily detected when the animals are seen together.

Their heads are not alike in conformation, the forehead of the African animal being completely convex from the trunk to the back of the skull, while the Indian one has a more elongated or perpendicular head, being flat or slightly concave at the root of the trunk. The African variety has a concave back, the concavity behind the shoulder being succeeded by a sudden rise of the spine above the hips; the back of the Indian elephant being exceedingly convex. Other distinctions exist: the African animal has three toes on his hind-feet, while the Indian has four; but, to make up for his loss this way, he is compensated by having twenty-one pairs of ribs, while the Indian has only nineteen. The caudal vertebræ of the African animal number twenty-six, while the Indian one possesses thirty-three.

No attempt has ever been made to tame the African elephant at the Cape, but in ancient days the North African animal was undoubtedly domesticated and used by the Romans, and also by the Greeks, a fact clearly attested by the figures on their medals. They were used by the Carthaginians in their wars with Rome, and thirty-seven of these animals crossed the Alps with Hannibal. At the dedication of the Temple of Venus Victrix,

Pompey caused a number of them to be slain by the javelins of the Gætulian archers. It was on this occasion that the populace showed some feeling; for both Dion, the historian, and Pliny relate that the gallantry of the animals and the sagacity manifested in the rescue of a wounded companion, as well as the piteous agony they exhibited, so affected the stern Romans that the whole amphitheatre rose and, with imprecations against the consul, insisted that the fight should cease. The Dictator, Julius Cæsar, in his third consulship, opposed twenty of them against five hundred foot-soldiers. At another time the same number had towers placed upon their backs, each defended by sixty men, and both foot-soldiers and horsemen were ordered to the attack, with what result is not stated. Afterwards, under the Emperors Claudius and Nero, elephants were also frequently seen in the circus with gladiators fighting them single-handed, either as a crowning exploit of the performance, or as a feat of valour undertaken by the men themselves for the purpose of securing their manumission, which was the reward generally granted for an extraordinary deed of daring.

Cæsar brought one of these animals with him to Britain (B.C. 54), and it contributed to the conquest of this country. In the "Stratagemms" of Polyænus we read that "Cæsar attempted to pass a great river (in all probability the Thames); Cassivelaunus, king of the Britons, opposed his passage with a large body of horses and chariots. Cæsar had in his company a vastly large elephant, a creature before that time unknown to the Britons. This elephant he fenced with an iron coat of mail, built a large turret on it, and putting up bowmen and slingers ordered them to pass first into the stream. The Britons were dismayed at sight of such an unknown and monstrous beast; they fled, therefore, with their horses and chariots, and the Romans passed over without opposition, terrifying their enemies by this single creature."

African elephants were frequently used for the Roman sports and military pageants, but after the Punic wars their employment gradually lessened until the age of the later Roman emperors, when their use was finally discontinued—why or wherefore does not appear.

From the date of the Roman occupation until 1865, when

“Jumbo” and “Alice” were procured by the Zoological Society, African elephants were never seen in England.

In London in 1730 or 1731 some workmen, engaged in digging the great sewer in Pall Mall, “over against the ‘King’s Arms Tavern,’” at the depth of twenty-eight feet, came across several bones of an elephant; and some years previously elephant-bones were found in St. James’s Square, but whether they were the remains of animals of the African species which had been brought over by the Romans was not ascertained.

The African elephant was formerly believed to be a fierce and untamable beast of no other use but to supply ivory, but this theory had no foundation. There seems to be no valid reason assigned why, at the present day, African elephants should not be caught, tamed, and utilized in the same manner as their Indian and Ceylon congeners. That they are fully capable of being domesticated is shown by the behaviour of the animals of this species now exhibited in various collections. They appear to have some advantages, for not only are they more active animals, but are apparently more capable of enduring the fatigue of long marches or hard work, and they delight in being exposed to the burning sun even during the hottest hours of the day, while the Indian animals dislike it, and invariably retreat to the shady places when left to themselves.

The experience gained by the keepers in the Zoological Gardens with respect to the African animals is that they are more self-willed and intelligent than the Indian ones, but as they cannot be coaxed or driven into doing anything they dislike, are in consequence harder to handle.

“The barbarous tribes,” says one writer, “that people Southern Africa have never dreamt of the possibility of rendering this lordly quadruped serviceable in a domestic capacity; and even amongst the colonists there exists an unaccountable superstition that his subjugation is not to be accomplished. His capture, however, might readily be achieved, and as he appears to possess all the aptitude of his Asiatic relative, the only difficulty that presents itself is the general absence within our territories of sufficient food for his support.”

Another writer observes that even to this day in most parts of Africa the assurance that in other countries elephants are tamed and ridden passes among the Hottentots and Kaffirs as one of the "white man's" lies.

There are exceptions to nearly every rule, and even to the one that the African natives cannot, or will not, tame the elephant, an exception has been made public in the *Field* newspaper of 1880. Quoting the paragraph that contains this information: "It has been asserted that the natives of Africa are unable to tame any of the wild beasts with which they are surrounded, and that, though many of them are the best hunters in the world, they never make an attempt to reduce them to subjection. Mr. Mitchinson, who has travelled much among the natives near the West Coast, states that he saw the nucleus of a menagerie of domesticated wild animals which had been tamed by the natives. On the Cunene river, which enters the Atlantic in latitude 18° south, he found two perfectly tame cow hippopotami, which came at the call of the natives, and allowed them to milk them regularly. The animals were not confined in any way, but roamed at will up and down the river, returning to the village where they had been tamed. Their milk, somewhat thicker and sweeter than cow's milk, was used by the natives as a purgative medicine. At the village of Bite, Mr. Mitchinson saw an African elephant which had been tamed, and was perfectly under control. Decorated with rude ornaments, it took part in ceremonial processions, and served otherwise as a symbol of the sovereignty of the chief. This animal was about seven feet high. This is a proof not only of the possibility of taming African elephants, but of the fact that the natives can be taught to capture and train these animals."

Elephants live entirely on vegetable food, but the African species are more decided tree feeders than the Indian, and in consequence are more destructive animals in a forest, though the devastation an Indian herd can encompass in a rice-field is often very great. Exaggerated accounts of the loss inflicted are, however, frequently given, for careful investigation often reveals the fact that the actual damage done is less than at first supposed. Dr. Livingstone makes the following remarks on this subject:

“ Great numbers of the trees have been broken off by elephants a foot or two from the ground, in order that they may feed on the tender shoots at the top ; the trees thus seem pollarded from that point. In spite of the practice, the elephant never seriously lessens the number of trees ; indeed, I have often been struck by the very little damage he does in a forest. His food consists for the most part of bulbs, tubes, roots, and branches.”

The Indian species, are essentially grass-feeding animals, living on different kinds of herbage, and are particularly partial to the cultivated crops, such as rice, corn, and all sorts of grain. Consequently, if these are grown near their haunts in the forest, the poor husbandman has frequently serious loss inflicted on him, which sometimes amounts to the total demolition of his harvest.

The African species are not only conspicuous by the size of their ears and height, but also by the length and beauty of their ivory, for both sexes possess magnificent tusks, which appear to be almost a necessity to them, in order that they may be enabled to obtain their food. Sir Samuel Baker states : “ The general food of the African elephant consists of foliage of trees, especially of mimosas. In Ceylon, although there are many trees that serve as food, the elephant nevertheless is an extensive grass feeder. The African variety, being almost exclusively a tree feeder, requires his tusks to assist him in procuring food. Many of the mimosas are flat-headed, about thirty feet high, and the richer portion of the foliage confined to the crown ; thus the elephant, not being able to reach to so great a height, must overturn the tree to procure the coveted food. The destruction caused by a herd of African elephants in a mimosa forest is extraordinary, and I have seen trees uprooted of so large a size that I am convinced no single elephant could have overturned them. I have measured trees four feet six inches in circumference, and about thirty feet high, uprooted by elephants. The natives have assured me that they usually assist each other, and that several engage together in the work of overturning a large tree. None of the mimosas have tap-roots, thus the powerful tusks of the elephant applied as crow-bars to the roots, while others pull at the branches with their trunks, will effect the destruction of a tree so large as to appear

invulnerable. The Ceylon elephant, rarely possessing tusks, cannot destroy a tree thicker than the thigh of a man."

Again referring to Dr. Livingstone's remarks on this subject, he writes: "In estimating the amount of food necessary for large animals, sufficient attention has not been paid to the kinds chosen. The elephant, for instance, is a most dainty feeder, and particularly fond of certain sweet-tasted trees and fruits, such as the mohonous, the mimosa, and other trees, which contain much saccharine matter, mucilage, or gum. He may be seen putting his head to a lofty palmyra, swaying it to and fro to shake off the seeds; he then picks them up singly, and eats them. Or he may be seen standing by the masuka and other fruit-trees, patiently picking off the sweet fruits one by one. The selection of these kinds of food account for the fact that herds of elephants produce but small effect upon the vegetation of a country, quality being more requisite to them than quantity."

The Asiatic elephant, besides having the distinguishing points previously described, possesses as a rule much smaller tusks; the female animal being always born with *tushes* only, or short downward prongs in the upper jaw; these whilst present are used for stripping bark off trees, &c., but they are seldom retained long, being generally broken off early in life, and are never renewed; in fact they do not appear to be at all necessary. A curious fact, referred to already, is that neither sex of Ceylon elephants possess tusks, or at least not one in a hundred—and the very few exceptions to this rule that have been seen are exclusively males—and even these conspicuous individuals generally have only stunted tusks or *tushes*, about ten or twelve inches in length and one or two in diameter; while in India *mucknas*—as the male elephants born without tusks are called—are decidedly rare.

Mr. Sanderson, who, in consequence of his being the great authority of the present day on the Indian elephant, it is necessary to frequently quote, says that the tusks are not used to assist the animal in procuring food. Small trees are overturned by pushing with the curled trunk, or feet, if necessary; and to get at the core of a palm-tree or to beat out the plantain, the pressure of the feet alone is used.

In India elephants are generally caught at the present day by being driven into a stockade, which is built after a herd have been surrounded in a forest by the hunters and their assistants. It is rather dangerous work, and men are frequently killed while engaged in it. Formerly elephants were driven into pitfalls, which was the old native method of trapping the animals, but so much cruelty and suffering resulted from this *modus operandi* that it has been discontinued by order of the Government; and although various other plans are occasionally resorted to, yet the one above described is by far the most simple and effective. Mr. Sanderson invariably resorts to it in his wonderfully successful operations undertaken for the Indian Government. The following quotation is from an account of the work given by himself:—

“ Sometimes drives are conducted by torchlight, and these seldom fail, owing to the elephant’s fear of fire. The scenes on these occasions are exciting beyond description. The elephants, in rushing along, tear down large branches of trees that are connected with the undergrowth by climbing plants, and even sometimes upset dry trees bodily in their passage. The cries of the young, and the deep, thunder-like growls of the elders of the herd, the continued crashing of the jungle, and the shots and incessant cries of the men, form, with the unnatural light of the fires and of torches moving through the forest paths, a scene that cannot fade from the memory of any one who has witnessed it.

“ When a herd has been driven into the stockade the gate is closed and barricaded, and men with firebrands and spears repel any attack upon it or the palisades; but the trench is usually sufficient to deter the elephants from crossing it. On the same or following day ten or twelve tame elephants are admitted with a mahout and rope-tier upon each, and it is a very remarkable fact that the wild ones very rarely attempt to dislodge the riders, as they easily might. They naturally fail to comprehend anything so foreign to their experience as a man upon an elephant’s back. I never knew a case, except one that happened to myself, of any rider being attacked by a wild elephant. The mahouts separate the wild elephants one by one from their companions, when their

hind-legs are tied by men who slip to the ground for the purpose. A rope is then secured round each captive's neck and to its hind-legs, and it is led out and picketed in the forest near. . . . New elephants are trained as follows:—They are first tied between two trees, and are rubbed down by a number of men with long bamboos, to an accompaniment of the most extravagant eulogies of the animal, sung or shouted at it at the top of their voices. The animal, of course, lashes out furiously at first; but in a few days it ceases to act on the offensive, or, as natives say, '*shurum lugia hai.*' It becomes ashamed of itself, and it then stands with its trunk curled up, shrinking from the men. Ropes are now tied round its body, and it is mounted at its picket for several days. It is then taken out for exercise, secured between two tame elephants. The ropes still remain round its body to enable the mahout to hold on should the elephant try to shake him off. A man precedes it with a spear to teach it to halt when ordered to do so; whilst as the tame elephants wheel to the right or left the mahout presses its neck with his knees, and taps it on the head with a small stick to train it to turn in the required direction. To teach an elephant to kneel, it is taken into water five feet deep, when the sun is hot, and upon being pricked on the back with a pointed stick it soon lies down, partly to avoid the pain, partly from inclination for a bath. By taking it into shallower water daily it is soon taught to kneel even on land.

“Elephants are taught to pick up anything from the ground by a rope, with a piece of wood attached, being dangled over their foreheads, near to the ground. The wood strikes against their trunk and fore-feet, and to avoid the discomfort the elephant soon takes it in his trunk, and carries it. It eventually learns to do this without a rope being attached to the object.”

With the exception, we are told, of elephants that come from Burmah or Siam, almost every animal to be seen in India has been wild at one time; the reason assigned for their not being bred while in captivity is that the young ones would have to be kept for ten years before being of any service, and by that time the expenditure for food alone would exceed their value,

and the total outlay be far more than the cost of catching and training a mature wild animal.

Referring again to Von Orlich's travels, he informs his readers that neither in the mythology nor in the sculptured representations at Allora is the first taming of the elephant recorded, for like all the commencements of Indian civilization it was assumed to be already existing. However, the method adopted in training it appears to have been different in different places, and to have been changed during certain periods, as also the stratagems adopted for its capture, for in the time of Jumaway, the king of the Avances (who reigned from 1330 to 1306, B.C.), he, on being driven into Hindostan, is said to have taught the people the best method of catching the elephant. It appears, therefore, that even at that date elephants were not reared in a domestic state, although the "one-handed" animals, as they are called in the Sanscrit, were employed in far greater numbers than they are now, both for general work and in war, and it is recorded that they rendered thorough obedience.

The words of command that elephants are taught to obey, being translated, are "go, go along;" "go carefully;" "avoid, or pass clear;" "sit down;" "sit quite down;" "get up;" "don't squirt water;" "break down" (anything); "stop;" "come;" "remove with the tusk;" "lift up the fore-leg;" "pick up;" "swim;" "stride over;" "look carefully," &c.

Von Orlich, referring to the elephant's sagacity, says: "So full of reasons are his actions that he serves the Indians as the symbol of the highest knowledge, Ganesa, the god of art and science, being represented with an elephant-head: more especially is this animal honoured by the Hindoos, who make it the companion of the gods, the warder of the porch of the temple, the caryatide and ornament of their architecture. They believe that the souls of princes and Brahmins do penance in the bodies of elephants, and the Hindoo of low caste may hold one of them to be higher than himself."

From elephants being such universal favourites with people generally, any anecdote redounding to their credit, even if it portrays them as exhibiting superhuman intelligence, is accepted readily

without investigation. There is in consequence an undoubted tendency existing to overrate their mental powers, and, in fact, to confer upon them the highest order of reasoning faculties, that of drawing deductions and correct conclusions from facts coming within their own observation, and of which they could have had no previous knowledge or experience. This would place them far beyond other animals, dogs not excepted, in the scale of intelligence, and almost upon a par with man himself. Those who are well acquainted with the habits and natures of these creatures deny them any such place, and pronounce the tales told in many natural history books, and books of anecdotes about animals, as mere fables gathered together from different unauthentic sources; and if any particle of truth exists in them as a foundation the facts are so exaggerated and travestied that they are not even fit to amuse children, for they have a tendency to fill their minds with spurious knowledge.

In Hone's "Every-Day Book for 1825," there is a copy of Atkins's advertisement of the elephant to be seen in his "Royal Menagerie," which reads as follows: "The colossal animal: the wonderful performing ELEPHANT, upwards of ten feet high! Five tons weight! His consumption of hay, corn, straw, carrots, water, &c., exceeds 800 lbs. daily. The elephant, the human race excepted, is the most respectable of animals."

What Atkins meant by respectable is left for every one to form their own opinion, but the adjective may be certainly used to describe his intellectual position among animals; in fact, according to Sanderson, instead of being an exceptionally wise animal, its sagacity is of a very mediocre description: "The truth of this opinion no one who has lived amongst elephants can doubt." He writes: "One of the strongest features in the domesticated elephant's character is its obedience. It may also be readily taught, as it has a large share of the ordinary cultivable intelligence common, in a greater or less degree, to all animals. But its reasoning faculties are undoubtedly far below those of the dog, and possibly of other animals; and in matters beyond the range of its daily experience it evinces no special discernment. Whilst fairly quick at comprehending anything sought to be taught to it,

the elephant is decidedly wanting in originality. To begin with, the elephant displays less intelligence in its natural state than most wild animals." After describing the stupidity exhibited by the creatures in allowing themselves to be driven into an ill-concealed enclosure, which no other forest creatures could be got to enter, and then in not attempting to escape by the very easy process of destroying the stockade, he shows that they readily fall into pits dug for them, and have not sufficient wisdom to ever profit by experience, for escaped elephants are retaken without trouble, and continues: "In its domesticated state one of the elephant's chief characteristics is, as before stated, its obedience; and it does many things, at the slightest hint from its mahout, which must impress the on-looker unacquainted with the craft of elephant-guidance. The driver's knees are placed behind an elephant's ears as he sits on it, and it is by means of a push, pressure, and other motions, that his directions are communicated, as with the pressure of the leg with trained horses in a circus. It would be as reasonable, however, to credit performing dogs, which spell out replies to questions, with knowing what they are saying, as elephants with appreciating the objects to be gained by much which they do under the direction of their riders.

"All who have to deal with elephants will agree that their good qualities cannot be exaggerated; that their vices are few, and only occur in exceptional animals; that they are neither treacherous nor retentive of an injury; and that they are obedient, gentle, and patient beyond all other domestic animals. But it is no traducement of the elephant to say that it is, in many things, a decidedly stupid animal."

This is a very sweeping assertion, and entirely does away with the preconceived notions existing in the minds of the public respecting the animal, and although made by one whose knowledge is, probably, second to no other Englishman living respecting elephants, many think that Mr. Sanderson has, in correcting public opinion on the subject, exhibited a tendency to deprive the animals of even the common attributes of all quadrupeds considered worth taming. They may be stupid in allowing themselves to be easily

trapped, and then in not using their terrific strength and powers to crush their captors or effect their escape; and most people, while agreeing that the tales generally told about them, especially the one Mr. Sanderson quotes of the tailor and the needle, and the dirty water, are on the face of them absurd, yet there are others which are well authenticated that show elephants to be anything but stupid beasts. Dogs, with whom they are compared, are not over-gifted with sagacity in their wild state, and perhaps if thoroughly domesticated, and careful attention paid to their breeding, the elephants' intellectual powers might ultimately undergo considerable improvement, and increased mental capacity be transmitted to the future race. It is within the bounds of possibility that intelligent attributes of a high order might be developed, which would confer on the elephant a capacity for performing duties that would be of the greatest assistance to mankind.

No doubt many people have themselves seen children when feeding an elephant with buns accidentally drop some portion of one out of the animal's reach, which, after trying in various ways to get its trunk near enough to grasp the coveted morsel, has resorted to the stratagem of blowing through that organ with force sufficient to cause the bun to strike the nearest post or wall with such vigour that it rebounded near enough to be easily seized. Surely this is anything but a stupid manœuvre, and exhibits some intellectual power. The fact is that it is a mistake to make any sweeping assertion respecting animals, for the instinctive capacity is not the same in every specimen; each individual varies in the possession of its own peculiar endowments.

Again, with regard to their being neither treacherous nor retentive of an injury, well-authenticated cases have occurred that prove if this is the rule with regard to elephants in general there are many exceptions to it in individual cases. Several instances could be quoted to prove this, all narrated by eye-witnesses whose veracity is beyond question. One case was related of an elephant belonging to his Excellency the Governor of Bombay, who sent the animal to take part in the Durbar held at the proclamation of the Queen as Empress of India. This elephant had six years previous to this date a mahout

who had been in the habit of treating the animal with great brutality, but whom it had not seen for that period of time. On the road, among several other elephants, was one ridden by this identical man. Immediately the animal in question saw him it rushed at the elephant he was riding, upset the man, and, taking him in its trunk, dashed his brains out on the ground! It then walked round and round him kicking his body repeatedly. In the panic created by this act, the other elephants and their drivers fled, but shortly afterwards the infuriated animal was found to be perfectly quiet, and gave no further trouble, for it was of an inoffensive disposition and was not *must*.

Another case occurred in 1866 in a circus that was performing in St. Heliers, Jersey. From the report in the *Times* newspaper we learn that a man named Williams, a groom in the circus, in the discharge of his duty, went to the stable after the evening performance to attend to the horses. "While giving water to the horse placed next to the elephant, the latter, wishing to drink, reached out his trunk, which Williams struck a violent blow, refusing the animal any water. He then, to show a companion—a soldier of the 69th Regiment—his mastery over the elephant, commanded the animal to perform some of his usual tricks. This was done, until the patience of the docile beast being exhausted at the unreasonable demands of Williams, he threw his trunk round him and pressed him against the stable wall with such force that when the unfortunate man fell to the ground and was picked up he was half dead and bleeding profusely. He was conveyed at once to the General Hospital, where he was attended to; but it is feared that the internal injuries he has received may terminate fatally." These two cases, read in conjunction with others that have periodically occurred, show that individual animals can be revengeful, and some possess a retentive memory of injuries received.

Their capability of receiving instruction is undoubtedly very great. The little clown elephant "Tom Thumb," owned by Barnum, which nearly shared the fate of "Jumbo" last year, exhibits probably the highest training that can now be given any animal, for it appears to act independently of any word of com-

mand or touch, and its amusing antics, clothed in a clown's dress, keep the audience in roars of laughter

In former ages men were greater adepts at training animals than they are at the present day. The secret of their skill and method of procedure have not been transmitted to their successors of the nineteenth century. The Romans taught elephants to perform dances, imitate the combat of gladiators, and walk upon the tight rope, and afterwards to dine at a table, reclining upon couches which were filled with people; but the animals were so well trained that they did not touch or injure them in any way. These and several other incidents that exhibit the skilful training to which the animals were subjected can be found narrated by Pliny, Ælian, Seneca, Dion Cassius, and others, so that the facts are fully corroborated.

The wonderful manner that elephants perform the varied labours allotted to them in India and Ceylon, such as placing stones in exact positions in the building of the various public works, or in collecting and piling timber, and in various other ways, has always elicited admiration.

In moving about elephants are very careful, and rarely, even by accident, tread upon a man or child, which is a very fortunate trait in their character, for their great weight which crushes all life out of a human being subjected to it would make their employment one fraught with perpetual danger. An animal did, however, back on to a keeper in the Zoological Gardens and cause his death; but it was purely an accident.

So much reliance is placed on the animals displaying caution that in India the native women when busy often compel the elephants to act as nurses, and watch over the children. Mr. C. T. Buckland, in *Land and Water*, states: "There is nothing by any means uncommon or incredible in the stories which have been reported about the children of a mahout being cared for by the mahout's elephant. It is always expedient to employ a married mahout if you can, with a hard-working wife and two or three children. The whole family become, as it were, parasites to the animal by whom they earn their living. It is only a question of degree to what extent an

elephant may be trusted with a baby, but I have seen a baby placed by its mother systematically under the elephant's care, and within reach of its trunk, whilst the mother went to fetch water or to get wood and materials to cook the family dinner. No jackal or wolf would be likely to pick up and carry off a baby who was thus confided to the care of an elephant; but most people who have lived a life in the jungle know how very possible it is for a jackal or wolf to carry off a baby, even when lying in a hut, when the mother's back is turned. The children thus brought up in the companionship of an elephant become ridiculously familiar with it, and take all kinds of liberties with it; which the elephant seems to endure on the principle that it does not hurt her, while it amuses the child. You see a little naked black imp about two feet high standing on the elephant's bare back, and taking it down to the water to bathe, vociferating all the time in the most unbecoming terms of native abusive language. On arriving at the water the elephant, ostensibly in obedience to the imp's command, lies down and enjoys itself, just leaving a part of its body, like a small island, above water, on which the small imp stands and shouts, and shouts all the more if so be that he has several companions of his own age, also in charge of their elephants, all wallowing in the water around him. If the imp slips off his island the elephant promptly replaces him in safety. These little urchins as they grow up become, first, *mates* to mahouts, and eventually arrive at the dignity of being mahouts."

According to Mr. Sanderson half a ton is a good load for an elephant for ordinary work, and seven hundredweight is enough for him to carry in a hilly country, but the animals employed in the Abyssinian Expedition were given heavier loads, some as much as 1800 pounds. The amount of fodder they will consume is between 600 and 800 pounds every eighteen hours, but the capacity or appetite of one elephant is no gauge to that of another, for individuals vary considerably in their requirements, as is shown by the difference in the allowance fixed for each animal by the Commissariat Departments of Bengal and Madras. The cost of the food, coupled with the wages of the men required

to attend to elephants, make these animals expensive ones to keep, and their labour too dear for general use.

Male elephants (occasionally females also) are subject to periodical paroxysms that vary in duration from a few weeks to three or four months, and occur regularly in some animals or only at intervals in others. They are then said to be *must*, or mad. During this period they are either very violent and intractable, or else drowsy and lethargic. Mahouts can easily tell the approach of *must* by the flow of an oily matter from the small gland in the temple on each side of the head to be seen in elephants of either sex. At this period they have to be handled and approached, with great care, for they frequently exhibit a most decided tendency to attack every one that comes within their reach, and at such times kill their keepers as readily as they kill any one else.

Elephants being in consequence of this infirmity so uncertain in their dispositions, for the ordinarily most docile animal may become the most furious of beasts when *must*, and as so many homicides have been committed by elephants when in this condition, they must be pronounced the most dangerous of all animals that are now employed by men. A number of cases could be instanced in support of this opinion; one or two are worth quoting, In 1872 the *Times* informs us: "An interesting beast has just passed away at Chicago. The *New York Herald* announces the death in that town on the 8th June of the celebrated performing elephant 'Romeo,' the largest and most valuable of his species ever brought to America, and more famous than any who have gone before him. The occurrence, says the *Herald*, will excite interest in almost every city, town, or village in America; but to judge by the account given of the career of the deceased, the news of his death must, we imagine, be received with some sense of relief. 'Romeo,' it seems, has killed five keepers since his advent in America, 'besides destroying any number of fences, barns, garden-patches, cornfields, orchards, &c.' He was bought in Calcutta about twenty-five years ago, having been taken from a brickyard, where he was used in grinding clay. The price paid for him was \$10,000 in gold, and he was brought to America with

nine others. In 1852, while south of New Orleans, he killed his keeper, known as 'Long John,' whose successor, called 'Frenchy,' shared the same fate near Houston, Texas, in 1855. A third keeper, Stewart Craven, was killed in 1860, near Cedar Rapids, Iowa; the fourth, Ben Williams, was sent to his last account at Philadelphia in 1867; and the fifth, named McDewett, in Ohio, in 1869, completed the illustrious roll of 'Romeo's' victims. Although from the affectionate nature of the animal there can be no doubt he bitterly mourned the loss of the keepers whom in his hasty moments he destroyed, yet his cheerful temperament enabled him to survive sorrows that would have crushed more sensitive elephants; indeed his playfulness sometimes exceeded the limits of convenience. In the winter of 1868 he alarmed the inhabitants of Chicago by tearing to pieces the building in which he was confined, on the site of the present City Hall. On this occasion a cannon was brought out to cope with him, but he was fortunately recaptured before any further damage was done. His left eye was, however, shot out in 1865 near Philadelphia, and his hide bore the scars of numerous bullets and red-hot iron used to subdue him at various times when he insisted on committing depredations. He stood 11 feet $2\frac{1}{2}$ inches in height, and is supposed to have been 100 years old."

In India individual animals have killed more men in their day than "Romeo" did, but out of Asia he was probably accountable for more deaths than any other of his species of which there is any record. But sundry elephants that have been used for exhibition purposes, both in England and on the Continent, have been man-slayers.

Judging from the accounts given in old newspapers, our grandfathers experienced some difficulty in destroying these "monstrous creatures" as they were called. An animal that had belonged to the King of Wurtemberg was destroyed about sixty years ago in Venice—where he tried to kill his keeper, and did succeed in killing another man, whom he threw down with his trunk, and trampled to death. In order to execute this murderer, it was necessary to employ the agency of "150 musket-balls and three cannons." In 1820 a performing elephant which had previously been exhibited

in London, was being shown in Geneva, when he went *must*. Escaping from control, he tried to kill his keeper. After causing considerable excitement to the good people of the city, he was persuaded to enter an enclosure near the barrack-yard, and the business of killing him commenced. First poison was tried, three ounces of prussic acid with ten ounces of brandy. This only made him more *playful* than ever, so three boluses each containing an ounce of arsenic, mixed with honey and sugar, were given to him, which he ate readily enough, but they also failed to produce the desired effect. Ultimately the soldiers made a breach in the wall, and inserting therein the mouth of a cannon, fired a ball at the animal, which passed completely through him, and did considerable damage afterwards. The people seem to have been sincerely sorry at the death of this elephant, for he had occasioned them much amusement, but they appear to have assuaged their grief by eating up the body, for we read in the account given of the affair that the fleshy parts of the beast "were given to the public, who were extremely eager and anxious to eat elephant's flesh, and much tempted by its excellent appearance, dressed as it was in every variety of sauce. They seemed perfectly regardless of the poison, which indeed had not time to develop itself in the muscular system. Three or four hundred persons ate of it without injury, excepting one or two individuals, who brought on a fit of indigestion by indulging in excess."

The "Jumbo" of a previous date, as far as popularity and size are concerned, was an elephant named "Chunee," which was exhibited from 1814 to 1826 at Exeter Change, and was a favourite animal with the British public. Previously to his transfer to this menagerie he had taken part in a pantomime, called "Harlequin Padmanaba," performed at Covent Garden Theatre, which drew crowded houses. Mr. Harris, the manager, gave 900 guineas for the animal for this purpose, a joint interest being owned by Mr. Parker, the husband of the celebrated columbine "who played up to" the animal, which during the performance was ridden by the graceful rider, Mrs. Henry Johnstone.

This animal had occasioned considerable trouble at several periods by recurring paroxysms and his having to be kept in such a

confined enclosure in the menagerie. In March, 1826, he appears to have had a worse fit than usual, and the whole place being endangered by his great strength and destructive tendency, his owner had reluctantly to order him to be killed. This the men carried out probably to the best of their ability, but with disgusting cruelty. Some soldiers were called in, and the attendants being armed with rifles, an hour's incessant fusillade was kept up before they succeeded in killing him, and no less than 152 shots were fired at the poor brute.

The extraordinary details of this execution are given in Hone's "Every-Day Book," and constitute a chapter in history that is probably unique, at least let all humane people hope so. As soon as the fury of the animal made it apparent that his death was an imperative necessity, "Mr. Tyler went down to Mr. Clarke, and acquainting him with the danger arising out of the immediate necessity, suggested the instant removal of every person from the Change below, and the closing of the Change gates. Mr. Clarke, and all belonging to his establishment, saw the propriety of their speedy departure, and in a few minutes the gates were barred and locked. By the adoption of these precautions, if the elephant had broken down the floor, no lives would have been lost, although much valuable property would have been destroyed; and in the event contemplated, the animal himself would have been confined within the basement. Still, however, a slight exertion of his enormous strength could have forced the gates. If he had made his entry into the Strand, it is impossible to conjecture the mischief that might have ensued in that crowded thoroughfare, from his infuriated passion.

"On Mr. Tyler's return upstairs from Mr. Clarke, it was evident from the elephant's extreme rage, that not a moment was to be lost. Three rifles therefore were immediately loaded, and Mr. Herring, accompanied by Mr. Stevens's assistant, entered the menagerie, each with a rifle, and took their stations for the purpose of firing. Mr. Tyler pointed out to the keepers the window places, and such recesses as they might fly to if the elephant broke through, and enjoining each man to select a particular spot as his own exclusive retreat, concluded by showing

the danger of any two of them running to the same place for shelter. The keepers with their pikes, placed themselves in the rear of Mr. Herring and his assistant, who stood immediately opposite the den, at about the distance of twelve feet in the front. Mr. Herring requested Cartmell to call in his usual tone to the elephant, when he exhibited him to visitors, on which occasions, the animal was accustomed to face his friends with the hope of receiving something from their hands. Cartmell's cry of 'Chunee! chunee! chuneelah!' in his exhibiting tone, produced a somewhat favourable posture for his enemies, and he instantly received two bullets aimed from the rifles towards the heart; they entered immediately behind the shoulder blade, at the distance of about three inches from each other. The moment the balls had perforated his body, he made a fierce and heavy rush at the front, which further weakened the gates, shivered the side bar next to the dislodged story-post, and drove it out into the menagerie. The fury of the animal's assault was terrific, the crash of the timbers, the hallooing of the keepers in their retreat, the calls for 'rifles! rifles!' and the confusion and noise incident to the scene, rendered it indescribably terrific. The assailants rallied in a few seconds, and came pointing their spears with threats. Mr. Tyler having handed two other rifles, they were discharged as before; and, as before, produced a similar desperate lunge from the enraged beast at the front of his den. Had it been effective, and he had descended on the floor, his weight must have inevitably carried it, together with himself, his assailants, and the greater part of the lions, and other animals, into the Change below, and by possibility have buried the entire menagerie in ruins. 'Rifles! rifles!' were again called for, and from this awful crisis it was only in the power of Mr. Tyler and some persons outside, to load quick enough for the discharge of one rifle at a time. The maddened animal turned round in his den incessantly, apparently with the design of keeping his head from the riflemen, who after the first two discharges, could only obtain single shots at him. The shutter inside of a small grated window, which stood in a projection into the den, at one of the back corners, was now unstripped, and from this position Mr. Herring

fired several shots through the grating. The elephant thus attacked in the rear as well as the front, flew round the den with the speed of a race-horse, uttering frightful yells and screams, and stopping at intervals to bound from the back against the front. The force of these rushes shook the entire building, and excited the most terrifying expectation that he would bring down the entire mass of wood and iron-work, and project himself among his assailants.

“After the discharge of about thirty balls, he stopped and sunk deliberately on his haunches. Mr. Herring, conceiving that a shot had struck him in a vital part, cried out: ‘He’s down, boys! he’s down!’ and so he was, but it was only for a moment; he leapt up with renewed vigour, and at least eighty balls were successively discharged at him from different positions before he fell a second time. Previous to that fall, Mr. Joshua Brookes had arrived with his son, and suggested to Mr. Herring to aim especially at the ear, at the eye, and at the gullet.

“The two soldiers despatched from Somerset House by Mr. Cross, came in a short time before Mr. Brookes, and discharged about three or four rounds of ball-cartridge, which was all the ammunition they had. It is a remarkable instance of the animal’s subjection to his keeper, that though in this deranged state, he sometimes recognized Cartmell’s cry of ‘Chunee! Chunee! Chuneelah!’ by sounds with which he was accustomed to answer the call, and that more than once, when Cartmell called out ‘Bite Chunee! bite!’ which was his ordinary command to the elephant to kneel, he actually knelt, and in that position received the balls in the parts particularly desired to be aimed at. Cartmell, therefore, kept himself as much as possible out of view as one of the assailants, in order that his voice might retain its wonted ascendancy. He and Newsam, and their comrades took every opportunity of thrusting at him. Cartmell, armed with a sword at the end of a pole, which he afterwards affixed to a rifle, pierced him several times.

“On the elephant’s second fall, he lay with his face towards the back of the den, and with one of his feet thrust out between the bars, so that the toes touched the menagerie floor. At this time

he had from a hundred and ten to a hundred and twenty balls in him ; as he lay in this posture, Cartmell thrust the sword into his body to the hilt. The sanguinary conflict had now lasted nearly an hour ; yet with astonishing alacrity, he again rose, without evincing any sign that he had sustained vital injury, though it was apparent he was much exhausted. He endeavoured to conceal his head by keeping his rear to the front ; and lest he should either make a successful effort at the gate, or on receiving his death-wound, fall backwards against it, which would inevitably have carried the whole away, the keepers availed themselves of the juncture to rapidly lash the gates of his den, with a chain and ropes so securely, that he could not force them without bringing down the entire front.

“ Mr. Herring now directed his rifle constantly to the ear ; one of these balls took so much effect, that the elephant suddenly rushed round from the blow, and made his last furious effort at the gates. Mr. Tyler describes this rush as the most awful of the whole. If the gates had not been firmly lashed, the animal must have come through ; for, by this last effort, he again dislodged them, and they were kept upright by the chain and ropes alone. Mr. Herring from this time chiefly directed his fire at the gullet ; at last he fell, but with so much deliberation, and in a position so natural to his usual habits, that he seemed to have lain down to rest himself. Mr. Herring continued to fire at him, and spears were run into his sides, but he remained unmoved, nor did he stir from the first moment of his fall. Four or five discharges from a rifle into his ear produced no effect : it was evident that he was without sense, and that he had dropped dead, into the posture wherein he always lay when alive.

“ The fact that such an animal, of such prodigious size and strength, was destroyed in such a place, without an accident, from the commencement to the close of the assault, is a subject of real astonishment.”

In the present time, when we read of hunters shooting elephants, two at a time, with the right and left barrel, the above description is sickening, and exhibits gross stupidity and ignorance. Barnum, only a couple of years ago, it must be supposed more for an

advertisement than for anything else, applied for a company of State Militia to destroy an animal he wanted killed; so in some respects history repeats itself in these matters, but in this latter instance the execution was expeditiously accomplished.

The most extraordinary and almost marvellous shot that probably ever killed an elephant was recorded in the *Colombo Observer* in January, 1858, in the following paragraph: "Although it is still deemed unsafe to move Major Milman from Kapregan, we rejoice to hear that he is in no danger. It seems an elephant charged him, and was within a few feet of him, when Mr. Tyn-dale, determined to save his friend's life, fired. The bullet went through Major Milman's left shoulder, splintering a small portion of the bone. But the end was answered; the bullet which had thus disabled Major Milman killed the elephant, which fell within a few feet of him. So narrow an escape and under such circumstances is unprecedented."

In Siam and Burmah the elephant, or at least the variety called a "white elephant," is held in great veneration and kept at Court as the sacred appendage of royalty. Many people are under the impression that the people worship the animal, but this is a mistake. They have peculiar superstitions regarding it, one being that it is the incarnation of some future Buddha, and will therefore bring blessings on the country which possesses so great a treasure, in consequence of which, at the Court of Siam, the principal white elephant ranks next to the princes of the blood. In Burmah a similar animal takes rank immediately after the king.¹

As a matter of fact these elephants are not white, but only a light coffee-colour, somewhat lighter in shade than the ordinary animal. Some naturalists contend the colour is the result of a disease or of albinism.

In 1883, Barnum, at a considerable cost, secured one of these

¹ This was written before the annexation of Burmah and the imprisonment of the king, occurrences followed by the death of the royal white elephant, but whether its demise was due to natural causes or to its having been killed by command of the king before his departure in order to rouse the prejudices of the people against the British, has not been ascertained.

animals as an attraction for his circus. This specimen was temporarily lodged on its way through England in the Zoological Gardens, and became at once an object of great curiosity; the chief opinion, however, was that the animal was disappointing and not very much out of the common, and hints that it was not a genuine "white elephant" were freely expressed by visitors who went there under the impression they were going to see an extraordinary beast with a snow-white skin.

The *Madras Mail* published a copy of the compact made by Barnum's agent with the Burmese owners of this animal, which concluded thus: "We have sworn him (Barnum's agent) before God and under the Boe (holy) tree on the hill, he promised that he will take him (the elephant) straight to his master to love and protect him from misery; if not he knows that the sin cannot escape hell. We have got from Muilikin Master Rs. 15,000 to repair our God's images and monastries. We write and give this document with our free will and consent."

Individual elephants are occasionally born, or afterwards become, coloured out of the ordinary, for Robert Knox in his "Historical Relations of the Island of Ceylon" (wherein he was a captive for nearly twenty years), written in 1681, says that in the collection of animals belonging to the King of Kandy, there was a black tiger, a milk-white deer, and he "hath also an elephant spotted or speckled all the body over, which was lately caught; and though he hath many and very stately elephants, and may have as many more as he pleases, yet he prefers this before them all." Andreas Boues, writing in 1600, relates that the King of Pegu hath four white elephants, and if any other hath any he will seek them by favour or force. . . . He had also *black elephants* nine cubits high, and five thousand elephants of war.

The whole history of Asia is full of the history of the elephant. The large number that were kept by the various emperors of China, Hindoostan, and Persia, either for war purposes or to swell the magnificence of their personal retinue, is truly incredible. But no chapter of this history is so strange as that wherein is recorded the account of the wars undertaken for one particular white elephant in the sixteenth century. We read that King

Aleager of Pegu had a walled park, where he kept all sorts of beasts, without regard to their cost, as was evidenced by the cruel and costly war he undertook to obtain one animal of a particular kind to dignify this oriental menagerie. In 1548 the King of Siam possessed seven white elephants, which so raised the cupidity of King Aleager that he imperiously demanded the gift of two or even one especial animal, which, being refused, he determined to obtain it by force and invaded the country with a million men, two hundred-thousand horse, five thousand elephants, and three thousand camels. "He sacked and ruined Siam or Lagi, which was reputed twice as big as Paris. The siege lasted twenty-two months. He took the king's treasure, wife and children, and brought them and the white elephants to Pegu, sixty-five days' journey, by camels. The King of Siam cast himself, in despair, from a turret of his own palace. Some of his daughters made away with themselves. . . . This fatal white elephant hath cost five kings their lives and estates. The last King of Pegu had it taken from him by the King of Aracan, through the treachery of the King of Tangut, his brother-in-law. The coach of the King of Pegu was drawn by four white elephants. I believe that in all the East there were not more to be found."

The intoxication of three hundred elephants is another very curious episode narrated in the "History of Hindostan." In 1023, Mamood, Emperor of Ghizni, marched against Nunda, the Prince of Callinger, with a great army. He besieged the city, but agreed to terms of peace on Nunda offering him 300 elephants and other presents. To try the bravery of the Sultan's troops, the Prince intoxicated the animals before sending them into the camp. Mamood, who saw them advancing, perceived the trick by the extraordinary wildness of their motions, and ordered them to be attacked, killed, or driven away, which was accordingly done; some were mounted by the Turks, emulous to display their bravery, and others were driven into the adjacent woods, where they were soon reduced to obedience.

Vincent Le Blanc,² in writing about Pegu, gives an account of

² "The World Surveyed, or the Famous Voyages and Travels of Vincent Le Blanc," 1660.

an elephant, in conjunction with other beasts, being instrumental in having a church built, as their clemency was considered miraculous: "There is a park for lions, tigers, and other fierce beasts, called Siparo, and 'tis a sad and daily sight to see criminals devoured by them. There was a church founded there, in memory of a miracle that happened to a Christian in the year 1572, who was exposed to the lions, next to the elephants, and thirdly, to the tigers, the fiercest of the three, and came off from them all safe and entire, none of the beasts would touch him; he was presented to the king (who gave him a pension during his life), and inquiring who he was (he replied) he was a poor Christian pilgrim, come out of France, with intention to visit the holy sepulchre at Jerusalem; that since he had travelled into Mount Sinay, with the caravane, whence he, through devotion, came to the town of St. Thomas, to visit the shrine of that glorious saint; there he was bidden to go to Caranganor, where that saint suffered martyrdom; and that then he had a curiosity to see the court of that great monarch, so famous throughout the Indies, and was not permitted to cross the river of Pegu without money (which he was but slightly stored withall), but cast himself into the water to swim it over, and being retaken, was condemned to the beasts."

Some French Jesuits obtained leave of the King of Pegu to erect a church in memory of this Daniel of the sixteenth century whom the animals would not touch.

Arabs are said to be particularly fond of elephant's flesh, it being described as juicy but extremely coarse, the foot and trunk being excellent if properly cooked; but in some parts of India, Mysore, for instance, the lowest class of natives, who have no objection to carrion, will not eat the flesh of the elephant.

Elephants do not appear to breed readily when in captivity, and it is only within the last half-century that we hear of young animals being reared by the various zoological societies, or by menagerie owners. Even in India the birth of an elephant in servitude was such a rare event, that it was spoken of as a most exceptional occurrence when it happened.

Elephants have always been singularly attractive animals to

children, and to sightseers generally; and especially to the dwellers in the towns of the New World for crowds flock to the circuses or menageries at their periodical visits for no other purpose but to see these beasts. The popular excitement on such occasions even affects the judges on the bench, according to the amusing account given in the *Louisville Journal* of 1857, wherein it is shown how an American lawyer utilized this curiosity for the purpose of carrying his own point. "It seems on the day in question a menagerie was expected in Frankfort, U.S., and the people were naturally on the *qui-vive* for the approaching sight—an interest in which, as the sequel shows, his Honour the judge keenly participated. Notwithstanding the Court was held on that day, *though not exactly usual*. In the progress of the morning's business a case of continuation arose, which the judge was evidently not at all inclined to favour; his countenance, indeed, grew absolutely stern with disfavour. The lawyer in charge having urged his plea with all the ingenuity and ability at his command, was at length in the act of yielding the point in despair, when a brother lawyer whispered to him that the menagerie had arrived, and the elephant would swim the river. The suggestion was big with relief; he drew himself up, and deferentially addressing the court, said: 'May it please your Honour, I have at this moment learned that the great American menagerie has reached this city, and the elephant will immediately swim the Kentucky river. The people, I am informed, are already thronging upon the banks to witness this extraordinary feat.' The hit was palpable, but the bearing of his Honour underwent a complete transformation. His stern countenance at once relaxed into the most genial complacency, and in a tone of generous excitement, he remarked: 'Gentlemen, I grant this continuance, and adjourn the court. I have never seen an elephant swim a river; as I am an old man, it isn't likely that I'll ever have a better opportunity. The court's adjourned!' and the next thing seen of the judge, he was making for the river at a speed never contemplated by the life insurance company. Verily there is no resisting the elephant!"

The ridiculous excitement occasioned some few years ago in

England by the sale of the African elephant named "Jumbo" to Barnum by the Zoological Society is fresh in the memory of most people, and it has been revived by the news of his tragic fate on a railway in Canada some few months ago. While being led along the line, an engine ran into him, and striking him on the skull, killed him.

This animal was of the African species, and was received from the Jardin des Plants in Paris, in exchange for a rhinoceros, when he was about five years old. As before stated, he was the first African elephant that had ever been seen in England since the Roman conquest, and in consequence his arrival created considerable curiosity. In 1865 another one, a female, still in the gardens, called "Alice," was purchased as a mate for Jumbo, from Mr. Rice, the animal dealer, for 500*l.*, who had imported her from Nubia.³ She is now a few inches above nine feet high, but was then only a little thing of four feet. "Jumbo" thrived so well that he grew to be nearly eleven feet before he left England, and afterwards added some seven or eight inches to his stature in America. He was the largest known elephant in existence, and was a most popular favourite in England, especially among the children, whom he carried about daily in the gardens to their great delight. In consequence of the authorities of the gardens thinking he had exhibited signs of *must*, and might become dangerous, the Society reluctantly resolved to sell him. Barnum stepped in as a purchaser, and offered 2000*l.* for the animal, and when the fact became known an extraordinary outcry was raised, and the most absurd and fantastic exhibitions made of sorrow. Children poured in their pence as subscriptions towards a fund to compensate the Society for the loss of the purchase-money if they would keep him, and some grown-up children tried to invoke the law to their aid, and compel the Zoological Society to retain the animal in their possession. Barnum had better facilities for securing elephants; and as many animals during the paroxysms become man-slayers, the council deemed it prudent, in their own interest and for the safety of the visitors to the gardens, to part with

³ "Alice" has, since this was written, been also purchased by Barnum to replace "Jumbo" in his menagerie and circus, the price paid for her being 200*l.*

Jumbo, and despite the strenuous exertions of Londoners to make them alter their determination, the sale was ratified. They were really afraid of him; his strength was so prodigious, that when he became excited, the damage he inflicted on the house built for his accommodation was incredible. The *Times*, writing on the subject, said: "The door leading from the den into the open air is closed with massive beams of oak, eight inches square; these are further strengthened by plates of stout sheet-iron on both sides, and are so heavy that two men can scarcely raise one of them from the ground; nevertheless these beams have been not merely bent, but positively broken through, both iron and wood, by the muscular power of the animal." This was certainly not the kind of creature to have mad and unrestrained in the gardens.

"Alice" can generally be heard long before she is seen, for she is a particularly noisy animal, and also a rather unfortunate one, for she has succeeded in maiming herself in an extraordinary manner, once by breaking a few inches off her trunk, and on another occasion by doing the same thing to her tail. She was always very fidgetty and restless, and had been tethered to the corner of the stall by a chain which was attached to a ring round one of her fore-feet. In 1875, while the keepers were working in the elephant-house, they heard "Alice" calling out suddenly, as if in great pain, and on running up to her, they found she had actually torn off the top of her trunk. She appears to have caught it in the ring, and the pressure of her leg as she pulled against it hurt her so much that it caused her to exert all her force in order to withdraw it, and in the effort the end of the trunk was torn completely off. She was in great pain for some time afterwards, and was very uneasy, but she soon began to feed again; ultimately the end healing over, she recovered the use of the organ, and now appears none the worse for her extraordinary mishap. Her tail was injured by being wagged with such force against the sharp edge of a post that a few inches were knocked off it.

The editor of the *London Magazine* for 1761, who appears to have seen an elephant in his travels abroad, and to have been astonished

by its enormous consumption of food remarks, "As the keeping of an elephant is so expensive, we may conclude that no full-grown one will ever be brought here for show," which was an assumption remarkably wide of the mark, for within the same century elephants became quite a common sight in England, and one hundred years later the Zoological Society exhibited five at one time. In the United States, last year, a visitor to Barnum's circus would have seen "Jumbo" and thirty others, all taking part in the performance together which terminated by the animals at the word of command, lying down, within a ring, while their owner, standing on the stomach of the centre one proclaimed the sight a unique one that he defied the world to beat, and that the money value of the beasts was represented by a fabulous amount of dollars, which was an evident and indisputable fact.

In England or even in Europe, however, prior to the end of the last century, elephants were rarely seen and the artists who drew the representations of these animals in many of the mediæval bestiaries now extant, must have relied upon their imagination rather than their vision for their models, for the trunk is generally represented as trumpet-shaped, widening towards the end until it looks like a huge funnel or post-boy's horn. No doubt they were led into this error through the elephant being reported as "trumpeting" whenever it utters a sound, and their minds being unable to grasp the fact, that it could do this without it had a trunk shaped like the human instrument, they accordingly furnished the animal with the article.

In the middle ages wild beasts of every description were deemed of great value for presents—among the nobility especially. The Sultans and eastern rulers were constantly soliciting the goodwill and friendship of western potentates by sending them specimens of the rare beasts they had imported or that were natives of their countries, and elephants were occasionally to be seen at European courts, which their owners had obtained in this way. The Soldan of Babylon presented one to the Emperor Frederick the Second, and guarded by a troop of Saracens, it became the adventurous monarch's standard-bearer. One was also sent about the same time to our Henry III. by Louis IX. of

France, which probably had been procured by him when he invaded Palestine. This animal must have made a great sensation in England, for it is referred to by all the chroniclers of the period. The king was very proud of his gift, and in 1256 issued the following order to the sheriff of London. "We command you, that, of the farm of our city, ye cause, without delay, to be built at our Tower of London, one house of forty feet long, and twenty feet deep for our elephant."

After this date other elephants are mentioned at different periods as having been presented by European kings to their contemporaries, but no English monarch appears to have been the recipient of such a gift until King James I., to his intense delight, had one sent him. Chambers' "Book of Days" gives the following description of the circumstances attending the receipt of this animal by the king. "About the year 1629, the king of Spain effected an important diversion in his own favour by sending the king—priceless gift!—an elephant and five camels. 'Going through London, after midnight,' says a state-paper letter, 'they could not pass unseen,' and the clamour and outcry raised by some street-loiterers at sight of their ponderous bulk and ungainly step, roused the sleepers from their beds in every district through which they passed. News of this unlooked-for addition to the Royal Zoological Garden in St. James' Park, is conveyed to Theobalds as speedily as horse-flesh, whip and spur could do the work. Then arose an interchange of missives to and fro—betwixt the king, my lord treasurer, and Mr. Secretary Conway—grave, earnest, and deliberate, as though involving the settlement or refusal of some treaty of peace. In muttered sentences, not loud but deep, the thrifty lord treasurer shows 'how little he is in love with royal presents, which cost his master as much to maintain as would a garrison.' No matter. Warrants are issued to the officers of the mews, and to Buckingham, master of the horse, 'that the elephant is to be daily well-dressed and fed, but that he should not be led forth to water, nor any admitted to see him, without directions from his keeper, which they were to observe and follow in all things concerning that beast, as they will answer for the contrary at

their uttermost peril.' The camels are to be daily grazed in the park, but brought back at night, with all possible precautions to screen them from the public gaze. 'In the blessed graciousness of his Majesty's disposition,' 150*l.* was to be presented to Francisco Romano, who brought them over, though the meagre treasury was hardly able to yield up that sum, and her Majesty's visit 'to Bath' must be put off to a more convenient season, for want of money to bear her charges. Then Sir Richard Weston was commissioned by Mr. Secretary Conway, to estimate the annual cost of maintaining the royal quadruped, his master having decided to take the business into his own hands. He suggested economy, but does not seem to have succeeded, for the state-papers for August, 1623, furnish the following 'breefe noate what the chardges of the elephant and his keepers are in the yeare:—

feeding for the elephant at 10 <i>s.</i> per diem is per an.	£180	0	0
To the 2 Spaniards that keep him XX <i>s.</i> per week .	52	0	0
To the 2 Englishmen, his keepers, XV <i>s.</i> per week	41	0	0
Sum per ann. in toto	£275	12	5"

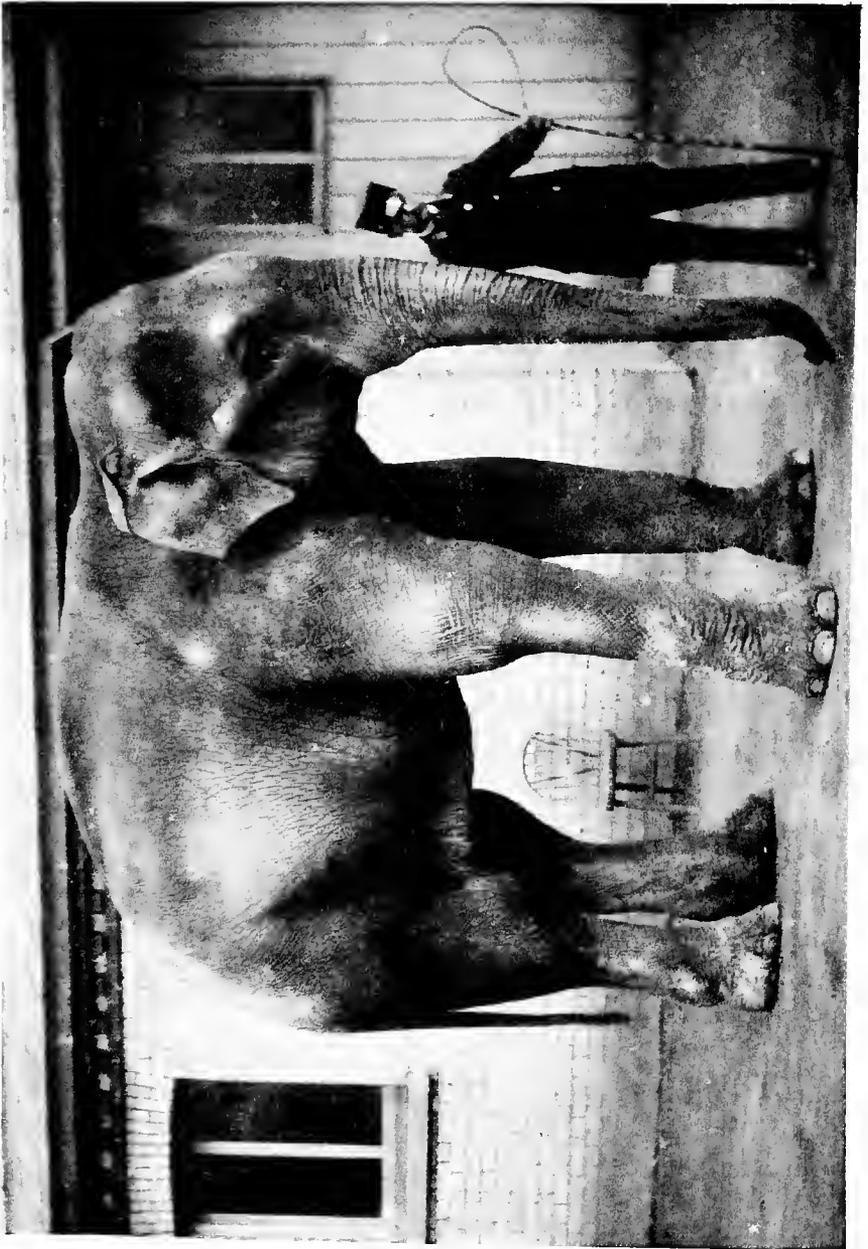
Such is the gross amount, according to the manuscript, but it evidently contains a clerical or copier's error. These items, however, do not represent the total outlay on this animal, for the manuscript adds, 'his keepers affirme that from the month of September until April, he must drink (not water) but wyne—and from April unto September, he must have a gallon of wyne the daye.'

This elephant had therefore no reason to regret the destiny that made him the property of King James I.

The value of an elephant varies considerably. "Scarcely any limit," says Mr. Sanderson, "can be placed on the price of a really perfect *koomeriah* (thorough-bred); 2000*l.* is not an unknown figure. Tuskers of any pretensions at all command from 800*l.* to 1500*l.* The price of good females of the working class is from 200*l.* to 300*l.*" The elephant that was used by the Duke of Edinburgh in his shooting trip was purchased for the purpose by Sir Jung Bahadoor for 1800*l.*, but in this case the animal was a noted one and famous as a hunter.

The two Indian elephants now used daily to give children their "elephant-ride" in the gardens belong to the Prince of Wales, and were brought over by him from India and deposited with the Zoological Society. They came from Nepaul, and arrived on the 15th of May, 1876. Their names are "Suffa Culli" and "Jung Perchad." A photograph of the latter which is a fine male animal will be found illustrating this chapter. "Jung Perchad" was presented to his Royal Highness by Sir Salar Jung Bahawdur, and "Suffa Culli," by his Highness the Maharajah of Bulrampore. In 1882, this couple were the parents of the first elephant ever known to have been born in Europe, at any rate in modern times. In America, however, one was born in 1881 in a travelling menagerie.

The British rustic frequently evinces considerable ignorance regarding the nature and strength of the wild animals he occasionally sees exhibited. A rather absurd illustration of this is recorded in the *Blackburn Standard* of June, 1860. The article states, "A curious scene occurred here on Monday evening during the performance in the menagerie. A young man, who had for some time been carefully observing the monster elephant, determined, like a mighty gladiator of old, to try the strength of the huge bulk of flesh with his own. There is at the ends of the elephant's tusks, which are of large size, an iron rod, binding one tusk to the other. Our hero seized hold of this, and began to lean his whole weight upon it. The elephant, not altogether liking this sort of treatment, determined for his part to punish the audacious antagonist. He raised his great head aloft and the young fellow was swung from the ground until he almost touched the canvas covering, and was no doubt much higher than his most wild ambition ever carried him. The animal repeated this, and a second time he descended to the ground, when the elephant wrapped his trunk round the hapless and now thoroughly bumbled youth, and very unceremoniously laid him in the mud that overstrewn the floor. The wrestle was ended, the elephant coming off the victor, while his combatant picked himself up, and amidst the hearty laughter of the spectators, vanished."



AN INDIAN ELEPHANT.

(Elephas Indicus.)

“Jung Perchad” was presented to the Prince of Wales when in India by Sir Salar Jung Bahawdur.

CHAPTER XVIII.

THE TAPIRS (*GENUS TAPIRUS*).

THE quiet, inoffensive, and gentle-looking animals bearing this name also belong to the family *Pachydermata*. At first sight they might be, and in fact frequently are, mistaken for a species of hog of large and powerful build. They are, however, a very distinct race of animals, and form one of the links that unite the elephant to the rhinoceros and pig family. They have a somewhat heavy and bulky body, supported on legs of moderate length. Their skin is very thick and tough, and is covered with short, fine hair. They have four divisions or toes upon the fore-feet, and only three upon the hind ones, each encased in a hoof. The tail is short, being a mere tubercle. The neck is thick, muscular, and laterally compressed; it has a short mane of stiff bristles about an inch and a half in length. The ears are short and pointed. The eyes are small and deep set, but are very brilliant during the night.

The most noticeable feature of the tapir is the elongated muzzle, which, by the prolongation of the nose, forms a short flexible proboscis or modified trunk. In this respect the head resembles that of no other known animal, for it is the only existing quadruped that even in a limited extent has an organ that in any way can be said to approach the elephant's trunk.

Quoting the author of "Menageries:" "A peculiar mobility of the upper lip, connected with a more or less marked development of it, is seen in all the *Pachydermata* (the hyrax excepted, which in many points closely resembles a rodent); but in none is this development carried to such an extent as in the elephant: here we find the nasal tubes continued to the extremity of a cylindrical flexible organ termed proboscis. Next to the elephant, though still

at a considerable distance, comes the tapir. In these animals we find the proboscis short but flexible, and capable of considerable extension; as in the case of the elephant, the tapir uses it as an organ of prehension, but by no means to so great an extent; not as in that gigantic beast, is it employed as an organ of suction, or as a pump. The muscular *fasciculi*, however, with which it is formed are similar to those composing the proboscis of the elephant, and there are also strong *levator* muscles, rendering the elongated snout well adapted for the purpose of searching in the ground for roots. The proboscis of the elephant, depending from an elevated forehead, gives a grave and even imposing air to the animal's physiognomy. The flexible snout of the tapir, on the contrary, terminating a head shaped much like that of a hog, but more compressed, and elevated into a ridge above, produces not such an impression; it is neither terrific as a weapon, nor does it so well fulfil the place of a hand and arm. Yet it is extremely useful as an organ of prehension, by means of which the animal assists itself in the procuring and appropriation of its food."

When full grown, tapirs generally stand about four feet in height, and measure about six in length, their weight being nearly equal to that of a small bullock.

In former times there existed more varieties of this family of mammals than are now known, which is attested by the fossil remains that have been found in America and Europe. At the present day there are only three or four well-defined species living, but these have again been subdivided into several different varieties.

From the curious distribution of the family *Tapirus*, the animals have a peculiar interest to zoologists, for they form the sole example of a pachydermatous genus that are distributed between a very limited portion of the Old World and the southern countries of the American continent. A writer on this subject in the "Library of Entertaining Knowledge" says: "All other extant pachydermatous genera yet known as *Elephas*, *Rhinoceros*, *Hippopotamus*, *Equus*, *Sus*, *Babirussa*, and *Hyrax*, are indigenous in the older continents. There is abundant room for speculation on the present paucity of living *Pachydermata* in America, the more so as

the superficial strata in various parts of that continent present us with the relics of several *Pachydermata*, some of colossal magnitude, among which we may notice those of an extinct *elephant*, and of the gigantic *mastodon*, with allied species, viz., the *Mastodon Cordillerarum*, discovered by Humboldt in Queto, at 1200 feet above the level of the sea; *Mastodon Humboldtii*, and *M. Tapiroides*. Very recently the fossil cranium of a huge animal, belonging apparently to this order, has been brought to England by Mr. C. Darwin from South America, and has received the name of *toxodon*. Why it is that a series of animals of the *pachydermatous type* which existed at a very late geological period should have passed away, and that in the present era so few should appear as their representatives in the regions they tenanted, is a problem not easy of solution. The fact, however, is incontestable, that we there find but two forms of this order now extant, viz., that of the genus *Tapirus* (of which America possesses two species, animals of only second-rate magnitude), and that of the genus *Dicotyles* (of which the two known species are inferior to the hog)."

None of the tapir family are very well known to naturalists. Being shy and solitary beasts, haunting the depths of forests situated far beyond the borders of civilization, which are generally impenetrable by human beings, and their active life being mostly nocturnal, they offer but few opportunities for observation of their habits in a wild state; in consequence their natural history has to be gathered in a piecemeal manner from various sources.

The best known animal, because the one most frequently seen, is the American tapir (*T. Americanus*). Murray, in his book,¹ says: "It has a very wide distribution in South America, extending from east to west, from the foot of the Andes, that is the inner or eastern range (the range known by the name of Cordillera being the western), to the Atlantic Ocean, and from north to south from Central America to Buenos Ayres." M. Roulin² dwells upon it as a singular fact that though it occurs as low as 40° to the south of the equator it ceases suddenly at about 8° north, in a situation where it is extremely abundant, and where

¹ "Geographical Distribution of Mammals."

² Bennett's "Zoological Gardens."

no adequate cause has yet been assigned to bar its farther progress, no large rivers nor lofty mountains intervening, nor any change in the vegetation of the country being manifest. The left bank of the Atrato, near its mouth, and the part of Darien inhabited by the independent Indians may be considered as its northern limit. Its highest range, in the province of Maraquita at least, appears to be from 3000 to 3600 feet above the level of the sea, while the new species discovered by M. Roulin is only met with at a much greater elevation.

These tapirs, in common with their Asiatic relatives, exhibit quiet, peaceable, and timid dispositions. They select retired spots in the inmost recesses of the deep forests, to which they resort during the day, in order to sleep free from disturbance, and at night they immerge to find the water in which they delight and to search for food. They feed on the shoots of trees, buds, grass, and water-melons, or other fruits abounding in the countries they inhabit. Azara³ informs his readers that the tapir devours vast quantities of nitrous clay, and it drinks like the pig; eats flesh both raw and cooked; all herbs, and indeed whatever it meets with, not even excepting pieces of linen, wool, and silk; so that it appears to be even more gluttonous than the pig, and to possess a palate incapable of distinguishing anything. They are dirty and indiscriminate feeders even when kept in captivity or when domesticated. A specimen gnawed in pieces a silver snuff-box belonging to Azara, and not content with this it actually consumed the contents. In menageries they are reported by the keepers as frequently exhibiting their omnivorous and depraved appetites by swallowing rags, paper, or any rubbish they can get down that may incautiously be left within their reach.

The whole contour of this animal is hog-like. The skin is of a dark-brown colour, approaching to black, and is covered with short and scanty hair; it is of great density, being, according to the statement of M. Roulin, seven layers thick on the back, and eight or nine on the cheek, and he asserts that bullets have been seen to glance off their bodies without inflicting any material injury. Sonnini also draws attention to the toughness of the

³ "The Natural History of the Quadrupeds of Paraguay."

hide, and he exemplifies it by narrating as a fact that he frequently fired at a female animal, which was crossing the river with her young one, without apparently in any way injuring or even disturbing her, for she continued on her course without taking any notice of the shots, although he saw the impression on her cheek which the ball had made. This was of course in the days of old-fashioned weapons; but even then it is, as Sir W. Jardine states, a point upon which most people will be sceptical whether the skin of any of these animals would resist a ball directly fired from a properly loaded and efficient gun.

Although the colour of an adult tapir of this species is a uniform one, the young animal has its rich brown-black hair beautifully variegated with lightish-fawn coloured spots and stripes.

The tough skin, by being so impervious to injury, and the great muscular strength possessed by the tapir, which in proportion to its size is said to be as great as that of a rhinoceros, account for some of the peculiar habits of the animal in its wild state. It is described as never frequenting a pathway that may already have been made by other animals or by men, but makes a road for itself by breaking and pushing with its head, which is carried low, through the obstacles it encounters. It has a most wonderful power of forcing its way through places that appear impenetrable, such as the most densely wooded forests, where the creepers, thorny vines, and the rank vegetation abounding in tropical profusion, form by their perfect network a tangled undergrowth that laces together the trunks of the great trees whose crowned heads intermingle their leaves and branches so as to form a close roof which, being impervious to sunlight, keeps a perpetual gloom reigning over the land they cover. In the depths of such a covert the tapir finds a haunt congenial to its taste, and selecting a dry spot for its lair, it proceeds to clear a track to the bank of the nearest pool or river, and thereafter always uses the same road going and returning. It is an amphibious animal, and when it reaches a river plunges in, and diving to the bottom commences feeding on the roots and stems of the water-plants. It can remain underneath for two or three minutes, and then by rising to the surface and elevating the prolonged snout take a breath, and

again disappear beneath the surface. In fact it appears almost as much at home in the water as the hippopotamus, and seeks refuge therein when pursued or in danger as the place in which it feels the greatest safety.

Travellers easily recognize the paths they make, and frequently select them for their own use as affording the easiest passage through the woods. From the description of the animal's habits, as given by M. de la Borde, and quoted by Buffon, it is requisite for persons to beware of these beasts in the forests, and especially to avoid pitching a camp on their paths, for the animals never turn aside but move briskly on, and without intending mischief dash violently against every obstacle in their course. "The districts bordering the upper parts of the rivers in Guiana," he writes, "are inhabited by a considerable number of tapirs, and the banks of the waters are intersected by paths which they wear; and so beaten are they that the most desert places appear, at first sight, as if peopled and frequented by human beings."

"A traveller informed me that he had nearly fallen a victim to his want of experience respecting their beaten tracks. On his arrival in the country he had attached his hammock to two trees, in which to pass the night; it happened, however, that his hammock passed across one of these beaten ways. About ten o'clock in the evening he heard a loud noise in the forest; it was occasioned by a tapir on his route: he had just time to throw himself out of his hammock and stand close against a tree; the animal did not stop, but tossed the hammock into the branches and bruised him as he stood; then, without turning aside from its path, it passed in the midst of some negroes who were sleeping on the ground near a large fire, without doing them any injury."

Sometimes during rain it is said to leave its den even at mid-day. "On such occasions," one writer states, "it proceeds to the river or the adjacent swamp, where it delights to wallow in the mud after the manner of hogs, and often for hours together. Unlike the hog, however, the tapir is a cleanly animal. After wallowing it never returns to its den until it has first plunged into the clear water and washed the mud thoroughly from its skin. It usually travels at a trot, but when hard pressed it can gallop. Its

gallop is peculiar. The fore-legs are thrown far in advance, and the head is carried between them in a very awkward manner, somewhat after the fashion of a frolicsome donkey."

Tapirs are far too timid to ever provoke an attack, in fact they are almost defenceless, for although they have such great strength, and their jaws are well furnished with teeth formidable enough to do serious injury to any foe they might seize, yet they rarely use them, but when molested or injured in any way utter a shrill, hissing cry, which is a sound that by no means corresponds with their size. When hard pressed they sometimes defend themselves by kicking violently, and occasionally will seize hold of dogs by the loins, and shaking them violently tear off the skin.

The greatest enemy they have, next to the hunter, is the jaguar, but with this animal they seem able to cope, for the claws of the formidable cat cannot make very powerful impressions on the thick hide, and the tapir has a habit, when it is pounced upon, of at once rushing through narrow and intricate places or of plunging into the thickest part of the woods, if there are any adjacent, until owing to the perpetual bruising and constant succession of blows inflicted by the tree limbs, their foe is forced to quit its hold.

Mr. Bennett says, "It is frequently hunted for its flesh, which, although coarse, dry, and unsavoury to a European palate, is regarded as a great luxury by the native Indians and negroes. Its skin is also highly valued on account of its great thickness and strength. The lasso is seldom employed to take it; for it snaps asunder at a single effort a cord strong enough to interrupt a bull in the height of his headlong course. The most common mode of catching them is to attract them by an imitation of their voice, consisting in a short but not very shrill whistle, and thus to bring them so close to the huntsman that his shot rarely fails of its effect. The Indians use poisoned arrows for the same purpose. Another plan, which is frequently pursued, is for the hunters to station themselves towards evening with their dogs by the side of the tapir's path, to intercept him in his passage to the water, of which, like most animals of his tribe, he is particularly fond, constantly indulging in a bath as soon as he rouses himself for the business of the night, and wallowing at all times in the water

with peculiar delight. The dogs are, however, frequently worsted, the tapir defending himself with great courage, seizing his enemies with his teeth, and inflicting on them very severe wounds. When thus attacked he usually endeavours to gain the water, where, standing up to his breast, he defies the largest dogs; his assailants being compelled to swim and unable to bring into action their full agility and strength, while the tapir, quietly watching their motions, seizes them successively as they advance, by the back of their necks, and shakes them off from him with the loss of large portions of their flesh."

A good description of a tapir hunt is given in "Chambers's Journal" for 1854. The writer informs us that it is one of the amusements or employments of the South American Indians. "Not that the flesh of the animal is so eagerly desired by them; on the contrary, it is dry and has a disagreeable taste, and there are some tribes who will not eat of it, preferring the flesh of monkeys, macaws, and the armadillo. But the part most prized is the thick, tough skin, which is employed by the Indians in making shields, sandals, and various other articles. This is the more valuable in a country where the thick-skinned and leather-yielding mammalia are almost unknown.

"Slaying the tapir is no easy matter. The creature is shy; and having the advantage of the watery element, is often enabled to dive beyond the reach of pursuit, and thus escape by concealing itself. Among most of the native tribes of South America, the young hunter who has killed a tapir is looked upon as having achieved something to be proud of."

Martinez, described as an intelligent Brazilian trader, gave the writer of the article the account of a hunt in which a whole tribe of Indians, the Jumnas, took part. The following is condensed from the original description. Twenty or thirty canoes or "dug-outs" were filled with the hunters, accompanied by many of the women and boys of the tribe, and a score or two of dogs. "These dogs were curious creatures to look at," Martinez remarks. "A stranger, ignorant of the customs of the Jumnas, would have been at some loss to account for the peculiarity of their colour. Such dogs I had never seen before. Some were of a bright scarlet, others

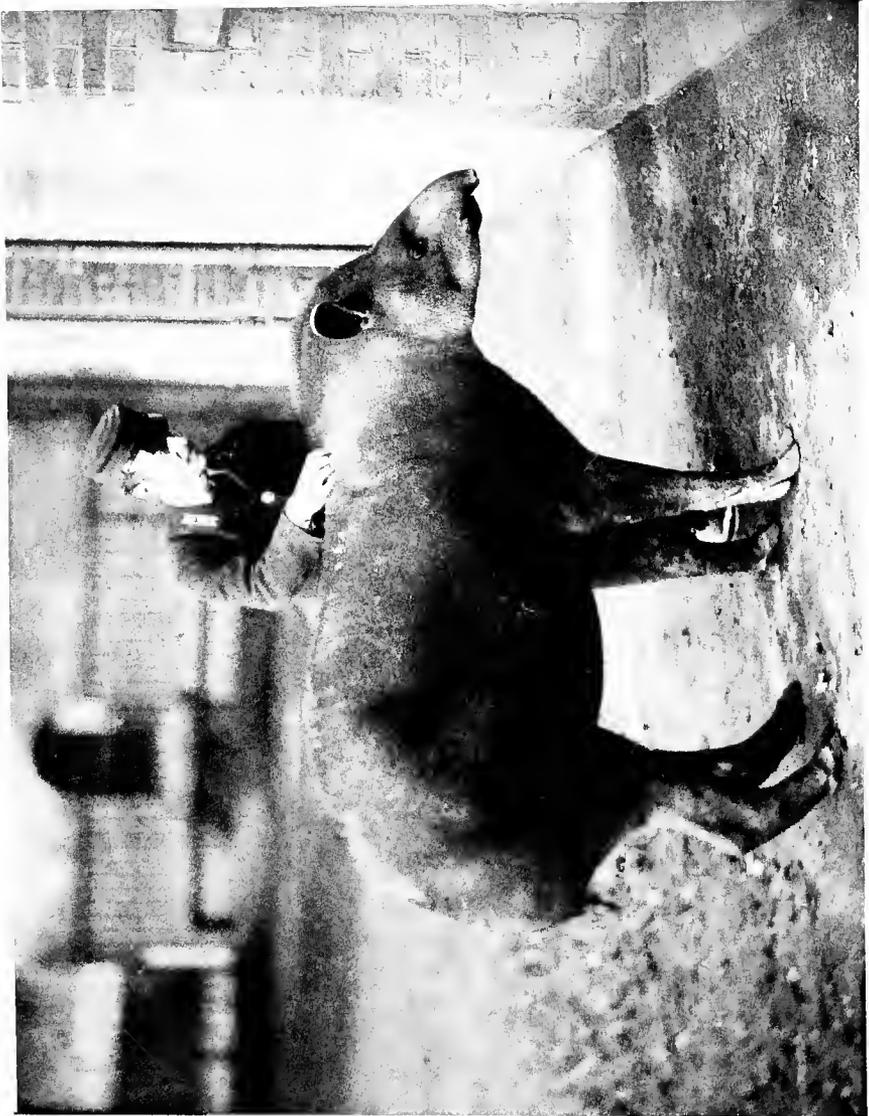
were yellow, others blue, and some mottled with a variety of tints. What could it mean? But I knew well enough. The dogs were dyed! Yes, it is a custom among many tribes of South American Indians to dye not only their own bodies, but the hairy coat of their dogs, with brilliant colours obtained from vegetable juices, such as the red huitoc, the yellow rocoa (*annoto*), and the blue of the wild indigo. The light grey, often white, hair of these animals favours the staining process; and the effect produced pleases the eye of their savage masters. On my eye the effect was strange and fantastical. I could not restrain my laughter when I first scanned these curs in their fanciful coats. Picture to yourself a pack of scarlet, and orange, and purple dogs!"

The Chief and Martinhez were armed with a light fusil and rifle respectively; the others with guns, bows and arrows, and some had arrows dipped in curarie poison. They paddled up the river to a place that was studded with islands and known to be a favourite resort of the tapirs. The narrator was struck with the appearance of the party, and observes, "No 'meet' in the hunting-field of civilized countries could have equalled us in picturesqueness. The ubas (canoes), strung out in a long irregular line, sprang up-stream in obedience to the vigorous strokes of the rowers, and these sang in a sort of irregular concert as they plied their paddles. The songs were improvised: they told the feats of the hunters already performed, and promised others yet to be done. I could hear the word 'tapira' (tapir) often repeated. The women lent their shrill voices to the chorus; and now and then interrupted the song with peals of merry laughter. The strange-looking flotilla—the bronzed bodies of the Indians, more than half-nude—their waving black hair—their blue-bead belts and red cotton armlets—the bright *tangas* (aprons of the women)—their massive necklaces—the macaw feathers adorning the heads of the hunters—their odd arms and equipments—all combined to form a picture which, even to me, accustomed to such sights, was full of interest."

The tracks of a tapir having been discovered on the sandy shore of one of the islands, it was surrounded, and the hunt began. At a given signal several hunters leaped ashore, followed by the

bright-coloured dogs, and commenced to force themselves through the dense thicket, but the net-work of creepers so choked up the path that every step of the way had to be cleared by the hunters with the matchets carried for the purpose. The Indians that remained in the canoes kept perfect silence, and sat with arms ready and eyes keenly fixed on the foliage of the underwood opposite their station. At last a tapir was driven out. The chief exclaimed, "This time, the tapir, look yonder!" "I looked," continues Martinhez, "in the direction pointed out. I could perceive something in motion among the leaves—a dark brown body, smooth and rounded, the body of the tapir! I caught only a glimpse of it, as it sprang forward into the opening. It was coming at full gallop, with its head carried between its knees. The dogs were close after, and it looked not before it, but dashed out and ran towards us as though blind. It made for the water, just a few feet from the bow of our canoe. The chief and I fired at the same time. I thought my bullet took effect, and so thought the chief did his; but the tapir, seeming not to heed the shots, plunged into the stream and went under. The next moment the whole string of dyed dogs came sweeping out of the thicket, and leaped forward to where the game had disappeared. There was blood upon the water. The tapir is hit, then, thought I; and was about to point out the blood to the chief, when, on turning, I saw the latter poisoning himself, knife in hand, near the stern of the canoe. He was about to spring out of it. His eye was fixed on some object under the water. I looked in the same direction. The waters of the Zingu are as clear as crystal; against the sandy bottom, I could trace the dark-brown body of the tapir. It was making for the deeper channel of the river, but evidently dragging itself along with difficulty. One of its legs was disabled by our shots. I had scarcely time to get a good view of it before the chief sprang into the air, and dropped head foremost into the water. I could see a struggle going on at the bottom—turbid water came up to the surface—and then up came the dark head of the savage chief.

"'Ugh!' cried he, as he shook the water from his thick tresses, and beckoned me to assist him—'Ugh! Senhor Martinhez, you



A TAPIR.

(Tapir Americanus.)

eat roast tapir for dinner. Si-bueno—here tapir.’ I pulled him into the boat and afterwards assisted to haul up the huge body of the slain tapir. As was now seen, both our shots had taken effect; but it was the rifle-bullet that had broken the creature’s leg, and the generous savage acknowledged that he would have had but little chance of overtaking the game under water had it not been previously crippled.”

These animals are easily domesticated in consequence of their mildness of disposition and sluggishness of character. Soninni states that tame tapirs are allowed to wander at liberty through the streets of the towns of Guyana and to wander off if so disposed into the adjacent woods, from whence they return in the evening to the houses where they are kept and fed. According to his description of them, they are capable of attachment to their owners, and he expresses the opinion that the strength, patience, and docility of the animals might be utilized by converting them into beasts of burden. It is very doubtful, however, whether any advantage could be gained by such an experiment, for although they are usually quiet and peaceful creatures, they are said to be subject to fits of irritation and rushing madly about blindly dash at any object that may impede their wild career. The experience of the keepers in the Zoological Gardens with these animals tends to show that they are very delicate and of peculiar habits. Water, in which they can plunge, is an absolute necessity, for without it they get ill and soon die, and for people not prepared to accommodate them in this manner the keeping of tapirs would be an impossibility. They are also such timid beasts that anything occurring out of the ordinary terrifies them, in fact they are not in any way to be depended upon; consequently must be pronounced as totally unfitted for any useful domestic purpose.

In 1704 a living tapir was exhibited in Amsterdam, where it was called a sea-horse, and was the first ever brought to Europe in modern days. At a subsequent period two of them were carried from town to town through Holland. There is no information that can be found of any tapir being brought to England prior to 1828. In that year Lieutenant Maw presented a young tapir to

the Zoological Society, but it died soon after it came into their possession.

Another smaller species was discovered in South America by M. Roulin (*Tapirus Roulinii*). Both in appearance and habits it is similar to the previously described animal. Murray mentions it as inhabiting the higher regions of the Andes at an altitude of seven or eight thousand feet. It "possesses peculiar interest from being clothed with long, thick, close, felted blackish-brown hair, giving us an instance exactly corresponding to the warm coating of the species of Pachyderms which have been adapted for living in cold climates. The mammoth had a ponderous fleece of long hair and felted wool; and the northern rhinoceros was also woolly-haired. And here, where the conditions of its life call for the provision, we have their congener, the tapir, similarly protected."

The Asiatic tapir (*Tapirus Indicus*) is confined in its habitation to Sumatra, Malacca, and the South-west province of China. In habits it differs but little from the tapirs of the New World, but in its appearance there is considerable dissimilarity.

In the first place it has not any mane on the neck, and, secondly, its colour makes it very distinct. Its head, neck, and fore-legs, instead of being dusky brown like the American species, are quite black, so also are the hind-quarters, but its body is lightish-grey, almost white. The two colours are separated by a defined line, and the sharp contrast between the black parts and the white, which are not softened off by any mingling of tints, gives the animal the appearance, from a short distance, of having a white cloth covered around the body.

It is a larger animal than its American congeners, and its proboscis is stronger and capable of greater extension.

This species was only discovered in 1805 by Major Farquhar, and from a specimen he forwarded Sir Stamford Raffles the first account of it was given to the public. The depths of the forests it inhabits and its retiring habits can be surmised from the extraordinary fact that so large an animal should have so long escaped the observation of naturalists.

CHAPTER XIX.

THE RHINOCEROS FAMILY (*RHINOCERIDÆ*).

IN size and strength the members of this extraordinary family of quadrupeds rank next to the elephants; they are, therefore, the second largest and most powerful of terrestrial mammalia. Although there are seven or eight recognized species still existing, yet, as more than this number have become extinct, the family must at one period have been an extensive one. Their range must also have been a much wider one than it is at present, for in a former epoch these animals were well distributed over the world's surface; but at the present day they only inhabit two comparatively small areas, widely separated, one in Asia and the other in Africa. The structural affinity of the various species peculiar to either of these quarters of the globe is unmistakable, and the distinctions between the Asiatic and African animals are well defined and easily discernible. The race to which an animal belongs is therefore to be determined at a glance.

The Asiatic rhinoceros, of which four species are recognized, form a distinct group, distinguishable from their African brethren by the thick folds in the skin, and the presence of incisor teeth. They are known as follows:—The Indian rhinoceros (*R. Indicus*); the Javan rhinoceros (*R. Javanicus*); the Sumatran rhinoceros (*R. Sumatranus*), and the hairy-eared rhinoceros (*R. Lasiotis*).

The African species are all found in Africa proper, that is south of the Sahara; none are found in north Africa, and they fall naturally into two groups—those which browse on trees, and those that graze, distinguished readily by the prehensile or non-prehensile upper lip.¹ Zoologists have subdivided these animals

¹ “Geographical Distribution of Animals.”

again into five species, three black ones and two white. The two white rhinoceroses (*R. Simus*) and (*R. Oswellii*); the black rhinoceros (*R. Bicornis*); the keitloa rhinoceros (*R. Keitloa*), and another (*R. Cucullatus*). The adult animals have no incisor teeth, and scarcely any appearance of the peculiar folds of the integument which is such a characteristic feature of the Indian species.

The rhinoceros has a large, unwieldy body, supported on short, thick legs, and its appearance in consequence is clumsy and uncouth. The legs terminate with large callous pads, divided into three toes, which are covered with broad, hoof-like nails. The tail is short, and has a small tuft at the end. The whole body, head, and limbs are covered with an extremely hard and thick skin, which in none of the existing animals exhibits more than mere traces of hair, although there is evidence that some of the extinct species were covered with fur.

The head of a rhinoceros is large and surmounted by moderately long ears. The eyes are very small. The muzzle is prolonged, and the fleshy covering of the upper lip can be protruded so much that the animal employs it to collect and draw its food into the mouth. Their senses of hearing and scent appear to be acute, but their sight is somewhat limited, for the position of the eyes, which are set far back, prevents them from clearly discerning objects that are exactly in front of them.

The nasal bones curve into an arch that forms the support for a horn, or in some instances two, which is the most remarkable peculiarity of these strange beasts, and one that is unique in mammalia. It is from this feature of the animal the name rhinoceros has been given it, a word derived from two Greek ones, meaning nose and horn.

In neither species does the horn connect directly with the skull-bones, but it simply grows from the skin, and can easily be removed from the hide by separating it with a sharp knife.

From the very earliest times many superstitions have existed among the natives in India regarding the horn of the rhinoceros. It was supposed that water drunk from a cup made from it had wonderful medicinal qualities; but the idea most firmly rooted in the Aryan mind is that the horn is an antidote to poison, and

is not only useful in curing a person who may be its victim, but efficacious in detecting its presence. Indian rulers have for centuries used drinking-cups made of it, under the notion that "it sweats at the approach of any kind of poison whatever." Upon this subject Thunberg writes: "It is generally believed that goblets made of the horns, in a turner's lathe, will discover any poisonous draught that is put into them by making the liquor ferment till it runs quite out of the goblet. Such goblets are frequently set in gold and silver, and are regarded as suitable presents to kings, persons of distinction, and particular friends; or else they are sold at a high price, sometimes at the rate of fifty-six dollars a goblet. When I tried these horns, both wrought and unwrought—both old and young horns—with several sorts of poison, weak as well as strong, I observed not the least motion or effervescence; and when a solution of corrosive sublimate, or other similar substance, was poured into one of these horns there arose only a few bubbles, produced by the air that had been enclosed in the pores of the horn, and which was now disengaged from them."

The horn is a very remarkable structure, for it is not a bony formation like the horns of deer, antelope, or oxen, but is composed simply of agglutinated hairy filaments, rigidly compressed into a dense substance. When this fact is taken into account, its weight appears astonishing. The tip becomes polished and smooth from use. The animal employs this weapon to dig up roots and loosen things in the earth that it may require for its sustenance.

All natural history books describe the horn as being employed also for a weapon of offence or defence, and the way in which it is attached to the head—namely, in such a manner that it has no direct connection with the skull, is said to be a beautiful arrangement of nature to prevent the injurious consequences to the brain that might otherwise result from the violent concussions it would undoubtedly be subject to when so used.

Of all large animals the rhinoceroses in their wild state are the ones about which there exists the smallest amount of information. The salient features of their appearance, peculiarities, and habits have been frequently described, but there is ample room

for more accurate and closer study of these creatures in their native haunts. Upon this subject of their using the horn for combative purposes opinions are divided, and no positive statement can be made. That they may occasionally have to so use it is quite probable, but that they invariably do so is open to doubt. That hard blows can be struck with it is obvious, but that it is used to rip up their opponents in the same way as the wild hog uses his tusks is the point upon which more information is required. Its large circumference, and the loose way in which it is attached to the animal, would hardly allow it to be driven in with any force, or it could not be withdrawn, and would be torn from its roots. One of the animals in the Zoological Gardens, in 1870, was the victim of self-mutilation by using his horn for work beyond its capacity. He was let out for exercise in the paddock provided for the purpose, and tried to upheave the massive iron railings that divide the enclosure by placing his horn underneath. It, of course, resisted his efforts, but he kept on making repeated attempts until at last the thick, massive horn was torn away from the head and fell into the yard. At first there was considerable loss of blood, and the animal roared lustily for a few minutes, but soon became quiet. The wound was doctored by Mr. Bartlett, who applied some neat's-foot oil to keep away the flies, and in a short time his patient was as well as ever. A new horn began to appear shortly afterwards.

Colonel Kinlock, who is an authority on Indian sport, in the new edition of his work,² when describing the great Indian rhinoceros remarks: "Contrary to general belief the rhinoceros does not make use of his horn as a weapon of offence; the wounds which it occasionally inflicts on elephants are caused by its long, sharp incisors, with which it can give a very formidable bite."

Captain Williamson³ describes the rhinoceros as being the inveterate enemy of the elephant, which he attacks whenever he can get a favourable opportunity, ripping without mercy. "The apparent bluntness of the horn," he writes, "which is about as broad at the base as it is high, would appear to render it an

² "Large Game Shooting," Calcutta, 1885.

³ "Oriental Field Sports," 1807.

insignificant weapon, and inadequate to penetrate any hard or tough substance." That this, however, is not the case, he thinks proved by the fact that elephants have often been found dead, obviously from wounds received from the horn of a rhinoceros. This evidence rests only on native statements, for Williamson himself does not state he ever saw a dead elephant so wounded. He mentions, however, that Major Lally, an officer of the Indian army, whose veracity was beyond question, while engaged in a hunting expedition, saw a desperate encounter between a rhinoceros and a large male elephant, in which the latter animal was beaten ; but the method of attack adopted by the rhinoceros in this fight is not stated, and the narration only proves that these two animals are natural enemies and occasionally fight.

All varieties of the rhinoceros are subject to violent fits of temper, which are frequently exhibited, even when they have not received any apparent provocation. Their strength and the power of uprooting fences, or attacking animals, make them dangerous and troublesome at such periods, and care has to be exercised to prevent them from committing serious damage, for they appear to have but little method in their madness, judging from the extraordinary series of antics they indulge in, such as rushing about with the horn in the earth, making deep furrows as though cut with a plough, or with loud grunts commencing to rip or trample some bush or other object against which they appear to take a spite, or other equally meaningless proceedings. When in a wild state when in this condition they will furiously attack any object they may see moving.

These beasts appear to be fond of haunting river-banks and wallowing in the mud. They generally have their hide well coated with a thick layer of this substance, for it is surmised that in this way they endeavour to shield themselves from the attack of the flies which plague the animal world of Asia and Africa. Thick-skinned animals, through having such large pores, are particularly vulnerable and sensitive to these stinging insects.

The best known animal of the family is the large Indian rhinoceros (*R. Unicornis*, called by some naturalists *R. Indicus*).

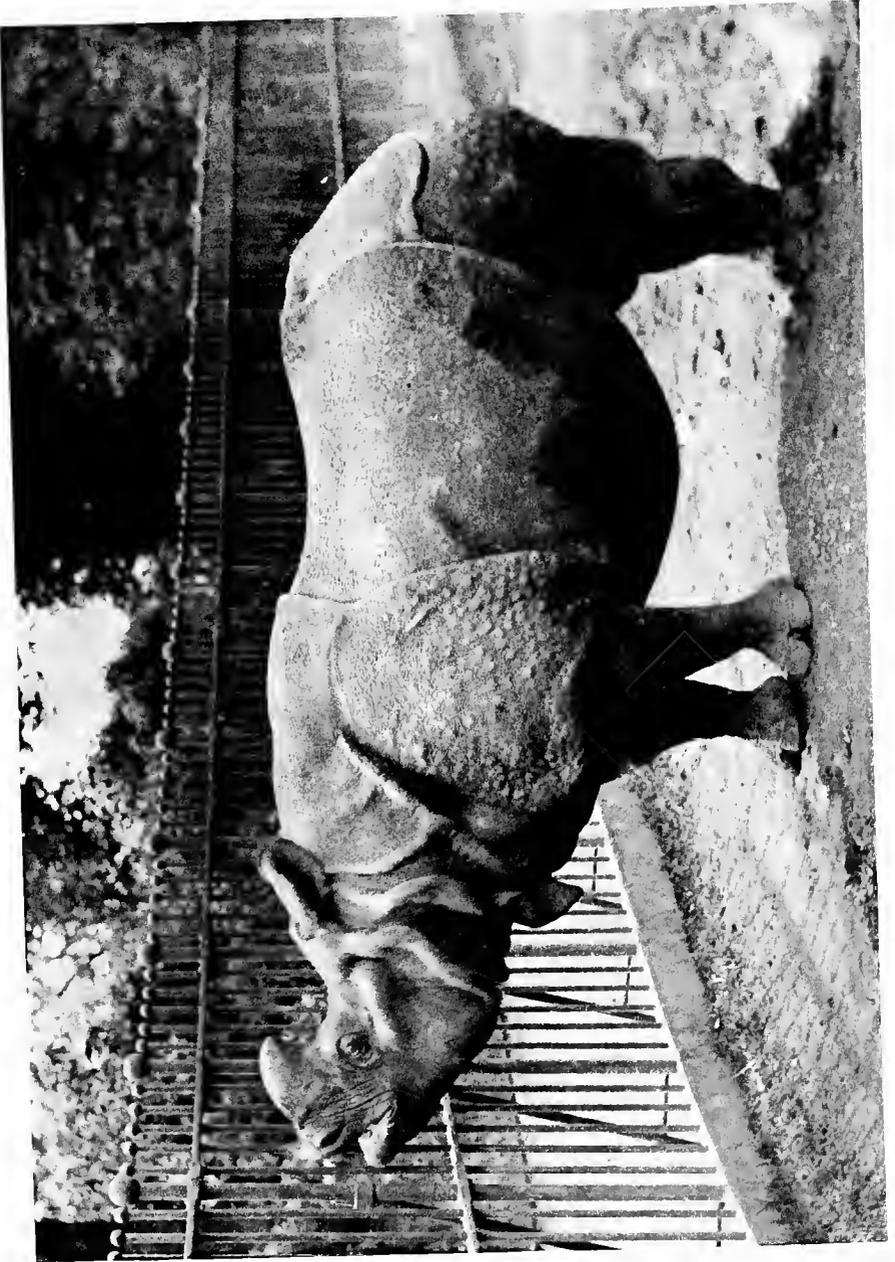
In fact, until a comparatively short time ago, it was the only species with which Europeans were acquainted.

It inhabits the regions of the East Indies beyond the Ganges, and the open valley along the base of the Himalayas from Bhotan to Nepal, and is found in the province of Assam along the valley of the Brahmapootra; it is also reported as having been seen in Bengal, Siam, and Cochin China. These animals appear in former times, according to Kinlock, "to have inhabited the Terai throughout its whole length, but it has been gradually driven eastwards, until at the present day the Nepal Terai is its western limit. Even there its numbers have been much thinned, and it has lately been so highly prized that it has been reserved as Royal game; the late Sir Jung Bahádoor permitting no one to shoot it but himself.

"Many rhinoceros have been shot within the last few years in the vicinity of Julpigoree; but there, partly owing to being constantly hunted, and partly owing to the clearance of large tracts for tea cultivation, they are rapidly becoming scarcer, and the sportsman must travel still further east before he finds them at all plentiful. In the eastern portion of the Bhútán Dooárs, and in Assam, wherever there are heavy reed jungles on the banks of rivers or on the margin of swamps, rhinoceros may be met with, and occasionally several congregate in one covert. I have myself known six to be roused in a belt of 'nul' not more than half a mile long and three or four hundred yards wide."

This species has a single horn on the nose, which is pointed and slightly curved backwards. This horn sometimes measures two feet in length, but the average size it attains is some inches less.

The skin of the Indian rhinoceros constitutes one of its most striking peculiarities. It is very dense and hard, so much so that it has not pliancy enough to permit the movements of the animal, but has to be in a manner jointed by means of folds behind the shoulders, in front of the thighs on the limbs, and these creases are very ample around the neck where it joins the head. These massive folds and the hard appearance of the hide were so frequently described as the well-adjusted pieces of a complete suit of armour, that nearly all the ancient illustrations of the animal,



AN INDIAN RHINOCEROS.

(*R. Indicus.*)

actually portray it as covered with such a defensive covering. The hide is said to be exceedingly easy to detach from the body, as the quality is so hard and stiff that it separates from the flesh like the peel of a ripe orange. The skin is of a deep purplish-grey colour, and is nearly if not perfectly bare, except on the tail and the ears which have a few coarse and stiff hairs. Each shield of the hide is thickly studded with slightly raised tubercles, nearly circular in shape, and which again convey the idea of armour by giving the skin the appearance of being covered with innumerable bolts whose heads are visible.

The skin, from having these thick and tough-looking folds, is generally described as being nearly invulnerable, even to modern weapons, and that it is only by firing at the joints in the harness that a bullet can be made to penetrate.

Colonel Kinlock refutes this idea by the narration of the following incident: "I recollect," he writes, "an amusing story of a soldier in the Mutiny, who was placed in the guard-room for shooting a tame rhinoceros which had been captured by his regiment. His defence was that he had read in a book that the hide of the animal was bullet-proof, and being of an inquiring turn of mind, had determined to put the theory to the test; as the shot was well directed, the unfortunate subject of the experiment fell dead, and the prize fund was several thousand rupees the poorer.

"As a matter of fact the skin is quite soft when fresh; a bullet will penetrate anywhere with the greatest ease, and a hunting knife can be driven through it with the slightest amount of force. When dried, of course, it becomes extremely hard, and used to be in great request for the manufacture of shields. The hide when polished is very handsome and semi-transparent, and when held up to the light looks exactly like tortoise-shell, the tubercles giving it a beautiful mottled appearance."

This well-known sportsman gives several other interesting particulars regarding the animal. He states that, despite its being such an ungainly beast, it is possessed of considerable speed, and although its usual gait when disturbed is a long, swinging trot, it occasionally breaks into a lumbering gallop, the pace of which is surprising.

“Owing to their formation rhinoceros do not readily roll over on their sides, and when shot they almost always die in a recumbent position, as if they had quietly sunk down to sleep.

“The flesh is excellent, and cannot easily be distinguished from beef; indeed it is better than most beef one sees in India.

“The following are the measurements of an old male which I shot, but larger specimens are to be met with:—

Height at withers	5 feet 9 inches, or 17 hands 1 inch.
Length from nose to root of tail	10 „ 6 „
Length of tail	2 „ 5 „
Girth	9 „ 8 „
Girth of fore-arm	3 „ 2 „

It is a question that has often been discussed whether the animal designated unicorn in the Bible and other ancient writings is not intended for the one-horned rhinoceros; but it has never been satisfactorily settled.

Agatharchides, the Greek peripatetic philosopher, who lived about 130 B.C., was the first writer who described the animal under the name rhinoceros; he speaks of it ripping up the belly of an elephant.

Athenæus, in “The Deipnosophists,” speaks of a rhinoceros figuring in that marvellous procession of Ptolemy Philadelphus (king of Egypt, B.C. 285—247) to which previous reference has been made. It was an Ethiopian animal, and appears to have marched last in the line of wild animals; it has been surmised that this was probably on account of its superior rarity. It came immediately after the camelopard, and before the wain bearing the image of Bacchus, wearing a golden crown, fleeing to the altar of Rhea from the persecution of Juno.

Pliny states the one-horned rhinoceros was first exhibited at the games of Pompeius Magnus, and afterwards was frequently seen in Rome. A rhinoceros and a hippopotamus were killed in the circus as part of the show given by Augustus to celebrate his victory over Cleopatra. From a statement made by Dion Cassius we are led to infer that this animal was of the one-horned species. Martial speaks of Domitian having one with two horns, which was evidently an African animal. This writer seems also to have been acquainted with the single-horn species, for he alludes to it in one

place. Pausanias also speaks of the two-horned animal; but he calls it an Æthiopian bull. The Romans must frequently have seen these animals, for we read that the Emperors Antonius, Heliogabalus, and Gordian III., all exhibited them at the various periods of their reigns.

Although their strength and blind ferocity must make these animals terrific opponents of other large and savage beasts when actually engaged in combat, yet when kept in captivity they require urging and angering before they will attack, and if left to themselves seem only to act on the defensive. It is not upon record whether the Romans managed to get more excitement out of these animals than their sporting imitators the princes in India do, for according to accounts given by several writers of the animal combats, that used frequently to be seen at the native courts, the rhinoceros is not a satisfactory beast. Captain Mundy⁴ in his description of the wild animal contests witnessed by him in 1827 in the King of Oude's park in Lucknow, writes: "A rhinoceros was next let loose in the open courtyard and the attendants attempted to induce him to pick a quarrel with a tiger who was chained to a ring. The rhinoceros appeared, however, to consider a fettered foe as quite beneath his enmity; and having once approached the tiger and quietly surveyed him as he writhed and growled, expecting the attack, turned suddenly round, and trotted awkwardly off to the yard-gate, where he capsized a palankeen which was carrying away a lady fatigued with the sight of these unfeminine sports."

For centuries after the downfall of the Roman empire no specimen of a rhinoceros of either the Asian or African species was brought to Europe. The first that was again seen was an animal that was sent from India to Emanuel, King of Portugal, in the year 1513. It was subsequently sent by Emanuel as a present to the Pope, but during the journey the animal became so furious and ungovernable that it absolutely sunk the vessel on which it was being transported.

A sketch of this creature was sent from Lisbon to Nuremberg for Albert Dürer, who made an engraving from it, and this was

⁴ "Pen and Pencil Sketches."

copied generally in works on natural history of subsequent date, notwithstanding the absurd way it was represented—among other monstrosities it was depicted as having a small horn projecting from the top of the shoulders, and appears to be absolutely clad in a loose kind of apparently forged mail armour.

In 1684 one of these beasts was brought to England, and was advertised in the *London Gazette* of October 12th in that year as the first rhinoceros that had ever been brought to Great Britain. Evelyn says in his diary, under date the 22nd of October: "I went with Sir William Godolphin to see the rhinoceros, or unicorn, being the first that I suppose was ever brought into England. He belonged to some East India merchants, and was sold (as I remember) for above 2000*l*."

Roger North⁵ relates an anecdote about this animal and the Lord Keeper, Guilford, which is given in the racy language peculiar to this author:—

"To show that his lordship's (the Lord Keeper Guilford's) Court enemies, the Earl of Sunderland in particular, were hard put to it to find, or invent, something to report tending to the diminution of his character, I shall give an account of the most impudent buffoon lie raised upon him, and with brazen affirmations of truth to it, dispersed from the Court one morning, that ever came into fools' heads; and Satan himself would not have owned it for his legitimate issue. It fell out thus: a merchant of Sir Dudley North's acquaintance had brought over an enormous rhinoceros, to be sold to showmen for profit. It is a noble beast, wonderfully armed by nature for offence; but more for defence, being covered with impenetrable shields, which no weapon would make any impression upon; and a rarity so great, that few men, in our country, have in their whole lives opportunity to see so singular an animal. This merchant told Sir Dudley North that if he, with a friend or two, had a mind to see it, they might take the opportunity at his house, before it was sold. Hereupon Sir Dudley North proposed to his brother, the Lord Keeper, to go with him upon this expedition; which he did, and came away exceedingly satisfied with the curiosity he had seen. But whether he

⁵ North's "Lives," 1744.

was dogged, to find out where he and his brother housed in the city, or flying fame carried an account of the voyage to Court, I know not; but it is certain that, the very next morning, a bruit went from thence all over the town, and (as factious reports used to run) in a very short time, viz. that his lordship rode upon the rhinoceros; than which a more infantine exploit could not have been fastened upon him. And most people were struck with amazement at it; and divers ran here and there to find out whether it was true or no. And soon after dinner some lords and others came to his lordship to know the truth from himself; for the setters of the lie affirmed it positively, as of their own knowledge. That did not give his lordship much disturbance, for he expected no better from his adversaries. But that his friends, intelligent persons, who must know him to be far from guilty of any childish levity, should believe it, was what roiled him extremely; and much more, when they had the face to come to him to know if it were true. I never saw him in such a rage, and to lay about him with affronts (which he keenly bestowed upon the minor courtiers that came on that errand) as then; for he sent them away with fleas in their ear. And he was angry with his own brother, Sir Dudley North, because he did not contradict the lie in sudden and direct terms, but laughed, as taking the question put to him for a banter, till, by iterations, he was brought to it. For some lords came, and because they seemed to attribute somewhat to the avowed positiveness of the reporters, he rather chose to send for his brother to attest, than to impose his bare denial. And so it passed; and the noble earl, with Jeffries, and others of that crew, made merry, and never blushed at the lie of their own making; but valued themselves upon it, as a very good jest."

The rhinoceros has been used for riding purposes, however, for Bishop Heber, in his "Indian Journal," describing the sights of Lucknow, writes: "There is a menagerie, with a great number of scarce and curious animals, but in far worse order than that at Barrackpoor; and on the other side of the river Goomty, in a well-wooded park, is a large collection of different varieties of cows, camels, and deer, and five or six very large rhinoceroses, the first animals of the kind I ever saw, and of which I found prints and

drawings had given me a very imperfect conception. They are more bulky animals and of a darker colour than I had supposed, and the thickness of the folds of their impenetrable skin much surpasses all which I had expected. These at Lucknow are gentle and quiet animals, except that one of them has a feud with horses. They seem to propagate in captivity without reluctance, and I should conceive might be available to carry burthens as well as the elephant, except that, as their pace is still slower than his, their use could only be applied to very great weights, and very gentle travelling. These have sometimes had howdahs on them, and were once fastened to a carriage, but only as an experiment, which was never followed up."

Again, when he was in Baroda, he saw while passing through the city two very fine hunting tigers in silver chains, and a rhinoceros (the present of Lord Amherst to the Guecwar), which was so tame as to be ridden by a mahout, quite as patiently as an elephant.

A specimen of the Indian rhinoceros was brought from Bengal and exhibited in London in 1739, and afterwards travelled throughout a great part of Europe, where it was considered an extraordinary curiosity. It was only a young animal, but an expensive one for its owners, for it was recorded at the time that the outlay for its food and voyage amounted to nearly 1000*l.* In 1749 a female rhinoceros was seen in Paris, and was the subject of a painting by Oudri, and some engravings by other artists. The menagerie at Versailles contained a rhinoceros that was kept there from 1771 to 1793, and formed the subject of Buffon's notes.

In the year 1790 a rhinoceros was presented to Mr. Dundas, it having been sent from the East Indies for that purpose. Not being prepared for the reception of gifts that took this form, he was glad to pass it on to some one else. Subsequently Piddock purchased it for 700*l.*, and used it for exhibition purposes. When not being engaged in travelling about the country for the edification of the gaping rustic, it was kept at Exeter Change.

Even in captivity, and after they have been to some extent tamed, all species of the rhinoceros are unsafe animals to handle. Their strength being so great, their temper so uncertain, and

their dispositions lacking the docility which is generally displayed under similar circumstances by the majority of quadrupeds, render them the most dangerous of beasts. They evince a disposition on all occasions to attack their keepers as readily as strangers. In the gardens of the Zoological Society the Indian rhinoceros was some years ago nearly the cause of a serious calamity by charging suddenly into his compartment at some of the men who were engaged in cleaning it. He knocked them right and left, but fortunately, although one man was badly hurt, no fatality resulted from this attack. It, however, taught the men the necessity of exercising great caution when having in any way to deal with these animals.

The first rhinoceros which was exhibited in the United States broke loose, and, besides making great havoc in a circus, killed two men. The following account of this affair is taken from an American paper. The accident happened in the summer of 1872: "A letter from Red Bird, a small town in Monroe county, Illinois, gives a thrilling account of the escape from its keepers of the rhinoceros belonging to Warner and Co.'s menagerie and circus on the occasion of its being brought into the ring for the first time. The showmen had prepared the animal for exhibition by attaching to a ring on its nose two strong wire ropes, and twenty-four men were deemed sufficient to control the beast. It submitted quietly to being led from the cage, but on entering the arena suddenly threw up its head, and plunging madly to the right and left, broke loose from the men and dashed forward through the tents. Its first victim was a canvas-man, who was knocked down, and the beast trampling upon his breast he was killed instantly. It next ran its nose against another canvas-man, striking him in the stomach, ripping out his bowels, and killing him on the spot. It then made a dash in the direction of the seats, which by this time were cleared by the frightened spectators, and knocked down nearly all of the seats on one side of the tent, dislocating the shoulder of one of the employés, and breaking the arm of a spectator. Running next into the menagerie tent, it upset Mr. Forepaugh's den of performing animals, after which it struck the centre-pole with its head, bringing it down with a crash upon

the cages of the tiger and leopard, but not breaking them so as to allow the animals to escape. Dashing into the museum tent, it broke all the curiosities, frightened all the people in the neighbourhood, and rushed out through the canvas into the street, finally stopping in a vacant house, the door of which stood open. Here the men succeeded in capturing the animal and getting it into a cage. The damage to the show was about 3000 dollars."

The *Javan Rhinoceros* (*R. Javanicus*). This is a much smaller animal than the Indian species. Its head and limbs are longer and more slender in their proportions, and the folds of the skin are fewer and are not so prominent. The hide is not so thickly covered with tubercles, and they are proportionately smaller in diameter, being square and angular. In length this animal is between seven and eight feet, and in height about three and a half to three and three-quarters.

Jerdon calls it the lesser Indian rhinoceros, and says it is found in the Bengal Sunderbunds, and a few individuals are stated to occur in the forest tract along the Mahanuddy river, and extending northwards towards Midnapore; and also on the northern edge of the Rajmahal hills near the Ganges. It occurs also more abundantly in Burmah, and thence, through the Malayan peninsula, to Java and Borneo. Several have, he states, been killed quite recently within a few miles of Calcutta.

Animals of this species are frequently to be seen in India, taken about the country as a show. In 1874 the Zoological Society succeeded in procuring a specimen, and their visitors have ever since had the opportunity of studying the difference between the two varieties.

In many places this animal is gregarious. Dr. Horsfield⁶ states that it is not limited to a particular region or climate, but that its range extends from the level of the ocean to the summit of mountains of considerable elevation. He noticed it on Tangung, near the confines of the southern ocean, in the districts of the native princes, and on the summit of the high peaks of the Priangan regencies. It is reported to prefer high situations. Dr. Horsfield, while residing at Surakarta, the capital of the Javanese Empire, had

⁶ "Zoological Researches in Java."

many opportunities of studying a specimen of this species, for one which appears to have grown into a very large animal of its kind, was kept there in confinement, or rather in a state of domestication. It was taken while very young in the forests of the province of Keddu, and was conveyed to the residency at Magellan in the year 1815 or 1816. It was afterwards removed to the capital of Surakarta, where it was confined in the large area or square which bounds the entrance to the royal residence. "A deep ditch," says the doctor, "about three feet wide, limited its range, and for several years it never attempted to pass it. It was perfectly reconciled to its confinement, and never exhibited any symptoms of uneasiness or rage, although on its first arrival harassed in various ways by a large proportion of the inhabitants of a populous capital, whose curiosity induced them to inspect the stranger of the forest. Branches of trees, shrubs, and various twining plants were abundantly provided for its food; of these, the species of *cissus*, and the small twigs of a native fig-tree were preferred. But plantains were the most favourite food, and the abundant manner in which it was supplied with these by numerous visitors tended greatly to make the animal mild and sociable. It allowed itself to be examined and handled freely, and the more daring of the visitors sometimes mounted on its back. It required copious supplies of water, and when not taking food, or intentionally roused by the natives, it generally placed itself in the large excavations which its movements soon caused in the soft earth that covered the allotted space. Having considerably increased in size, the ditch of three feet in breadth was insufficient for confining it, but, leaving the enclosure, it frequently passed to the dwellings of the natives, destroying the plantations of fruit-trees and culinary vegetables which always surround them. It likewise terrified those natives that accidentally met with it, and who were unacquainted with its appearance and habits. But it showed no illnatured disposition, and readily allowed itself to be driven back to the enclosure, like a buffalo. The excessive excavations which it made by continually wallowing in the mire, and the accumulation of putrefying vegetable matter, in process of time became offensive at the entrance of the palace, and its

removal was ordered by the Emperor to a small village near the confines of the capital, where, in the year 1821, it was accidentally drowned in a rivulet."

The Sumatran rhinoceros (*R. Sumatranus*) is a two-horned animal, and a native of Sumatra, and the whole range of the Malay peninsula as far as Chittagong. It is the smallest of existing rhinoceroses; its skin, which is comparatively a delicate one, and almost destitute of the folds peculiar to the one-horned animals, is slightly covered with stiff brown hairs. Its head is elongated in shape, and the upper lip pointed and curved downwards. The first horn is the larger one, and is bent backwards; the second one, which is situated a little in front of the eyes, is erect and smooth. Although this animal has two horns, it is not otherwise related to the African species, for it has the incisor teeth and other cranial characters of the Asiatic division.

These animals are, like all their brethren, very fond of wallowing in the mud. A curious result sometimes follows from this habit, as may be seen from the following extract from the *Journal of the Indian Archipelago*. The extreme cruelty of the natives of these islands is also forcibly illustrated. "This animal, which is of solitary habits, is found frequently in marshy places, with its whole body immersed in the mud, and part of the head only visible. The Malays call the animal 'Badak-Tapa,' or the recluse rhinoceros. Towards the close of the rainy season they are said to bury themselves in this manner in different places; and upon the dry weather setting in, and from the powerful effects of a vertical sun, the mud becomes hard and crusted, and the rhinoceros cannot effect its escape without considerable difficulty and exertion. The Semangs prepare themselves with large quantities of combustible materials, with which they quietly approach the animal, who is aroused from his reverie by an immense fire over him, which, being kept well supplied by the Semangs with fresh fuel, soon completes his destruction, and renders him in a fit state to make a meal of."

In 1872, an animal, classified as one of this species, which had been captured at Chittagong in January, 1868, was purchased by the Zoological Society for 1250*l.*, the largest sum ever given for

any one animal. Soon after this expensive quadruped took up his residence in the gardens alongside his Sumatran brother already there, Dr. Sclater recognized the fact that they were specifically distinct, and he called the new animal the hairy-eared rhinoceros (*R. lasiotis*). It had long hairy fringes on the ears, and the body was covered with long, fine, reddish hair. The tail was shorter, and the skin finer, than the Sumatran animal. These, however, are only outward differences, and it has yet to be proved whether there is any anatomical distinction that will justify the separation.

The singular circumstances attending the capture of this animal were narrated by a Calcutta newspaper.⁷ "The quiet station of Chittagong," the article stated "has been lately enlivened by the presence of a rhinoceros. It appears that some natives came into Chittagong, and stated that a rhinoceros had been found by them in a quicksand, and was quite exhausted with the efforts to relieve herself. They had attached two ropes to the animal's neck, and, with the assistance of about 200 men, dragged her out, and, keeping her taut between two ropes, they eventually made her fast to a tree. The next morning, however, they found the rhinoceros so refreshed, and making such efforts to free herself, that they were frightened, and made application to the magistrate of Chittagong for protection. The same evening Captain Hood and Mr. H. W. Wickes started with eight elephants to secure the prize, and, after a march of about sixteen hours to the south of Chittagong, they came up with the animal. The elephants, at the first sight of the rhinoceros, were very much afraid, and bolted one and all, but, after some exertion, they were brought back, and made to stand by. A rope was now, with some trouble, attached to the animal's hind-leg, and secured to an elephant. At this juncture the rhinoceros roared; the elephants again bolted, and, had it not been for the rope slipping from the leg of the rhinoceros, that limb might have been pulled from the body. The rhinoceros was, however, eventually secured with ropes between elephants, and marched into Chittagong in perfect health. Two large rivers had to be crossed; first, the Sungoo river, where the animal was towed between elephants, for

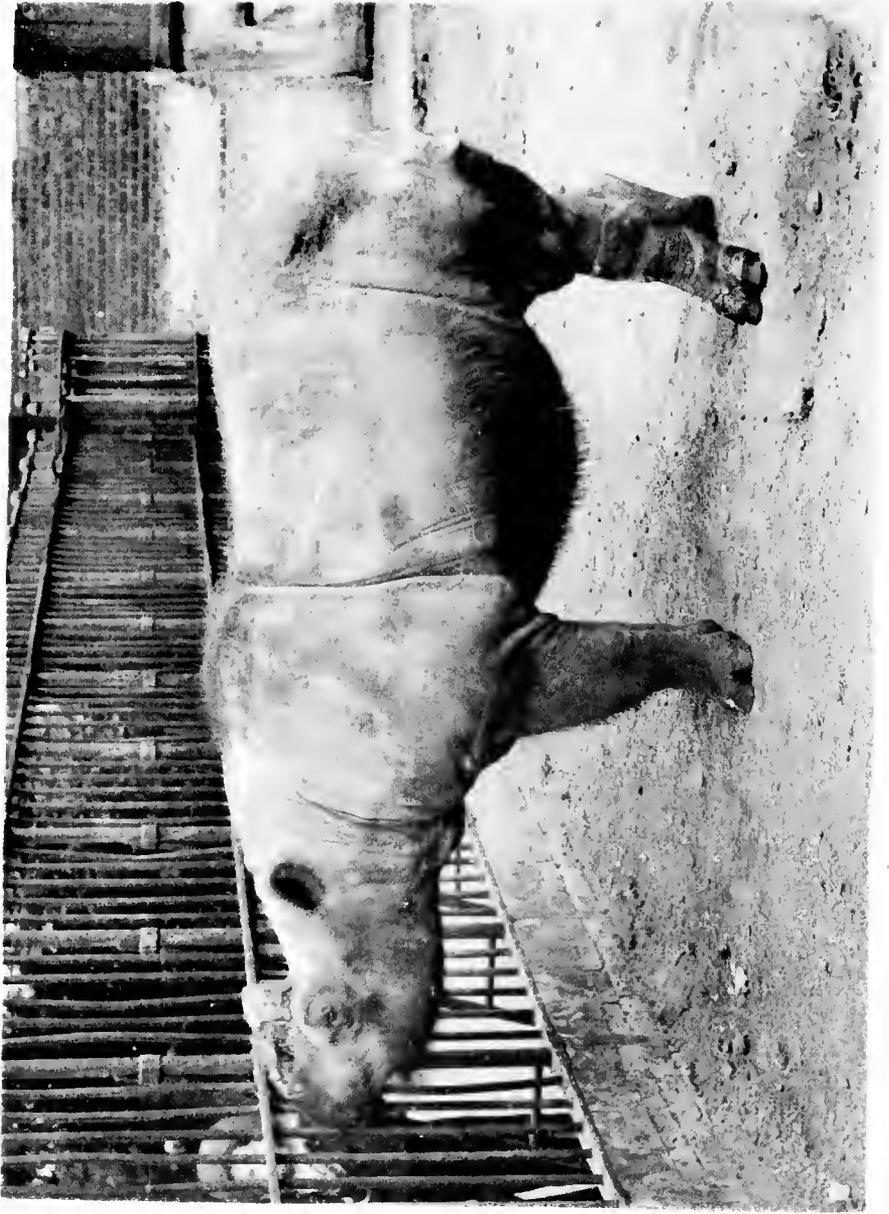
⁷ See "Proc. Zoological Society," 1872.

she could not swim, and could only just keep her head above water by paddling with the fore-feet like a pig; and secondly, the Kurnafoolie river, when the ordinary cattle ferry-boat was used. Thousands of natives thronged the march in, which occupied a few days, the temporary bamboo bridges on the Government road invariably falling in with the numbers collected thereon to watch the rhinoceros crossing the stream below, and sometimes the procession was at least a mile in length. The 'Begum,' as the rhinoceros has been named, is now free from all ropes, and kept within a stockade enclosure, having therein a good bath excavated in the ground, and a comfortable covered shed attached. She is already very tame, and will take plantain leaves or chuppattees from the hand, and might almost be led about by a string."

About the same time that "Begum" arrived in England, the Hamburg Zoological Society procured a specimen of a similar beast. It was landed in England and transhipped. A paragraph in the *Times*, referring to this animal, says: "Although it is only two years old, it is about the height of a small horse, but is more bulky. It is," the writer continues, "apparently so healthy, happy, and tame that any one having the courage may safely not only place his hand in its huge, ungainly-looking mouth, but may leisurely take it out again. We saw this demonstrated."

As before stated, the animals known to inhabit Africa have been divided into five species, but the slight differences existing between them barely warrant this separation, for many of them are only individual variations. However, it may truly be said that several varieties have been recognized, and that on this vast continent there may be others not yet described is within the bounds of probability. In Capello and Ivens' ⁸ book there is the following paragraph: "*Apropos* of the rhinoceros, our entertainers furnished us with such extraordinary information that we took note of it, and record it here, but we of course do so with the utmost reserve. According to their account there are no fewer than five (some said six) varieties of the animal upon the African continent. Two black, with one or two horns, which of course are the *R. bicornis* and the *R. queitloa*; two dark grey, some of which possess two

⁸ "From Benguella to the Territory of Yacca."



THE HAIRY-EARED RHINOCEROS.

(*R. lasiotis.*)

“ Begum,” captured in Chittagong.

horns, one very large and another small, probably the *R. simus*; and two other smaller ones, quite unknown to us. Several of the hunters spoke of an ash-coloured beast with three horns, and a black one without any!" However, these varieties differ only in certain ways that are of interest to zoologists, but for non-scientific readers it is sufficient to bear in mind that there are only two well-defined species, which differ entirely in their habits, appearance, and food, and are commonly known as white rhinoceros and black rhinoceros, from the prevailing colour of their skins, which, as Dr. Selater remarks, "although by no means strictly white and black respectively, are, according to those authorities who have become acquainted with them in their native wilds, strongly contrasted in hue, and render the two varieties easily recognizable. Another trenchant difference between these forms is in the shape of the upper lip. This, in the white rhinoceros, is quite short and rounded, being formed for grazing, like that of a cow. From this feature Dr. Burchell, the first scientific traveller who met with the white rhinoceros, named the animal *Rhinoceros simus*. In the black rhinoceros, on the contrary, the upper lip is long and prehensile, forming a short proboscis, well fitted for taking hold of the small branches of trees, upon which it subsists. Besides this there is a great difference between the horns of the black and white rhinoceroses. In the white rhinoceros the front horn is enormously produced in the adult, reaching in old individuals to three and a half or four feet in length, and curving gently backwards, but the hinder horn always remains small and slightly developed. In the black rhinoceroses the front horn never attains anything like this length, but the hinder horn is longer—in some cases nearly as long as the front one. There are also well-marked characters in the bones of the cranium, which render the white and black rhinoceroses readily distinguishable, so that no doubt can remain as to the perfect distinctness of *Rhinoceros simus* from the *Rhinoceros bicornis* of Linnæus, or black rhinoceros."

The white rhinoceros (*R. simus*) is probably the best known animal to African hunters, but, strange to say, is not known to Europeans, for a specimen has never yet been exhibited by any zoological society or menagerie.

This animal measures a little over twelve feet in length and stands about five feet ten inches in height. The skin is smooth and has none of the folds conspicuous in the large Asiatic rhinoceros. In a limited extent these beasts are gregarious, for they are frequently seen congregated in small herds. Their chief food is grass.

The nose is square, and supports two large, rounded horns. The average length of the front one is about two and a half feet, but is sometimes even a foot longer than these figures; the other one, however, hardly ever exceeds fifteen inches, and generally measures a little under a foot in length.

Both the white varieties of the rhinoceros attain an enormous size. They feed on grass, and get very fat on it, and their flesh is in consequence preferable to that of any of the other species, and considered by some hunters to be better than beef. They are of a milder and more inoffensive disposition than the black varieties, and are described as dangerous only under exceptional circumstances.

These animals are found in the country south of the Zambesi, but are gradually becoming scarce in certain districts. In the Mopane country, Dr. Livingstone writes: "We observed the foot-prints of a black rhinoceros (*R. bicornis*) and her calf. We saw other foot-prints among the hills of Semalembue, but the black rhinoceros is remarkably scarce in all the country north of the Zambesi. The white rhinoceros' (*R. simus*, Burchell), or Mohóhu of the Bechuanas, is quite extinct here, and will soon become unknown in the country to the south. It feeds almost entirely on grasses, and is of a timid, unsuspecting disposition: this renders it an easy prey, and they are slaughtered without mercy on the introduction of fire-arms. . . . The white rhinoceros is not always quite safe, for one, even after it was mortally wounded, attacked Mr. Oswell's horse, and thrust the horn through to the saddle, tossing at the time both horse and rider. I once saw a white rhinoceros give a buffalo which was gazing intently at myself a poke in the chest, but it did not wound it, and seemed only a hint to get out of the way."

The black, or African rhinoceros (*R. bicornis*), is also a resident of southern Africa. Captain Harris, writing about the valley of

the Limpopo, says: "The country now literally presented the appearance of a menagerie; the host of rhinoceros in particular that daily exhibited themselves, almost exceeding belief. Whilst the camp was being formed an ugly head might be seen protruded from every bush, and the possession of the ground was often stoutly disputed. In the field these animals lost no opportunity of rendering themselves obnoxious—frequently charging at my elbow, when in the act of drawing the trigger at some other object—and pursuing our horses with indefatigable and ludicrous industry, carrying their noses close to the ground, moving with a mincing gait, which ill-beseemed so ungainly and ponderous a quadruped, and uttering the while a sound between a grunt and a smothered whistle. In removing the horn with an axe, the brain was discovered, seated in a cavity below it, at the very extremity of the snout—a phenomenon in the idiosyncrasy of this animal, which may in some measure account for its want of intelligence, and piggish obstinacy, as well as for the extraordinary acuteness of smell with which it is endowed. Irrascible beyond all other quadrupeds, the African rhinoceros appears subject even to unprovoked paroxysms of reckless fury; but the sphere of vision is so exceedingly limited, that its attacks, although sudden and impetuous, are easily eluded, and a shot behind the shoulder, discharged from the distance of twenty or thirty yards, generally proves fatal."

Dr. Livingstone describes this animal as possessing a more savage nature than the white rhinoceros, and," he continues, "like the ill-natured in general, is never found with an ounce of fat in its body. From its greater fierceness and wariness, it holds its place in a district much longer than its more timid and better-conditioned neighbour. Mr. Oswell was once stalking two of these beasts, and as they came slowly to him, he, knowing that there is but little chance of hitting the small brain of this animal by a shot in the head, lay expecting one of them to give his shoulder, till he was within a few yards. The hunter then thought that by making a rush to his side he might succeed in escaping, but the rhinoceros, too quick for that, turned upon him, and though he discharged his gun close to the animal's head he was

tossed in the air. My friend was insensible for some time, and on recovering found large wounds on the thigh and body. I saw that on the former part, still open, and five inches long.”

The Hon. W. H. Drummond⁹ states that “sufficient anecdotes of the ferocity, chronic bad temper, and cunning of *R. bicornis* might be related of themselves to fill a volume. In most, if not all, cases they will at once charge on getting the wind of a human being, and if they cross his track they will often follow it up like a dog, making none of the puffing sound natural to them when angry, till they absolutely see him. . . . They will wait with the utmost patience concealed in thick jungle, until you almost touch them, and then rush out at you. When they do catch an unfortunate being they knock him down and knead him with their feet, returning again and again, until nothing but a shapeless mass remains, uttering all the day their shrill squeal of rage. This I once saw myself.” He, together with three native hunters and his gun-bearer, came across a rhinoceros, which he wounded in the shoulder, and then sprang away from the infuriated animal into a tree. His unlucky companion came running towards the shots, and absolutely met the creature face to face; “he at once fired and turned to run, but it was too late, and he was caught on the spot, thrown up with a single toss, which must probably have stunned him, and was then trampled out of all semblance to humanity by the bloodthirsty brute.”

Sir Samuel Baker also describes this animal as being exceedingly vicious: “It is one of the very few animals that will generally assume the offensive; it considers all creatures to be enemies, and although it is not acute in either sight or hearing, it possesses so wonderful a power of scent that it will detect a stranger at a distance of five or six hundred yards should the wind be favourable.

“I have observed that a rhinoceros will generally charge down upon the object that it smells, but does not see; thus, when the animal is concealed either in high grass or thick jungle, should it scent a man who may be passing unseen to windward, it will rush down furiously upon the object it has winded with three loud whiffs, resembling a jet of steam from a safety-valve. As it

⁹ “The Large Game and Natural History of South and South-East Africa,” 1875.



AN AFRICAN RHINOCEROS.

(*R. bicornis.*)

is most difficult and next to impossible to kill a rhinoceros when charging, on account of the protection of the brain afforded by the horns, an unexpected charge in thick jungle is particularly unpleasant, especially when on horseback, as there is no means of escape but to rush headlong through all obstacles.

“The teeth of this animal are very peculiar. The molars have a projecting cutting edge on the exterior side: thus the jaws when closed form a pair of shears, as the projecting edges of the upper and lower rows overlap. This is a favourable arrangement of nature to enable the animal to clip off twigs and the branches on which it feeds, as, although it does not absolutely refuse grass, this rhinoceros is decidedly a wood-eater. There are particular bushes which form a great attraction; among these is a dwarf mimosa with a reddish bark; this tree grows in thick masses, which the rhinoceros clips so closely that it frequently resembles a quickset-hedge that has been cut by the woodman’s shears. These animals are generally seen in pairs, or the male, female, and calf. The mother is very affectionate, and exceedingly watchful and savage. Although so large an animal, the cry is very insignificant, and is not unlike the harsh, shrill sound of a penny trumpet.”

This so-called black rhinoceros is not in reality black, but has a flesh-coloured skin. It is a smaller animal than the white species, being only about eleven feet in length, and stands about five feet high. The head is slightly more elongated, and the horns are shorter but thicker in proportion to the length. It feeds on leaves and small branches.

THE KEITLOA (*R. Keitloa*) has the two horns nearly equal in length, the anterior one cylindrical, and the posterior one compressed, and they measure generally three or four inches under two feet. The head is shorter and broader, and the prehensile capabilities of the lip are less; otherwise it differs but little from the previously described animal. In fact there is not enough distinction to justify this variety being regarded as specifically distinct from the *R. bicornis*.

Gordon Cumming¹ gives some interesting details about these

¹ “Hunter’s Life in South Africa.”

African animals, which are worth quoting: "Of the rhinoceros there are four varieties in South Africa, distinguished by the Bechuanas by the names *borèlé*, or black rhinoceros; the *keitloa*, or two-horned black rhinoceros; the *muchocho*, or common white rhinoceros; and the *kobaoba*, or long-horned white rhinoceros. Both varieties of the black rhinoceros are extremely fierce and dangerous, and rush headlong and unprovoked at any object which attracts their attention. They never attain much fat, and their flesh is tough, and not much esteemed by the Bechuanas. Their food consists almost entirely of the thorny branches of the *waitabit* thorns. Their horns are much shorter than those of the other varieties, seldom exceeding sixteen inches in length. They are finely polished with constantly rubbing against the trees. The skull is remarkably formed, its most striking feature being the tremendously thick ossification in which it ends above the nostrils. It is on this mass that the horn is supported. . . . During the day the rhinoceros will be found lying asleep, or standing indolently in some retired part of the forest, or under the base of the mountains, sheltered from the power of the sun by some friendly grove of umbrella-topped *mimosas*. In the evening they commence their nightly rambles, and wander over a great extent of country. They usually visit the fountains between the hours of nine and twelve o'clock at night, and it is on these occasions that they may be most successfully hunted and with least danger. The black rhinoceros is subject to paroxysms of unprovoked fury, often ploughing up the ground for several yards with its horn, and assaulting large bushes in the most violent manner. On these bushes they work for hours with their horns, at the same time snorting and blowing loudly, nor do they leave them in general until they have broken them in pieces. All the four varieties delight to roll and wallow in the mud, with which their rugged hides are generally encrusted. Both varieties of the black rhinoceros are much smaller and more active than the white, and are so swift that a horse with a rider on his back can rarely overtake them."

This same writer states that both the rhinoceros and hippopotamus are generally attended by small birds known as rhinoceros

birds, "their object being to feed upon the ticks and other parasites that swarm upon these animals. They are of greyish colour, and are nearly as large as a common thrush. Their voice is very similar to that of the mistletoe thrush. Many a time have these ever-watchful birds disappointed me in my stalk, and tempted me to invoke an anathema upon their devoted heads. They are the best friends the rhinoceros has, and rarely fail to awaken him, even in his soundest nap. 'Chukuroo' perfectly understands their warning, and springing to his feet, he generally first looks about him in every direction, after which he invariably makes off. I have often hunted a rhinoceros on horseback, which led me a chase of many miles, and required a number of shots before he fell, during which chase several of these birds remained by the rhinoceros to the last. They reminded me of mariners on the deck of some bark sailing on the ocean, for they perched along his back and sides, and as each of my bullets told on the shoulder of the rhinoceros, they ascended about six feet into the air, uttering their harsh cry of alarm, and then resumed their position. It sometimes happened that the lower branches of a tree, under which the rhinoceros passed, swept them from their living deck; but they always recovered their former station. They also adhere to the rhinoceros during the night. I have often shot these animals at midnight when drinking at the fountains, and the birds, imagining they were asleep, remained with them till morning; on my approaching, before taking flight, they exerted themselves to the utmost to awaken Chukuroo from his deep sleep."

The only specimens of the rhinoceros that were brought to Europe since the days of the Roman amphitheatre until 1869, were of the Asiatic species, and one-horned; but on the 11th of September of that year, an African animal (*R. bicornis*) arrived in London. It had been purchased by the Zoological Society from Mr. Carl Hagenbeck, the well-known dealer in living animals at Hamburg, and the price paid was 1000*l.* Mr. Hagenbeck bought it from Herr Casanova of Vienna, who imported it from Eastern Africa, where he had obtained it from the Hamram Arabs, who inhabited the district to the south of Cassala, in Upper Nubia.

Dr. Sclater, in an article contributed to *The Student and Intellectual Observer*, for 1870, writes:—" 'Theodore,' as our African rhinoceros has been named, after his famous but ill-fated compatriot, is now about four feet in height, but still growing fast. He consumes daily about three-quarters of a truss of the best clover hay, six quarts of oats, mixed with three pecks of bran, seven pounds' weight of biscuit, and the best part of a truss of straw, so that his board costs the Society from six to seven shillings a day."

The illustrations accompanying this chapter will enable the reader to see some of the distinctions between the huge Indian rhinoceros and the African two-horned animal. They are both photographs of the specimens belonging to the Zoological Society and the originals are still to be seen in their gardens.

CHAPTER XX.

ZEBRAS.

THESE beautifully marked and symmetrically shaped animals belong to the same family as the horse and the ass. In natural history it is known as the *Equidæ*. The quadrupeds grouped under this class are subdivided into two genera, namely, *equus* and *asinus*, and by some the zebras are classified under the latter heading. They are completely separated, however, from the other members of their family by being geographically confined in their habitation to the southern parts of Africa.

There are three species of zebras; the animal known as the true zebra (*Equus zebra*), the quagga (*Equus quagga*), and Burchell's zebra (*Equus Burchelli*).

The true zebra (*Equus zebra*) is by far the most conspicuously beautiful animal of the family. It is larger than a domestic donkey, for it stands over four feet high at the withers, and exceeds eight feet in extreme length. It is a very graceful creature, for its limbs are slender, and terminated with narrow hoofs; the head is light, and the ears rather long and widely opened.

The ground colour of this animal's coat is pure white, and it is marked all over with glossy jet-black stripes, except immediately under the belly. These stripes are in some places narrow, in others wide, and on the neck and legs are closer together than on the body. The bushy upright mane has the stripes of the neck continued through it, and its hair is, therefore, alternately checked black and white.

The zebra can be readily distinguished from the quagga and Burchell's zebra, for it is the most completely striped of the

three; the markings, forming black garters, extend down the legs to the hoofs, which is not the case in the others. There are other minor distinctions that are noticeable. The ears being long, and tail tufted, are more like those of a donkey; while the other zebras in this respect exhibit a closer resemblance to horses.

These zebras are very shy and timid animals, and are easily alarmed. They are gregarious and associate together in considerable numbers.

They are only now to be found in certain hilly districts of southern Africa. Burchell, in consequence, gave them the distinguishing name of "mountain zebras." It is surmised that this species is rapidly becoming extinct, for hunters now rarely meet with it, although Mr. Farini¹ states that he shot one lately in the Kalahari desert, but this was an exceptional feat and one on which he may certainly pride himself.

Harris, referring to this species, writes: "Restricted to the mountainous district of Africa, from Abyssinia to the southernmost portions of the Cape of Good Hope, this beautiful and wary animal never by its own free will descends into the plain, as erroneously asserted by older naturalists, and it therefore never herds with either of its congeners, the quagga and Burchell's zebra, whose habitat is equally limited to the open and level woodlands. Seeking the wildest and most sequestered spots, the haughty troops are exceedingly difficult of approach, as well on account of their watchful habits and extreme agility and fleetness of foot, as from the abrupt and inaccessible nature of their highland abode. Under the special charge of a sentinel, so posted on some adjacent crag as to command a view of every avenue of approach, the chequered herd is to be viewed grazing on the steep hill-side, or perambulating some rocky ledge on which the rifle-ball alone can reach them, many a keen-eyed vulture sailing majestically at their feet, over the bosom of the deep blue valley. No sooner had the note of alarm been sounded by the vidette than, pricking their long ears, the whole flock hurry forward to ascertain the nature of the approaching danger, and having gazed for a moment at the advancing hunter, whisking

¹ "Through the Kalahari Desert," 1886.

their brindled tails aloft, helter skelter, away they thunder down craggy precipices, and over yawning ravines, where no less agile foot could dare to follow them."

Attention has already been drawn to the fact that camels have lately been seen roaming free in certain parts of Spain, and strong probabilities exist that at one time zebras were also to be seen in a wild state scampering over the hills in that country, for Mr. W. D. Mitchell, in an article he wrote on wild asses about thirty years ago,² states that "M. Ramon de la Sagra has discovered a tradition of the former existence of an animal called zebro and zebre in the mountains which separate Galicia from Castille and Leon, and in the cordilleras to the south of them. It seems that the notices which fell into his hands relate to the tenth and thirteenth centuries; they occur in the same manuscript letters of the monk Iray Martin Sarmiento, who lived in the convent of St. James of Compostello, about a hundred years ago. Zampiro, who wrote in the tenth century, speaks of the *mons zebrarum*, and the Archbishop of Rodrigo, who wrote in the thirteenth century, quoting the same passage of Zampiro, changes *mons zebrarum* into *mons onagrorum*, supposing the animal called zebra to be the onager of the ancients. There are several mountains in Spain which have borne this name; so that, according to Sarmiento, the animal, whatever it was, seems to have been well known, and widely dispersed from Galicia to Estremadura and Andalusia. This is a curious bit of lost acclimatation, but is easily credible, as the Arabs might have brought zebras from Western Africa; and if left quiet in the hill country, they would have bred as freely as the horse has bred on the Pampas of South America."

In disposition the zebra is said to be so fierce and obstinate that it is hard work to tame it, and at all times it is very uncertain tempered. Individuals have, however, been domesticated and employed as beasts of burden, but the experiment of rearing a race of them for use does not appear to ever have been tried, although the Dutch farmers used occasionally to catch the young foals and export them, chiefly to the Mauritius,

² *Once a Week*, vol. i.

where it was said they were often whimsically trained to harness.

In the latter part of the last century the Queen of Portugal used to drive about Lisbon in an equipage drawn by eight zebras. How she procured these animals does not appear to have been recorded, but they probably came from Angola or some other South African territory over which the Portugese held jurisdiction. M. Dureau de la Malle, in 1802, was told by a friend, M. Corea de Serra, Secretary to the Lisbon Academy, that he had often seen her Majesty driving about with her beautiful zebra-drawn equipage. A relic of these animals exists in the name by which one of the royal stables in Lisbon is known, for it is still called the Zebra stable.

Rarey, the great American horse-tamer, subdued a very savage specimen of a zebra, which was owned by the London Zoological Society. The account is quoted from Mr. Thorpe's article in "Harper's New Monthly Magazine," for April, 1861, who writes: "The triumph of Mr. Rarey over a zebra, was in many respects one of his most remarkable achievements. This beautiful but wild creature has not, at least in modern times, been looked upon any more as a beast of burden than is the lion; its nature was supposed to be essentially unmanageable—partaking, indeed, of the worst qualities of the lowest representatives of its species, and really not possessed, it has always seemed, of intelligence enough to be subdued. That Mr. Rarey, therefore, found in this 'child of the desert' enough of the horse nature to control and inspire with confidence in the friendly intentions of man is indeed remarkable.

"The zebra's mode of proceeding before he was tamed, if any one entered his stable, was first to spring to the top of the rack, seize the cross-beam with his teeth, and absolutely hang in that position, which extraordinary proceeding enabled him to keep all his feet freely kicking in the air, ready to destroy any one who should approach him.

"On the zebra's first appearance in the arena, he was firmly lashed and held by his keepers, and while thus restrained he crunched upon his immense gag, or hard wooden bit, screamed like

an infuriated hyæna, and flung his heels wildly about, as if desirous of demolishing innumerable keepers' heads. Mr. Rarey consumed four hours in giving the creature its first lesson of subordination to kindly meant authority; and he afterwards stated that it gave him more trouble and anxiety than would four hundred horses. Once fairly conquered, the zebra walked, trotted, and ambled in the ring as if trained from his infancy; and Mr. Rarey further gratified his admiring audience by—the first time in the world, perhaps—riding a zebra. Naturalists have from the time of Aristotle to Cuvier, pronounced the zebra untamable; yet Mr. Rarey has put the learned philosophers in science to shame, vindicating the power of kindness, the spell through which man should have dominion over the beasts of the field, the law that was ordained in the very beginning of time."

The Jardin des Plantes, in Paris, owned a female zebra that was tamed and was such an exceedingly gentle animal, that she could have been ridden with perfect safety, which proves that it is not safe to set down a whole race of quadrupeds as implacable because a few specimens show a tendency to resent any interference with them by men.

The wild horse and the ass are almost as savage as the zebra, but under proper treatment, soon develop gentle dispositions; whether the zebra or his descendants, when born in captivity, would after a generation or two lose the vicious and untractable qualities exhibited by the wild animal, can only be ascertained by making the experiment. If so, there is no reason why a race of these beautiful and graceful creatures should not be domesticated and utilized, for in some respects they would have the advantage over their congener, the donkey, whose servitude has unfortunately been relegated in every country where it is employed, to a class conspicuous in society for the brutal treatment of not only the animals, but the poor human beings who have to acknowledge their authority, and as a consequence the race of the "maligned moke" has become deteriorated in appearance and intelligence.

The Quagga (*Equus quagga*) is also to be found only in South Africa. Speaking of this species, Holub says that on account

of the great size of the head and neck they look much larger than they really are; the peculiar noise they make, "ouag-ga, ouag-ga," the last syllable very much prolonged, has caused the natives in the interior of Africa to call them quaggas.

This animal is slightly larger than the true zebra, for it stands about six inches higher and longer. At first sight it conveys the impression of being a cross between the wild ass and the zebra, for the characteristic stripes of the latter animal are only partially represented; the quagga being decorated merely upon the hind-quarters, and upon the face, neck, and fore-parts of the body. The bands are not so deep in colour as those of the zebra, but are more of a darkish brown than a black, and become fainter and more irregular as they run backwards. The upper parts of the body are brown, fading away to whitish-grey below and behind, and the clean and sinewy shaped legs are light coloured. The long flowing tail is distinctly horse-like, and is white. The hoofs are also considerably broader than in the zebra.

Sir W. C. Harris, in his "Portraits of the Wild Animals of Southern Africa," describes all the zebras in his graphic manner as he saw them in their native country. He says: "The geographical range of this species of the quagga does not appear to extend to the northward of the river Vaal. The animal was formerly extremely common within the colony, but vanishing before the strides of civilization, is now to be found in very limited numbers, and on the borders only. Beyond, on those solitary plains which are completely taken possession of by wild beasts, and may with strict propriety be termed the domain of savage nature, it occurs in interminable herds, and although never intermixing with its own more elegant congeners, is almost invariably to be found ranging with the white-tailed gnu, and with the ostrich, for the society of which bird especially it evinces the most singular predilection. Moving slowly across the profile of the ocean-like horizon, uttering a shrill barking neigh, of which its name forms a correct imitation, long files of quaggas continually remind the early traveller of a rival caravan upon its march. Throughout the Scriptures, the inspired poets make:



GROUP OF BURCHELL'S ZEBRAS.

(Equus Burchelli.)

frequent allusion to the similar habits of the Asiatic congeners of this animal; and in the vivid and startling picture of the effects of drought, given in the book of Jeremiah, we are told that "the wild asses did stand in the desolate places; they sniffed up the wind like dragons, and their eyes did fail because there was no grass." Bands of many hundreds are thus frequently seen during their migration from the dreary and desolate plains of some portion of the interior which has formed their secluded abode, seeking for those more luxuriant pastures, where, during the summer months, various herbs thrust forth their leaves and flowers, to form a green carpet, spangled with hues the most brilliant and diversified."

Mr. T. E. Buckley, in a paper read before the Zoological Society of London, in 1876, "On the Geographical Distribution of South African Animals," stated that the animal that is now commonly called quagga is in reality Burchell's zebra, and he surmises that since Harris wrote, it may have become extinct, for the few animals of the genus to be now seen on the plains are not the true quaggas. "Some few years ago the three species of this genus were in little repute for their skins as compared with the wilde-beest and blessbok; but of late years it has been discovered that they are of great use for, I believe, connecting-bands for machinery; at any rate, their value increased so much that they have been shot down, until you may go for a week through the 'High Veldt' and not see one, although there will be thousands of other animals."

This is a very different picture to the one so frequently drawn by the travellers who journeyed through these regions thirty or forty years ago. Then the herds of these zebras were innumerable. In fact, it is the same old story. Wild animals and native races disappear before the white man when he seeks their land. To any one reading some of the recent works on South Africa, and contrasting the descriptions with similar works of previous dates, it must become painfully evident that the wild animals of the country are doomed. The perpetual hunting they are now subjected to, and the wholesale destruction the modern fire-arms enable both the European sportsman and the Hottentot savage to accomplish with

little trouble, are rapidly clearing the fertile plains of South Africa of the one feature that made them so renowned—the herds of animals which roamed in undisturbed freedom over them, that they will soon become in this respect as desolate as the prairies of America now that the buffaloes are no more, and only the thousands of small heaps of bleaching bones that dot the land are left to tell the tale of indiscriminate and ruthless slaughter.

Burchell, on many occasions during his travels, stood in wonder and gazed upon the vast number of quaggas that flew before his party, and the expressions of his admiration of their beautiful appearance, and the life they gave the scenery, crop up every now and again in his writings. Harris also remarks that in one place he passed through a park of magnificent camelthorn-trees, many of them groaning under the huge nest of the social grosbeak, whilst others were decorated with green clusters of mistletoe, the bright scarlet berries of which were highly ornamental. Here he perceived large herds of quaggas and brindled gnoos, which continued to join each other, until the whole plain seemed alive. He describes the clatter of their hoofs as perfectly astounding. "I could compare it to nothing but to the din of a tremendous charge of cavalry, or the rushing of a mighty tempest. I could not estimate the accumulated number at less than fifteen thousand, a great extent of country being actually chequered black and white with their congregated masses. As the panic caused by the report of our rifles extended, clouds of dust hovered over them, and the long necks of troops of ostriches were also to be seen, towering above the heads of their less gigantic neighbours, and sailing past with astonishing rapidity. Groups of purple sassaybes and brilliant red and yellow hartebeests likewise lent their aid to complete the picture, which must have been seen to be properly understood, and which beggars all attempt at description."

The quagga is not such a fierce-dispositioned animal as the zebra, and in consequence submits to man's control more readily; it is, in fact, of the whole family, unquestionably the species that is best calculated for domestication.

They have frequently bred in captivity, and have sometimes

been crossed with the horse and donkey; the mules, or hybrids, generally partake of the character and appearance of both parents.

Quaggas are described as the bravest of all the equine animals. They are said to attack the hyæna and wild dog without hesitation, and on this account are occasionally domesticated by the Dutch Boers, for when turned out at night with the horses they make themselves useful by acting as protectors against the visits of the predatory beasts. For should an animal of this description threaten to attack the herd, the quagga is reputed to spring at the foe, and, beating it to the ground with a free use of the fore-hoofs, trample it to death.

Burchell's zebra (*Equus Burchellii*), by some called the dauw, is an animal that in appearance, as far as its colouring goes, seems to occupy an intermediate position between the true zebra and the quagga. The ground colour of the short and glossy coat is of a sienna brown, and the stripes with which it is banded are not quite so dark in hue as those of the zebra, nor are they so numerous. Instead of covering the entire body and limbs, as a rule they are only seen on the head, neck, and upper part of the body and legs, the ventral surface and lower portion of the limbs being pure white.

The absence of the markings on the legs, which is generally considered to be a noticeable distinction between the true zebra and this species, is not an invariable feature of the animal, however, for Mr. Buckley stated in his paper that out of five of them that were shot in one herd, there were individuals showing every variation of colour and marking, from the yellow and chocolate stripes to the pure black and white, the stripes in some ceasing above the hock, and in others being continued distinctly down to the hoof. The hoofs are different to those of the zebra, for they are much less concave beneath, being in this way better adapted for the plains, the zebra's hoofs being more suitable for the life it leads on the rough and craggy surface of a mountainous district.

The Burchell zebra is extensively diffused over South Africa, and extends into Abyssinia, Congo, and southward to the Gareep, or Orange river. It is one of the commonest animals throughout South Africa. "A few years ago it was equally common on the

plains, even in the north of Natal, but now has either been shot out or driven back by the hunters. This is the quagga *par excellence* of South African sportsmen, by whom it is killed both for its skin, which is now extremely valuable, and also for its meat, which is one of the most palatable morsels you can give to your native servants; but there is a sort of smell about it, which, with its dark colour and yellow fat, make it anything but tempting to most white men. These animals are generally found, at least in the bush, in small parties of from eight to ten, frequently in company with blue wildebeests. The largest troop I ever saw," remarks Mr. Buckley, "contained probably about forty individuals."

Harris, describing this species, states that it supplants the quagga to the north of the Orange river, as does the koodoo, its congener the gnou, "and seldom congregating in herds of fewer than eighty or a hundred, it abounds to a great extent in all the districts included between that noble stream and the southern tropic. Occupying the same regions, and delighting in the same pastures as the brindled gnou, rarely is it to be seen unless in the companionship of that fantastic animal, whose presence would appear to be almost indispensable to its happiness. It is singular enough that the members of two families so perfectly foreign to each other, should display so great a predilection for each other's society, uniformly intermixing as they do, and herding together in bonds of the closest friendship. Fierce, strong, fleet, and surpassingly beautiful, there is, perhaps, no quadruped in the creation, not even excepting the mountain zebra, more splendidly attired, or presenting a picture of more singularly attractive beauty, than this free-born of the desert. It would be difficult to convey to the uninitiated, a suitable idea of the sparkling effect produced by their vivid and strikingly contrasted colours, when seen 'pawing in the valley' in all the pride of conscious liberty, or flying in compact columns before the equestrian foe."

"The voice of this free-born of the desert has no analogy to the discordant braying of the ass, but consists of a shrill, abrupt neigh, which may be likened to the barking of a dog, as heard by a passer-by from the interior of a house. The senses of sight, hearing, and smell are extremely delicate. The slightest noise

or motion, no less than the appearance of any object that is unfamiliar, at once rivets their gaze, and causes them to stop and listen with the utmost attention—any taint in the air equally attracting their olfactory organs. Instinct having taught these beautiful animals that in union consists their strength, they combine in a compact group when menaced by an attack either from man or beast; and if overtaken by the foe, they unite for mutual defence with their heads together in a close, circular band, presenting their heels to the enemy, and dealing out kicks in equal force and abundance. Beset on all sides, or partially crippled, they rear on their hinder legs, fly at the adversary with jaws distended, and use both teeth and heels with the greatest freedom.”

The Burchell's zebras that have at various periods been exhibited in the Zoological Gardens in London have generally been very fine specimens and have always looked in good condition. They have also on several occasions been bred by the Society. The foals are funny-looking little animals, and have the awkward long-legged appearance of all colts; the stripes are well-marked, but the hair is shaggy and rough, especially over the hind-quarters.

The late Lord Derby had several Burchell's zebras in the collection of animals he made at Knowsley Park for acclimatizing experiments, and he was very successful in rearing the young ones.

The mules between these zebras and the common ass are said to be possessed of most serviceable qualities, for they are particularly hardy, strong, and as fast as first-class ponies. It is somewhat surprising that this useful cross is not more common. The perfect conduct and utility of these hybrids was demonstrated by the Zoological Society many years ago, for, probably as an advertisement, their cart used to be drawn about the streets by a couple of them, driven in a tandem, and their behaviour and handsome appearance was the subject of general comment.

In London not very long ago, a pair of them owned by a well-known gentleman were often seen being driven about the streets and in the Park. They also were generally harnessed tandem fashion to a light chaise cart and made a striking and handsome turnout.

Frank Buckland, in one of his amusing articles, gives an account of his taking the Maori chiefs, who were the first of their race to visit England, to see the animals in the Zoological Gardens. "It was most interesting," he writes, "to see how these men, who have no mammal in their island bigger than a pig or a rat—horses of course, where Europeans have colonized—were amazed at what they saw. They gazed with wonder at the camel, they were silent before the lions, and were half frightened at the elephant. We persuaded them to ride upon the elephant, Mr. Bartlett going up with them, and much they seemed to enjoy the ride *when once up*."

"We then examined the zebra, with which they were highly delighted. Our friends remarked that the zebra had tattooed his face. 'He moko him face,' said they. This was a good idea, as a zebra's stripes are not unlike tattoo marks. They afterwards looked at the rhinoceros, which they all agreed was a "big porka." "Big porka, me eat him."

The stripes which these New Zealanders called moko marks, and which to some extent, resemble the brindlings of a tiger, led the ancients to give the zebra the name of hippotigris; for although this animal is only to be found in South Africa, and with the camel is noticeably absent from any of the Egyptian monuments or wall-paintings yet discovered where animals are depicted, still specimens were seen occasionally in Rome notwithstanding the fact that the emperors had but little influence over that part of the country from which they would necessarily have to be procured. The cruel emperor Caracalla (A.D. 211—217), is reported by Dion Cassius, the historian of the third century, to have exhibited in the circus, an elephant, a rhinoceros, a tiger, and a hippotigris, but in that most wonderful collection of rare beasts, prepared for the triumph of Gordian the Third, to which such frequent reference has to be made, zebras were among the animals that were probably seen for the first time by the Roman people in any number. Although originally intended to form part of the pageantry contemplated by Gordian, the animals were in reality exhibited by his murderer, Philip the Arabian, who wore the purple as his successor, and celebrated the thousandth anniversary of Rome by gratifying the tastes of the populace for ostentatious

shows, rare sights, gladiatorial contests, and animal carnage, to an extent almost unparalleled in history. Side by side with the obese hippopotamus, the people gazed with wonder upon the towering forms of ten giraffes soon to be the prey of thirty African hyænas and nearly a dozen Indian tigers. The stately elephant was already a well-known animal, and the troop of thirty-two that were paraded, probably caused much less astonishment than the horned rhinoceros; and it is natural to surmise that some admiration was elicited by the graceful forms and variegated coats of the twenty zebras, when these animals were turned loose in the arena.

For a long time after the downfall of the Roman Empire, these animals were not again seen in Europe. One appears to have been sent from Cairo to one of the kings of Naples, and one or two old writers have asserted that they had seen domesticated individuals, but zebras were not well-known to naturalists until the early part of the present century.

Mons. Louis Figuier, in his work "Les Mammifères," states that the Persians kept certain religious festivals at which zebras formed a prominent feature, for these animals were sacrificed to the sun by the reigning king; a stock of them being kept for this purpose on a small island in the Red Sea. The authority, however, for this statement is not given, and the animals so used may possibly have been wild asses, which were of great repute with the ancient Persians.

The group forming the illustration to this chapter are animals of Burchell species, and they make a handsome trio. It is a pity that the Zoological Society have not been able to procure specimens of the mountain zebra and the quagga to replace the animals that were once such an attractive addition to their collection.

CHAPTER XXI.

THE ASS (*EQUUS ASINUS*.)

A GREAT deal of uncertainty exists as to both the origin of the domesticated ass and of the various species or varieties of the wild ones. Some scientists contend that these latter races are the descendants of animals which have escaped from man's control and like the wild horses of America have multiplied in an annually increasing ratio. This theory has, however, but few if any facts, for a basis. The knowledge now possessed respecting the habits of both domesticated and wild asses points to a very different conclusion. For "the ass reduced to bondage," to quote an observation of Mr. Low's,¹ "loses the fleetness, the spirit, and the wildness, which he possesses in a state of nature. Unlike to the horse, who readily becomes devoted to his master and gives up all his powers to his use, this creature seems to yield an unwilling service, and feels the degradation of servitude. Yet he submits with patience to his lot, and his progeny do not seem to recover the wildness of their parents; for it is not known that the progeny of the domesticated ass ever seek to regain their liberty by joining their fellows of the desert. It is otherwise with the horse, who is readily tempted to join the emancipated herds, and fly from the bondage in which he has lived. In South America, numerous asses have been allowed to escape into the plains, and multiply in a state of nature; but they never acquire the habits of their free-born progenitors of the desert; they linger near the places of their birth, and fall an easy prey to their enemies. The change of nature in the ass by the effect of subjugation is entire. It seems to be less the effect of discipline and education than of simple

¹ "On the Domesticated Animals of the British Islands," by David Low, Esq. F.R.S.E., &c.

deprivation of liberty. Thus it is that the ass was amongst the earliest of the quadrupeds subjected to permanent servitude, and retains so strongly the impress of slavery."

It is open to doubt whether any of the original wild stock from which the domesticated ass is descended is to be found in any part of the globe at the present day. Dr. Sclater, however, says there is every reason to believe they are sprung from the Abyssinian species (*Asinus Taniopus*), a theory which was also emphasized by Darwin.

Be this as it may, one thing is beyond doubt, certain species of the race have from time immemorial been under the dominion of man, for the ox, the ass, and the camel appear to have been the first quadrupeds whose services were utilized, and they constituted the chief portion of the wealth of the ancient shepherd tribes of Syria. The ass was at that time apparently held in greater esteem than the horse, for, as Mr. Low remarks, "Even after the return of the descendants of Israel from a country of chariots and horses to the land of their promised inheritance, they preserved the simple habits of their forefathers in the use of this ancient servant. They seem to have had their asses of nobler blood, to which they applied a peculiar term. Princes and the honourable of the land did not disdain to be borne by this ancient steed. Saul, when called by a glorious destiny to be the king of Israel, was in search of his father's asses, or oxonoth, which had strayed. His warlike successor had his superintendent of oxonoth, as of the other branches of his government, and even after the horse was introduced for the purpose of traffic and war, the services of the patient ass were neither disused nor despised."

In Judges v. 10, the following verse, "Speak, ye that ride on white asses, ye that sit in judgment, and walk by the way," seems indicative of the fact that the great or wealthy were even then accustomed to ride on a white-coloured variety of the animal, exactly as they do in many eastern countries at the present day. In consequence of the preference shown for these white asses, they command such high prices that their possession is only possible among the richer classes, and to be the owner of one or more of them carries with it a certain amount of distinction.

No one who has only seen the undersized, dejected-looking donkey of western Europe can form any idea of the intelligence, strength and symmetry that kind treatment, careful breeding, and good training develop in the animal, as exemplified by the asses to be found in Arabia and Persia, where they are in some cases superior to horses. "The asses of Arabia," says Chardin, "are perhaps the handsomest animals in the world; their coat is smooth and clean, they carry the head elevated, and have fine and well-formed legs, which they throw out gracefully in walking and galloping. They are used only for the saddle, and are imported in vast numbers into Persia, where they are frequently sold for 400 livres: and being taught a kind of easy, ambling pace, are richly caparisoned and used only by the rich and luxurious nobles."

The difference is so marked that it is hard to believe that these splendid, well-groomed, long-limbed white asses can have any relationship with the shaggy-coated, stunted little British donkey. Upon this point, however, we must accept the statement of those eminent men who have studied the question, and they assert that there is a close affinity between them, but the one exhibits the result of care, careful breeding and correct feeding, and the other the want of all these attentions, hence the violent contrast apparent at the present day.

Lenormant states that the horse was not introduced into Egypt till 1900 B.C., but the ass was employed by the people of this strange land from the earliest monumental times. It is certainly to be frequently seen among the representations of their animals. The ass was known to the primitive Greeks, a fact attested by the references made to it by their earliest writers, and to the Romans, for they bred the animal with care. Pliny remarks that it is a species of animal most useful for labour and ploughing, but more especially for the production of mules, and that the profit derived from these animals exceeded that arising from the richest estate; also that, according to M. Sarro, Quintus Axius, the senator, paid for an ass the sum of four hundred thousand sesterces (upwards of 3200*l.* sterling), and he adds, "I am not sure whether this did not exceed the price ever given for any other animal."

However, in some parts of Europe—especially Spain, Italy,

and Malta—the ass does receive consideration, and careful breeding. These European asses vary in colour considerably, for they are of every shade of grey to creamy white, but are undoubtedly splendid animals, and show what care and attention can effect in keeping the race up to its original high standard, or even in improving it. No less than 200*l.*, it is said, are sometimes paid in Spain for a stallion ass. In the state of Kentucky, where mules are in great request as beasts of burden, asses, imported from the south of Europe, are reared with scrupulous care, and with such success, that from an average height of fourteen hands, the Kentuckians have raised these animals to fifteen and even sixteen hands. That the diminutive size of the ass in cold countries is due as much to neglect as to rigour of climate seems proved by the fact, that in the north of India, where it is used by the lowest castes, the ass does not attain a height greater than that of a Newfoundland dog. It is however, as before stated, among the south-western nations of Asia and in Egypt that the ass has received that attention usually bestowed in this country on the horse, and it is there that it is to be seen in greatest perfection. The Arabs and Persians know the pedigrees of their asses, and by careful selection and interbreeding they have formed and perpetuated many useful races. Thus in Syria, according to Darwin, there are four distinct breeds:—“A light and graceful animal with agreeable gait used by ladies, an Arab breed reserved exclusively for the saddle, a stouter animal used for ploughing and various purposes, and the large Damascus breed with peculiarly long body and ears.”²

The ass was only at a very late period known to the inhabitants of the shores of the Baltic, and has not long been naturalized in Sweden and Norway. In England it was known during the Anglo-Saxon period, for it is mentioned as existing here in the reign of Athelred, and after that in the time of Henry III. They were used by the abbots as beasts of burden and for riding purposes, for they formed part of the common stock of the various monasteries. But their numbers could never have been numerous, or if so must have dwindled to so few that in the days

² “Encyclopedia Britannica,” ninth edition.

of Elizabeth, according to Hollinshed, "our lande did yielde no asses." Probably, however, during the reign of her successor, on the renewal of the intercourse with Spain, a fresh stock may have been imported—as that country was even then famous for its fine breed of these animals—for we read that, during the reign of James I., asses had become common; and they have remained so ever since. But the race has, through the various causes already enumerated, gradually degenerated.

"Why," Buffon exclaims with justice, "is there so much contempt for an animal so good, so patient, so abstemious, and so useful? Can it be that men despise, even in animals, those who serve them too well and at too little expense? We confer on the horse a degree of education, he is cared for, he is trained, and he is exercised, whilst the ass is handed over to the mercy of the lowest servant, or to the malice of children, and so far from improving by education, he must always be the worse for it; if he did not possess a large supply of good qualities he would in fact lose all, in consequence of the treatment which he receives. He is too frequently the plaything, the butt, and the drudge of his owner, who drives him, beats him, overloads him and tires him out, without care and without mercy. There seems to be no attention paid to the fact that the ass would be the best and most useful of animals, if there had been no such animal as the horse."

This is not only true about the French ass, but also of the treatment to which the British ass is subjected. Here as elsewhere the animals are generally owned by those members of the poorer classes of the community, whose occupation necessitates the employment of some beast of burden, and whose means and conveniences render the keeping of a horse a matter of impossibility.

The ill-treatment these poor animals are exposed to at the hands of their owners is a national disgrace. Many humane men and women, such as Captain Scott, the late Lord Shaftesbury, Lady Burdett-Coutts, and others, have at various times tried to ameliorate the condition of the unfortunate British donkey by rewarding the possessors of well-kept specimens; but the animals are still, as a rule, underfed, over-burdened, over-worked,

and over-beaten. There are many donkey owners who are kind-hearted men, treat their animals well, and show every consideration for their welfare; but they are conspicuous exceptions, for in some cases through thoughtlessness, and in the majority of others from sheer brutality which is the characteristic trait of so large a portion of that section of society known as "the lower orders," the ill-temper or drunken energy of the men is too often vented by the grossest ill-usage of the women or animals which are their unfortunate help-meets. In consequence they degenerate, mentally, physically, and morally, and the commandment which ordains that "thou shalt not covet thy neighbour's wife . . . nor his ox, nor his ass, nor anything that is his," is one generally easy to keep in this the nineteenth century of the Christian era in the event of our neighbour being a married British donkey proprietor.

The residents in the cities of England, Ireland, and Scotland, appear to have become, from its frequency, so accustomed to the sight of a donkey harnessed to a low cart full of noisy men or boys who belabour the unfortunate animal with a thick stick in a brutal manner, notwithstanding the evident fact that its speed is the utmost its remaining strength will allow, that but few protests are ever raised. The resounding blows administered by the ruffians rarely appear to arouse the activity of the police, or of the passers-by, but if the same punishment were being given to a horse or dog, the chances are the perpetrators would be stopped, or even prosecuted. The remark, "oh! it's only a donkey!" seems in the one instance to satisfy the majority of citizens, who otherwise might be inclined to expostulate, and they thus tacitly acknowledge—that an ass deserves no better treatment. Why?—they would find it hard to explain. As a matter of fact, the ill-usage of the donkey appears to be an inherited habit, for the ancient people of several countries where the animals are employed have all been addicted to it; yet there are few domesticated beasts that will better repay kindness than the much maligned ass, or develop under such treatment more useful qualities.

At some of the "shows" of domestic animals periodically held in England, the people seem to take considerable delight in watching the performances of a trained donkey, which goes through many of

the usual tricks of the "performing horses" of the circus. Training donkeys to go through these antics is not, however, a modern idea. This is shown by the following quotation. Leo, the African, states:³—

"There was a cunning player in Africa, in a city called Alcair, who taught an asse divers strange tricks or feats; for in a public spectacle, turning to his asse (being on a scaffold to shew sport), said, the great Sultan purposeth to build him a house, and shall need all the asses of Alcair to fetch and carry wood, stones, lime, and other necessaries for that business; presently the asse falleth down, turneth up his heels into the air, groneth, and shutteth his eyes fast, as if he had been dead; while he lay thus, the player desired the beholders to consider his estate, for his asse was dead; he was a poor man, and therefore moved them to give him money to buy another asse. In the mean time, having gotten as much money as he could, he told the people he was not dead, but knowing his master's poverty, counterfeited in that manner, whereby he might get money to buy him provender, and therefore he turned again to his asse and bid him arise, but he stirred not at all. Then did he strike and beat him sore (as it seemed) to make him arise, but all in vain, the asse lay still.

"Then said the player again, our Sultan hath commanded that to-morrow there be a great triumph without the city, and that all the noble women shall ride thither upon the fairest asses, and this night they must be fed with oates, and have the best water of Nilus to drink. At the hearing whereof, up started the asse, snorting and leaping for joy; then said the player, the governor of the town hath desired me to lend him this my asse for his old deformed wife to ride upon; at which words the asse hangeth down his ears, and understanding like a reasonable creature, began to halt as if his leg had been out of joint; why, but, said the player, had thou lifer carry a fair young woman? The asse wagged his head in token of content to that bargain; go then (said the player) and among all these fair women, chuse one that thou mayest carry; then the asse looked round about the

³ See Topsell's "History of Four-footed Beasts," 1658.

assembly, and at last went to a sober woman and touched her with his nose, whereat the residue wondered and laughed, shutting up the sport with crying out, *an asse's woman, an asse's woman*, and so the player went unto another town."

Wild asses are to be found in both Asia and Africa, and the animals of this group common to Asiatic countries have been subdivided into three or four species or varieties; the apparent differences between them are either the geographical position of their habitat, or else some slight variation in their size, or the sound they utter.

THE ONAGER (*Equus onager*) is the name given to the wild ass of the Asiatic deserts. It is found in Tartary, Mesopotamia, Persia, and even to the southern extremity of Hindustan. Pallas first described this animal under the name of *koulan*, by which it is known in the high steppes around the Caspian Sea.

It differs from the domestic species in having a more graceful carriage, cleaner and longer limbs, shorter and more rounded ears, and a finer coat, which is a light, reddish-grey in the summer, but in the winter fades to a much paler colour, sometimes becoming silvery-white. The dark line along the back is generally to be seen in this species, but the cross upon the shoulder is rarely as conspicuous as it is in the domesticated animals. They exhibit a partiality for bitter and saline herbage, and are fond of salt or brackish water.

Some interest attaches to this species from its being in all probability identical with the "wild ass" so frequently referred to in the Holy Scriptures.

"The allusions to the wild ass in the Old Testament," says a writer in "Chambers's Encyclopædia," "and particularly in Job xxxix., naturally excite the surprise of readers acquainted only with the dull domestic drudge, the emblem of patience and stolidity, but to this day they are beautifully appropriate to the wild ass of 'the wilderness,' which has the 'barren land,' or 'salt places,' for its dwelling, and 'the range of the mountains' for its pasture."

These wild asses are gregarious in their habits, and live in troops, grazing in large numbers on the plains they frequent during the

winter months, but migrating to the mountain regions at the commencement of the summer. The herds are invariably under the command of a leader, which is generally a fine specimen of his race, and in consequence is the one nearly always singled out by the hunters. These asses are very shy and wary creatures, so that it is difficult work to get within range of them, and their speed is described by various writers as exceeding that of any other animal, so that hunting them is a most exciting species of sport.

Layard, during his researches around Nineveh, had frequent opportunities of observing their habits, and he writes, "They equal the gazelle in fleetness, and to match them is a feat which only one or two of the most celebrated mares have been known to accomplish."

Xenophon the historian, when he accompanied the expedition of Cyrus, 2000 years ago, saw in the same region herds of wild asses so "fleet that the horsemen could only take them by dividing themselves into relays, and succeeding one another in the chase."

This is the method still adopted by the tribesmen of Dagestan, for the animals being far too knowing to be stalked, they have to drive them. The huntsmen are posted singly at certain distances apart on the flank of the line which is considered as the most likely one for the herd to take on being disturbed. They are then started by the first horseman, who endeavours to give them the right direction. If he is fortunate enough to do so, the second hunter relieves him in the chase when the nearest point to his station is reached, who is himself relieved by the next one, and so on until the animals become exhausted, or an accident brings one or more of them within range. They are, however, so fleet that on the level plains they can sometimes baffle even this mode of hunting, and once they can get upon hilly or rocky ground, they can bid defiance to all pursuers except the falcons that are sometimes trained to assist the hunters. But it is among the hills that they are generally killed, for being driven there they appear to fancy they are safe from pursuit, and will stand and look back or gaze on their pursuer from the summit of some crag or rock, where they become conspicuous objects for the shot that lays them low.

Major St. John says,⁴ "Wild asses are locally distributed in Balúchistán, and I only heard of their being abundant near Bampúr. None are said to be found in the deserts north of Jálk and Kalagán, though Ferrier speaks of them as common further north in Sístán. In Persia they appear similarly to be common in some places, generally on the borders of desert plains, rare or unknown elsewhere; but they occur scattered over all the more level parts of the country, except in the north-western and Caspian provinces. I saw none in my journey, though I often came across their tracks."

"The Persian wild ass is not, I believe, found west of the main road from Tehrán to Shiráz, except possibly in that arm of the salt desert which extends north of Kom (Kúm or Koom) toward Saveh. It is most plentiful in the vicinity of the patches of salt desert, '*Kafah*' or '*Kavír*,' which are so marked a characteristic of eastern Persia. In the summer a herd occasionally wanders into the loftier desert valleys. I have several times seen them whilst travelling post along the plain that stretches from Khân-i-Khora, a short distance north of Dehbíd in Fárs, to the Kulah Kázi or Úrchín Hills, near Isfahán, a distance of nearly 150 miles, at an elevation of 5500 to 7000 feet above the sea. Persians say they cannot be caught by a single horseman when approached in the open; but if the sportsman can manage to conceal himself and his horse in the vicinity of a spring, and wait till the wild asses have quenched their thirst, they can readily be come up with when full of water, by a short spurt on a fast horse. At other times they are caught by relays of horsemen and greyhounds."

From the extraordinary speed these asses possess they are considered the noblest kind of game, and are constantly hunted, both for the excitement of the chase, and for the hide, which is converted into leather and becomes the common Turkish shagreen from which so many articles are made; and also for the flesh, which is generally described as a great delicacy. Major St. John, however, states that although in several books on Persia the flesh is said to be prized

⁴ See "The Zoology and Geology of Persia," by W. T. Blanford, A.R.S.M., F.R.S.

above all other venison, yet Persians told him that it should only be eaten under absolute necessity, being equally disagreeable to the conscience of a good Mussulman and to the palate of a gourmand.

The Jews are certainly forbidden to eat it, but it is well known that the Mohammedans of Persia, who may perhaps not acknowledge the fact, are still very partial to it, and exhibit no conscientious scruples on the subject when they can procure this dainty game. The ancient Persians were also fond of the meat of the wild ass, and many of their writers have borne testimony to its excellence.

The young of the domesticated ass used also to be eaten, and was considered a luxury by the Roman epicures. Pliny states that Mæcenas was the first person who had the animal served up at his table, and in those times it was preferred to the flesh of the onager or wild ass, but when he wrote the taste had gone out of fashion. One of Martial's epigrams also refers to the young ass being used as an article of food. When Malta, then in the possession of the French, was blockaded by the English and Neapolitan squadron, the inhabitants were reduced to eat horses, asses, dogs, cats and rats, and the asses' flesh was held to be so excellent that it was preferred to the best beef or veal. The famous Bologna sausages are said to owe their reputation to the fact that their chief ingredient is meat of this description.

The wild ass is called "gour" in Persia, and this name was given to one of their most celebrated rulers, Baharam the Fifth (A.D. 420 to 438), on account of his devotion to the chase of the animal. It was in the pursuit of one of them that he lost his life, for coming suddenly upon the brink of a deep pool, his horse plunged in, and neither the animal nor the rider were ever seen again.

Sir John Malcolm in his "History of Persia" states that "this accident happened in a fine valley between Shiraz and Isfahán, which is to this day called the vale of heroes; having been, on account of its fine pastures and abundant game, the favourite resort of the earliest ages, of the kings and nobles of Persia. The whole valley abounds in springs; some are very

large and of great depth : their sources are supposed to communicate. It is not surprising, therefore, that the body of Baharam was never found, although every search was made by his inconsolable mother."

In a foot-note he adds : " When encamped, in 1810, near the springs, in one of which Baharam plunged, being aware of their dangerous nature, I directed that none of my escort should bathe. This order was unfortunately disobeyed by a young man of the 17th Dragoons, and, though reported a good swimmer, he was drowned. His body was recovered, being near the edge. The spring in which he lost his life, we were told, was the same into which Baharam had fallen."

The following story of the origin of one of the hunting-palaces built by this monarch, which is now a ruin, is certainly worth quoting : " Baharam, proud of his excellence as an archer, wished to display it before a favourite lady. He carried her to the plain. An antelope was soon found asleep. The monarch shot an arrow with such precision as to graze its ear. The animal awoke, and put his hind-hoof to the ear to strike off the fly by which he conceived himself annoyed. Another arrow fixed his hoof to his horn. Baharam turned to the lady, in expectation of her praises. She coolly observed, '*Neeko kurden z pur kurden est*' (practice makes perfect). Enraged at this uncourtly observation, the king ordered her to be sent into the mountains to perish. Her life was saved by the mercy of a minister, who allowed her to retire to a small village on the side of a hill. She lodged in an upper room, to which she ascended by twenty steps. On her arrival she bought a small calf, which she carried up and down the stairs every day. This exercise was continued for four years, and the increase of her strength kept pace with the increasing weight of the animal. Baharam, who had supposed her dead, after a fatiguing chase, stopped one evening at this village. He saw a young woman carrying a large cow up a flight of twenty steps. He was astonished, and sent to inquire how strength so extraordinary had been acquired by a person of so delicate a form. The lady said she would communicate her secret to none but Baharam, and to him only on his condescending to come alone to her house.

The king instantly went. On his repeating his admiration of what he had seen, she bade him not lavish praises where they were not due. 'Practice makes perfect,' said she in her natural voice, and at the same time lifted up her veil. Baharam recognized and embraced his favourite. Pleased with the lesson she had given him, and delighted with the love which had led her to pass four years in an endeavour to regain his esteem, he ordered a palace to be built on the spot, as a hunting-seat and a memorial of this event."

The Kiang (*Asinus Hemionus*) is the wild ass of Tibet, where it is to be found inhabiting the high table-lands of the country where the temperature is said to be below the freezing-point in the middle of the summer, and steadily below zero in the winter. Notwithstanding the atmosphere being so frigid during the summer, these animals shed their winter coats, which are thick and woolly, and assume short-haired, bright bay ones, the same as the species which inhabit much warmer climates. They are described as herding together in troops of eight or ten, and not in the large numbers noticeable in the onager. These troops are in charge of a solitary male. When alarmed they take flight immediately, and although they are so fleet of foot, yet their curiosity, or lack of wind, causes them to stop and look round every now and again, then, resuming their flight continue the same performance, which gives the hunter, if well mounted, some chance of overtaking them before they reach the precipices or mountain places, which are generally the goals they make for, for there further pursuit becomes impossible.

The wild ass of Cutch (*Asinus Indicus*) is another variety of the family, but it differs in but few points from the two species already described. Transverse stripes, somewhat resembling those of the zebra, are occasionally visible on the shoulders of the adult animal, but are more frequently to be seen on the foals. Unlike the kiang, it is not to be found in such cold nor mountainous regions, but generally inhabits the sultry plains near the mouth of the Indus.

It differs from the kiang in the sound it utters, for the kiang neighs, in this respect resembling the horse, but the wild ass of



Cutch brays with the discordant sound heard too often from the domesticated ass, and which has no doubt helped to bring his race into contempt.

The wild asses of Asia appear to be endowed with considerable courage, and are anything but stupid beasts. They employ their teeth as well as their feet when fighting. If attacked by wolves or other enemies, the herd range themselves in a circle, with the weak animals or foals in the centre, and they fight so desperately that they are said to almost invariably come off victorious.

They are described as untamable, but the individuals of the kiang species that have been domesticated have exhibited gentle and docile temperaments. Nevertheless these Cutch asses are frequently captured, and used to improve the breeds of the domesticated species. They are quite gentle while young, but become unruly when adult, which makes them almost useless for practical purposes.

The wild ass of Africa (*Asinus tæniopus*) is found in the mountains of Abyssinia, and the desert plains lying between the Nile and the Red Sea. From the fact that it brays, and is marked with cross bands around the legs, and with transverse shoulder stripes, a peculiarity frequently observable in our tame breeds, Darwin and others have concluded that it is the original race from whence our domesticated animals have sprung, and that these markings are when seen instances of reversion to the ancestral type. Another argument in favour of this assumption is that the domestic beast evinces a marked aversion to wetting its feet, or to cross the smallest stream, a trait which is also noticeable in the camel, and it displays a strong partiality for rolling in the dust or sand, which being considered an inherited proclivity, points to the fact that arid deserts were the original home of the race.

Sir S. Baker frequently refers in his books to these animals. "Those who have seen donkeys in their civilized state," he writes, "have no conception of the beauty of the wild or original animals. It is the perfection of activity and courage, and has a high-bred tone in the deportment, a high-actioned step when it trots freely over the rocks and sand, with the speed of a horse when it gallops over the boundless desert. His colour is reddish-cream, tinged

with the shade most prevalent of the ground that it inhabits. Thus it much resembles the sand of the desert.

“I shot one fine specimen, a male in excellent condition, although the miserable pasturage of the desert is confined to the wiry herbage already mentioned; of this the stomach was full, chewed into morsels like chopped reeds. His height was about 13·3 or 14 hands; the shoulder was far more sloping than that of the domestic ass; the hoofs were remarkable for their size, width, and firmness, being as broad as those of a horse of fifteen hands.”

It is the portrait of an animal of this species which has been chosen for the illustration to this chapter. The little foal accompanying its mother is only about three weeks old, and, as can be seen, is a more graceful looking little creature than a young horse at the same age, for it is not quite so long-legged. The shoulder marks upon the older animal are also very noticeable.

CHAPTER XXII.

THE BISON (*BISON AMERICANUS*).

THIS ruminant mammal belongs in natural history to the family *Bovidæ* and the order *Ungulata*, i.e. hoofed animals. Bisons are inhabitants of Europe, Asia, Africa, and America. The animals of the latter country differ, however, from their European congeners in many particulars. It is only in a forest of Lithuania that the European bison now exists, and there a remnant of the race is preserved from extinction by the Russian Czars, but their numbers are yearly dwindling and the race deteriorating, for all attempts at domesticating the animals have ended in failure. At one time they were numerous in Prussia and Hungary, and earlier still roamed free in the forests of Germany and Switzerland, and in reality over the whole of central Europe, also in the Caucasus and Carpathian Mountains. Cæsar mentions the fact that they abounded in Germany and Belgium, and it was from these two countries that the animals of this species were captured for the sports of the Roman amphitheatre.

In America the animal is colloquially called a buffalo. To speak of a bison in many parts of that vast country would puzzle the people to identify the beast to which you were referring, but a buffalo is an object of interest to nearly every one, and although scientists correctly contend that this designation is incorrect, the name of buffalo being only applicable to the species found in the East Indies, yet we intend to apply this title to the animal called by some naturalists *Bos Americanus*, and by others *Bos bison*.

Buffaloes are, or rather were, found in the great prairie region extending between the Mississippi and the Rocky Mountains as far north as latitude 63° or 64°, and as far south as New Mexico.

They were rarely seen west of the Rocky Mountains, but were within a comparatively late date found in the State of New York and in Ohio; but now the race is so rapidly diminishing that they have entirely disappeared from many of the States where formerly they were numerous, and in none of their favourite haunts are they to be seen in any numbers.

There is only one species of the American buffalo now existing, which is subdivided by hunters and trappers into two varieties, one frequenting the mountain ranges and having its home among the wild crags and rocky bluffs that are almost inaccessible to human beings; and the other whose favourite haunts are the undulating wastes of the monotonously dreary prairies.

The mountain or wood variety is generally called by the trappers a bison. Its body is lighter, but its limbs are shorter, thicker, and stronger than the buffalo of the prairie. It is rather a rare animal, and as it is scarcely ever seen on the plains its habits are not very well known.

In former ages two other species existed, but they are now totally extinct—*Bison latifrons* and *Bison antiquus*. They were both larger animals than the present race, the former especially, which was a contemporary of the mastodon, was probably as big as an elephant, and this gigantic ox had horns whose tips were eleven or twelve feet apart.

The outward peculiarities of the buffalo's formation can be seen by the accompanying illustration, which is the copy of a photograph taken of the specimen belonging to the Zoological Society. The head, it will be perceived, is very massive and is attached to the body by a short thick neck. The eyes are large, prominent, and piercing. The horns are set far apart on the broad forehead, and are small but sharply pointed. A hump rises gradually upon the back until it forms a socket for the head. This formation, which gives an obliquity to the dorsal line, also gives the animal's hind-quarters a somewhat slender or weak appearance. The hump consists of fat combined with powerful muscles which form the support and give the required strength for the carriage and movements of the ponderous head. Although the body slopes away until the hind-quarters are low and comparatively narrow,

yet when the animal is seen from the front his strength and weight can be understood, for his chest is broad, his body compact, and the limbs are powerful.

The winter appearance of the buffalo is very different to its summer one, for as a protection against the cold the fore-part of the body is clothed with long shaggy hair, which rises in a dense mass on the top of the head, and beneath the lower jaw forms a well marked beard. This hair is curly, thick and woolly, and the whole of the under parts are covered with it, except in the spring when it commences to fall off, which gives the animal a very ragged and uncouth look during this season. In the summer the buffalo has a naked appearance, for the wrinkled, blackish-coloured skin is exposed or only covered with a short, fine hair, which is as smooth as velvet except upon the hump, head, fore-quarters and throat, where the woolly hair is more or less permanent. The tail is over a foot long and terminates with a tuft of shaggy hair.

A full-grown male animal measures about nine feet from the muzzle to the tail, and stands between five and a half to six feet at the fore-quarters, measuring to the top of the hump. The female is very much smaller in size, being nearly two and a half feet less in length and over a foot shorter. The weight of an average-sized adult animal is somewhere in the neighbourhood of 1800 lbs., the female being some seven or eight hundred pounds less. The young animals are distinguished by having a darker and richer brown fur than the old ones, for they assume a lighter hue as age advances.

Quoting the remarks of Capt. Doyle in the *American Naturalist*, "white buffaloes have frequently been seen and killed. All the Indian tribes regard them as 'big medicine,' but they have different superstitions regarding them. For instance, Catlin, the painter, while among the Mandans in 1832, saw a white buffalo robe erected on a pole in their village as a sacrifice to the Great Spirit. It had been purchased from the Blackfeet, who killed the buffalo, for eight horses and a quantity of goods. On the other hand, the Comanches believe it very dangerous to see a white buffalo. In 1869 I saw a young Comanche, who had seen a white buffalo, return to his camp almost dead with fear. He was taken into his

tent, the medicine-man was sent for, and they smoked him and kept up incantations over him day and night for a week. When he came out he believed that he had a very narrow escape from death. In 1859 a white buffalo was killed by a white man on the north fork of the Red river, J.T., and the hide presented to Gen. Grierson. He desired to have it dressed to preserve it, but failed to get any Indian to undertake the task for a long time. At last he prevailed on a Comanche chief, named 'Horseback,' to have the operation performed. 'Horseback' selected one of his squaws, had the 'medicine-man' of his band go through various ceremonies over her to preserve her life, and then placed her in a teepee some distance from his camp, where the hide was taken to her by a soldier and brought away by him when dressed. No other Indian would look at the hide much less touch it. Her food was left for her at some distance from her teepee, and when the robe was dressed, 'medicine' ceremonies were held over her before she was allowed to rejoin the camp. I twitted 'Horseback' about the fear of the robe, calling his attention to the fact that no harm befell any of the white men who handled it, but he answered that such might be the case, but what was 'bad medicine' for a Comanche might be 'good medicine' for a white man, and *vice versa*. He proposed to take no risks in the matter."

Buffaloes were pre-eminently gregarious animals, for not only did they congregate together in herds, but different herds would often unite—hence the vast numbers which were so frequently seen, and that travellers used to describe as blackening the plains for miles, or as far as the eye could see, were in fact one large herd composed of a *congeries* of smaller ones. They each possessed distinct organization, which they seemed to retain even when so massed, for the calves were generally to be seen near the centre, with the older bulls flanking the whole, and thus forming powerful protectors against a common danger. Unlike the cow of domestic cattle, the buffalo one seems to possess but little maternal affection for her calf, for when alarmed she abandons it without the slightest hesitation, and the duty of protecting it devolves on the bulls.

These herds were nomadic and rarely remained many hours in the same locality. At certain seasons they migrated from one territory

to another. As "the old shekarry" writes:—"A mighty impulse seems at once to seize upon countless thousands of these animals, and they serge backwards and forwards—heading north or south—moving along as the waves of the ocean driven by the wind.

' Reasoning at every step he treads
Man yet mistakes his way ;
While meaner things, whom instinct leads,
Are rarely known to stray.'

No physical objects stay them on their march ; great rivers with overhanging banks and shifting sands, are swum or forded ; deep chasms and earth-rent gulches are crossed ; but still the herd moves on, night and day, like a resistless tide. Hunters may thin their numbers, and prairie-wolves cut off stragglers and such as from fatigue cannot keep up with the herd ; still the van keeps on moving in the one direction, and countless thousands of dusky monsters pass *en masse*, like a cloud over the land."

Upon the plains which were the favourite haunts of the animals, a very nutritious species of grass grows in profusion, which is known as "buffalo grass." This was of course easily procured during the summer, but when winter covered it up with snow, the animals experienced considerable difficulty in getting at it ; as long as the snow was not deep, or frozen, they could scrape it away with their feet, but when the crust was hard, they suffered considerably from hunger, and in certain seasons they died by hundreds from starvation.

The migrations of the herds were no doubt partly due to climatic changes, but more probably were influenced by the necessity of obtaining their favourite food. Their northern movements were always more conspicuous and pronounced than their return south through the herds being larger and not so scattered, while the journey south was made by the animals gradually working their way back in a less marked manner. Many trappers of the plains and nearly all the Indian tribes denied the fact that the buffaloes ever did return south. The red-man accounted for their yearly appearance by saying that they were produced in myriads under the ground, and in the spring came out of a hole or cavern in the side of a huge mountain away to the

south. Many chiefs, with the veracity of their race, would solemnly declare that they had seen this cave and the herds emerging. Now the buffalo no longer comes, these same men declare some bad god or medicine-man has shut up the hole so that the red-man must starve. Anyhow, they will hunt the buffalo no more. The stampeding herds, their thundering tread, the racing horses, and the successful kill will never again supply excitement to their savage natures, but when they lie down to take their long sleep this fact may enhance the charm of the happy hunting-grounds for which they think they are bound, where, once more undisturbed by the white man, the illimitable prairie will vibrate with the wild rush of millions of buffaloes, and the red-mens' souls be comforted.

Travellers crossing the plains can soon recognize the territories that were frequented by buffaloes, for the skulls and bones of the animals slain by the hunters, or of those that through sickness fell victims to the wolf or the grizzly bear, will be seen scattered about and bleaching in the sun, and the earth will be found dug up into holes or wallows.

Catlin, who spent eight years among the Indians, makes some very interesting observations in his books concerning the buffalo. In his "Letters and Notes" he describes these wallows. "In the heat of summer these huge animals, which, no doubt, suffer very much with the great profusion of their long and shaggy hair or fur, often graze on the low grounds in the prairies, where there is a little stagnant water lying amongst the grass, and the ground underneath being saturated with it, it is soft, into which the enormous bull, lowered down upon one knee, will plunge his horns, and at last his head, drawing up the earth, and soon making an excavation in the ground, into which the water filters from amongst the grass, forming for him in a few moments, a cool and comfortable bath, into which he plunges like a hog in his mire.

"In this *delectable* laver, he throws himself flat upon his side, and forcing himself violently around, with his horns and his huge hump on his shoulders presented to the sides, he ploughs up the ground by his rotary motion, sinking himself deeper and deeper in the ground, continually enlarging his pool, in which at length

he becomes nearly immersed ; and the water and mud about him mixed into a complete mortar, which changes his colour, and drips in streams from every part of him as he rises up upon his feet, a hideous monster of mud and ugliness, too frightful and too eccentric to be described !

“It is generally the leader of the herd that takes upon him to make this excavation ; and if not (but another one opens the ground) the leader (who is conqueror) marches forward, and driving the other from it, plunges himself into it ; and having cooled his sides, and changed his colour to a walking mass of mud and mortar, he stands in the pool until inclination induces him to step out and give place to the next in command, who stands ready ; and another, and another, who advance forward in their turns, to enjoy the luxury of the wallow ; and the whole band (sometimes a hundred or more) will pass through it in turn ; each one throwing his body around in a similar manner ; and each one adding a little to the dimensions of the pool, while he carries away in his hair an equal share of the clay, which dries to a grey or whitish colour, and gradually falls off. By this operation, which is done perhaps in the space of half an hour, a circular excavation of fifteen or twenty feet in diameter, and two feet in depth, is completed, and left for the water to run into, which soon fills it to the level of the ground.

“To these sinks, the waters lying on the surface of the prairies are continually draining, and in them lodging their vegetable deposits ; which, after a lapse of years, fill them up to the surface with a rich soil, which throws up an unusual growth of grass and herbage, forming conspicuous circles which arrest the eye of the traveller, and are calculated to excite surprise for ages to come.”

The gait of a buffalo is rather heavy and clumsy, and he seems to be guided to a considerable extent by the sense of smell rather than of sight, for he carries his head well down, and rushes straight before him in the opposite direction to the one from which danger is apprehended. The speed on such occasions is very great, and the animal has a wonderful endurance.

Whole herds plunge readily into rivers, for buffaloes swim easily, though large numbers get drowned in their migrations

through overcrowding. They are also very agile and sure-footed, for they will dash headlong in their course, even if the route leads down a cliff on the mountain's side, or over places where it would be thought no animal would venture.

Buffaloes have a very ferocious, determined appearance, owing to their great bulk, shaggy mane, and vicious eyes, but in reality they are mild and inoffensive beasts, and being of a timid disposition, are easily alarmed. They fly terror-stricken before a man, but if absolutely driven to bay, or wounded, will savagely attack him. They appear on other occasions as though they intended doing so, for facing about, with an angry look in their eyes, they begin to paw the earth in a most threatening manner, but it ends in nothing but a turning tail and continued flight on the nearer approach of the hunter. Catlin, after wounding a buffalo, writes, "I defy the world to produce another animal that can look so frightful as a huge buffalo bull, when wounded as he was, turned around for battle, and swelling with rage;—his eyes bloodshot, and his long shaggy mane hanging to the ground,—his mouth open, and his horrid rage hissing in streams of smoke and blood from his mouth, and through his nostrils, as he is bending forward to spring upon his assailant."

"The domestic cattle of Texas, miscalled tame," remarks Colonel Dodge,¹ "are fifty times more dangerous to footmen than the fiercest buffalo. He is the most unwieldy, sluggish, and stupid of all plain animals. Endowed with the smallest possible amount of instinct, the little he has seems adapted rather for getting him into difficulties than out of them. If not alarmed at sight or smell of a foe, he will stand stupidly gazing at his companions in their death-throes until the whole herd is shot down. He will walk unconcernedly into a quicksand or quagmire already choked with struggling, dying victims. Having made up his mind to go a certain way, it is almost impossible to divert him from his purpose. He is as timid about his flanks and rear as a new recruit. When travelling nothing in his front stops him, but an unusual object in his rear will send him to the right-about at the top of his speed."

¹ The "Hunting-Grounds of the Great West."



AN AMERICAN BISON.

(Bison Americanus.)

“The winter of 1871-2 was unusually severe on the Arkansas. The ponds and smaller streams to the north were all frozen solid, and the buffaloes were forced to the river for water. Their retreat was to the northward. The Atchinson, Topeka, and Santa Fé Railroad was then in process of construction, and nowhere could the peculiarity of the buffalo, of which I am speaking, be better studied than from its trains. If a herd was on the north side of the track, it would stand stupidly gazing, and without a symptom of alarm, although the locomotive passed within a hundred yards. If on the south side of the track, even though at a distance of one or two miles from it, the passage of a train set the whole herd in the wildest commotion, at full speed, and utterly regardless of the consequences it would make for the track on its line of retreat. If the train happened not to be on its path it crossed the track and stopped satisfied. If the train was in its way, each individual buffalo went at it with the desperation of despair, plunging against or between locomotives and cars, just as its blind madness choosed to direct it. Numbers were killed, but numbers still pressed on, to stop and stare as soon as the obstacle had passed. After having trains thrown off the track twice in one week, conductors learned to have a very decided respect for the idiosyncrasies of the buffalo, and when there was a possibility of striking a herd ‘on the rampage’ for the north track, the train was slowed up, and sometimes stopped entirely.”

Next to war the American Indians love the chase, and buffalo hunting was not only a necessity with them, but a pleasure. Murphy, in his “Sporting Adventures,” states that some tribes still prefer to stalk the buffalo, and use their bows and arrows in preference to fire-arms, which terrifies the herds, and produces a stampede that clears the country of game in a very short time. “Their favourite mode of hunting now, is to make a surround on horseback, and slay right and left until they become weary, and if this drives the buffaloes away, they follow them up as fast as the squaws can prepare the meat and attend to the hides. I have seen some surrounds of the Sioux and Pawnees, and were the scene not made picturesque by the wigwams, the numerous and almost naked warriors, and the bustle and excitement of galloping

steeds and herds, I should say that it was not so inspiring or successful as a drive organized by western hunters or sportsmen.

“The half-breeds of portions of British America organize regular hunts also, and on such occasions they take all their household effects with them. The women and children are stowed away in rude carts, and the men ride the mustangs which are to play so prominent a part in the chase. As the long cavalcade winds over the grass-clad prairie, made gay with many species of brilliant wild flowers, it presents an inspiring sight, and recalls in a small way the advance of an army. When it reaches the buffalo-grounds a camp is pitched in a convenient locality, close to wood and water if possible, and after that is done the leader takes his men to the leeward of a herd, and distributes them in such a manner that they may be able to drive it towards the encampment, in order to avoid as much trouble as possible in gathering up the meat. They sometimes place buffalo “chips” in such a manner on the prairie, as to make them look like men, and when the herd see these, it breaks away from them and heads perhaps for the camp, where another party of hunters is ready to receive it. When everything is arranged, the men close in gradually on the thousands of shaggy creatures that dot the plain, probably as far as the eye can see, and on arriving within charging distance they dash on at the best speed of their horses. Then commences a scene to which no pencil can do full justice. The alarmed throngs, on seeing their foes, break away in wild terror, the cows being generally at the head of the column owing to their greater fleetness and lightness, and the calves being next to them, while the burly bulls close the rear and flanks. This terrified host causes the ground to fairly tremble beneath its weight, and the noise of its movements may be heard a long distance off, as it is not unlike the roar of an advancing hurricane.

“When the hunters range alongside the crowding multitude, they use rifle and revolver so rapidly that the noise sounds like the firing of a heavy body of skirmishers. They require few shots to kill an animal, one or two being generally sufficient, for their trained buffalo-runners carry them so close to the herd that a bullet can be planted in whatever portion of the body the hunter

wishes. The result is, that in a run of perhaps twenty miles, a thousand or two animals may be lying on the ground, and in some instances double that number. When the recall is sounded, the horsemen return and devote their attention to the wounded, and soon put them out of their misery. The carts follow the hunters and gather up the meat, and the greater portion of that is, in a few hours, ready to be placed on the drying stages, while the hides are being prepared for drying. When the expedition returns after the grand hunt, which sometimes lasts for weeks, its members have meat enough to feed them for several months, and many a buffalorobe with which to provide clothing and luxuries for their families."

The slaughtering of the buffalo was, however, accomplished differently by different tribes. The Middle Plains Indians were to some extent careful of the buffaloes, and did nothing that would tend to drive them from their district. The Dacotas were quite the reverse, being exceptionally improvident in this respect. The Cheyennes and Arrapahoes employed the "surround" in their hunts, while the Pawnees used to kill the beasts by driving the herds over precipices, and in this way slaughtered immense numbers. The Kiowas and Commanches were reported as invariably using the lance as their hunting-weapon, and it was none the less deadly because silent.

The early missionaries of the Jesuits, and the enterprising French voyageurs, who were among the first white men to penetrate into the valley of the Mississippi, gazed with wonder on the stupendous herds of buffaloes that they found grazing on the prairies of Illinois and bordering states. The animals appeared to be in undisturbed possession of the whole country. Thousands upon thousands were constantly before the travellers. These herds, in fact, had then no enemy against whom they could not successfully contend, except the Indian hunters, who at certain seasons came out in bands against them, but whose greatest efforts could only make such a slight, temporary diminution in their numbers, that it would be more than compensated for by the natural increase of the year. Occasionally also, a prairie fire might drive them in panic-stricken flight from some chosen plain, but otherwise they were unmolested from one year's end to another. This was at

the end of the seventeenth century. Now, two hundred years later, the picture is a changed one. Indians and white men, sportsmen and trappers, fur-dealers and squatters, the tax-payers of the United States and Canada, and the statesmen of both these countries, bemoan the disappearance of the buffalo. For in a few more years the animal will be extinct, and classed with the mastodon among the mammals that "have been." Several newspapers during the last few months, have made the statement, which is said to emanate from a government source, that the vast herds of buffaloes have become so reduced, that the few left do not number in the aggregate a thousand head, and even this remnant of the millions are scattered over a territory half as big as Europe proper. These figures are no doubt an incorrect estimate, and the number of the animals in all America must be considerably in excess of any such limit, for besides the herd in British territory there is another one protected by the United States Government in the Yellowstone Natural Park, and a few still exist on the plains between the James river and the Missouri, and about the forty-sixth parallel, also in other places, but the fact is beyond controversy, that they are diminishing with fearful rapidity, and for practical purposes are already extinct. In Dakota, a few months ago, an old bull buffalo was driven into Fort Meade along with a lot of domestic cattle by the cow-boys, and he was supposed to be the last of his race in that State, for if he had any fellows the most diligent search failed to find them or their traces.

The extension of the various towns and villages, the constant settlement of new lands, and the steady increase in the population of America, gradually drove the buffaloes into a narrower belt of country in the interior, and here the white man, and the red man, since he has learnt the use of powder and shot, have simply butchered the animals in such a reckless, foolish manner, that if they had been engaged to accomplish their extermination in a given time, it could hardly have been done more thoroughly. Animals were killed by every man and boy that carried a rifle or a gun, and could get, or accidentally came within range of them, and this was done merely for the sake of killing, for the body, just as it fell, would in thousands of instances be left to rot.

Mr. J. A. Allen,² in his able monograph, published over ten years ago, writes: "When stress of weather for instance, or other circumstances have brought these animals within the hunters' power, scores and even hundreds have often been killed by single parties, already so well supplied with the products of the chase that they had no need for, and could make no use of the animals thus destroyed. The buffaloes, from their great numbers and the little tact required in their capture, have probably been the victims of indiscriminate, improvident, and wanton slaughter, to a greater extent than any other North American animal. As already stated, thousands are still killed annually merely for so called 'sport,' no use whatever being made of them; thousands of others of which only the tongue or other slight morsel is saved; hundreds of thousands of others for their hides, which yield the hunter but little more than enough to pay him for the trouble of taking and selling them; while many more, though escaping from their would-be captors, die of their wounds and yield no return whatever to their murderers. Of the hundreds of thousands that for the last few years have been annually killed, probably less than a fourth have been to any great extent utilized. While this wanton and careless waste has ever characterized the contact of the white race with the sluggish and inoffensive bison of our plains and prairies, the Indians have likewise been improvident in their slaughter of this animal, often killing hundreds or even thousands more during their grand annual hunts than they could possibly use, or from which they saved merely the tongues."

This brutal butchery has not been confined to any particular district, but has characterized the custom of the white man and the aborigines in the territory of British North America as well as the United States; the consequence is that now every traveller across the continent has accounts to narrate of the bones and skeletons of the slaughtered buffaloes that lie bleaching on the prairies. Captain W. F. Butler, in his work "The Great Lone Land," as far back as 1872, writes: "This region bears the name of the Touchwood hills. Around it, far into endless space, stretch immense plains of bare and scanty vegetation, plains scored with

² "The American Bisons, Living and Extinct."

the tracks of countless buffalo, which until a few years ago, were wont to roam in vast herds between the Assiniboine and the Saskatchewan. Upon whatever side the eye turns when crossing these great expanses, the same wrecks of the monarch of the prairie lie thickly strewn over the surface. Hundreds of thousands of skeletons dot the short, scant grass; and when fire has laid barer still the level surface, the bleached ribs and skulls of long-killed bison, whiten far and near the dark, burnt prairie."

An engineer who a short time ago accompanied a surveying expedition across the regions where a few years before buffaloes were to be seen in such numbers that the plains were blackened with them, reported that 6500 carcasses were counted in one spot, and a short distance further on hundreds more were found. He also stated that along one of the river-courses there were upwards of two thousand hunters in camps waiting for the buffaloes, and one party of sixteen informed him that they alone had killed no less than 2800 animals during the previous summer. Taking a very much smaller number than this as an average, and still the fearful slaughter remains almost incredible, but conveys the idea of how the millions of buffaloes have been reduced to a few hundreds.

In the Canadian north-west territories, which were once the limits of the buffaloes' northern migration, and where they were always to be found at certain seasons of the year in enormous numbers, none are now to be seen. On these plains, as elsewhere, they were wantonly slaughtered, not so much by the white men, for the territories were not so easily accessible until lately as other places in the United States where the animals abounded, but by the Indians, instigated by the traders from Montana, who gave them whisky in exchange for hides. In this manner one firm alone is reported as having procured 40,000 skins in a season. But the annual massacre did not effect their extermination on Canadian soil. The remnant of the mighty herds, consisting of many thousands, left these territories about ten years ago on their usual migration southward, and having crossed the international line they never returned.

The majority of them fell victims to the rifles of the hunters, and as the range of the buffalo was prior to this date becoming yearly more restricted, it is probable that the survivors were content with a northerly limit south of Canadian soil. Anyhow, on the north-west plains the buffalo will feed no more.

The only animals of the species existing in a natural condition in the Dominion are those which are to be found in the barren grounds between the Peace and Mackenzie rivers in the neighbourhood of Great Slave Lake. On these lands the buffalo and musk ox are still to be seen in fair numbers. Although the animals have been to a great extent free from molestation by the hunters in this northern territory, yet as thousands of skulls are to be seen by the travellers who cross this district in the summer time it is evident that they succumb to the rigour of the climate. The trappers account for the bleaching bones by stating that about fifty years ago the snow fell to a depth of fourteen feet, and completely enveloping the animals, they perished by thousands.

The competition among the trading companies has undoubtedly been the chief cause of the unrestrained slaughter of the animals, for they encouraged the Indians in season and out of season to bring them hides or tongues. It was no doubt a profitable business while it lasted, for the market for both these articles eagerly bought all that could be procured, and the unsophisticated red man was easily persuaded to part with his robes or tongues for a very inadequate return, effected by the medium of bartering blankets in exchange, or whisky, powder and shot, beads, or some inexpensive trash; but now this business is dead, or dying. When Catlin visited one of the fur company's forts on the Missouri in 1832, he was told by the head man and his clerks, that only a few days before he arrived an immense herd of buffaloes had shown themselves on the opposite side of the river, almost blackening the plains for a great distance; upon seeing them a party of five or six hundred Sioux Indians, on horseback, forded the stream, and in a few hours returned, and coming into the fort threw down in a mass *fourteen hundred fresh buffalo tongues*, for which they requested but a few gallons of whisky. This was

given them, and it was soon consumed in a carouse that followed. Not a skin, or a pound of meat, except the tongues, for the Indian camp was well-stocked, was brought in as the result of this hunt. This is only one instance of hundreds that were of monthly occurrence, wherein such profligate waste was encouraged by the white men, who now when too late see the mistake they have made.

The railroads opening up fresh country so rapidly have also been conducive to the slaughter of the buffaloes. The *Boston Herald* lately stated that a curious feature of a once important branch of trade in St. Paul, Minnesota, is the fact that the entire "catch" of buffalo robes in 1884 was but *four*, while in 1883 the "catch" was 10,000. In 1881, the year after the Northern Pacific was open through to the Little Missouri, the north-western traders got in over 100,000 robes. The procuring of so large a number was owing to the railway having been utilized by the hide-hunters, and the buffaloes happened to be south of the line, within reaching distance of the Missouri and transportation. No wonder there are no more buffaloes, the marvel is the herds stood the slaughter as long as they did before being exterminated.

Every way in which it was possible to get a shot at the animal was taken advantage of. The writer of an article in *Harper's Magazine* for 1869, on the buffalo range, observes: "A few months since passengers on the way to Denver and Salt Lake, by the Smoky Hill route, had frequent opportunities of seeing herds of buffalo from the cars of the Union Pacific Railroad, and on several occasions the buffalo were sufficiently close to the trains to be killed by shots from the car windows and platforms; the engineer being accommodating enough to slow the locomotive sufficiently to keep pace with the buffalo, which were seemingly engaged in a race with the iron horse. When buffalo were killed the train was stopped, the game secured being granted a free ride in the baggage-car. It would seem to be hardly possible to imagine a more novel sight than a small band of buffalo galloping along within a few hundred feet of a railroad train in rapid motion, while the passengers are engaged in shooting from every available window, with rifles, carbines, and revolvers. An American scene certainly!"

To the large population of Indians that were the original inhabitants of the soil, and were scattered over its vast plains in tribal bands, the buffalo was everything. So much so that the value of the animal to these people is hardly to be fully realized by the civilized inhabitants of settled countries. The Sioux, the Pawnees, the Crowes, the Blackfeet, Commanches, Cheyennes, Delawares, and the numerous other bands whose names used to strike terror to the hearts of the pioneers of civilization in their steady advance towards "the land of the setting sun," relied almost entirely upon the success of their buffalo hunts for all articles necessary to their existence: the fur robes, so eagerly sought for by the traders at a later date, formed their beds, and gave them protection in the winter against the biting cold of the country, or the hide, tanned into leather, made their clothing or material for their teppes or tents, also for their moccasins; cut into strips, it was laced upon their snow-shoes, or made lines for their fishing-nets; then the flesh was either eaten fresh or dried into pemmican for winter use; the horns and bones were shaped into implements or weapons, in fact every part was utilized. Thus, with the herds of buffalo living alongside them, the Indians were comparatively well to do and independent, savages it is true, but in their way, and by comparison with their present condition, worthy of some respect. Without these animals, many of the tribes are in a miserable, starving, and contemptible condition, for being too lazy to work, till the soil, or even to devote their time to stock-raising, which, it was thought, might be an employment more natural to their taste, they become completely dependent on the respective governments having jurisdiction over the territories in which their reserves are situated to keep them from absolute starvation.

The restriction of their liberty and their dependent position as pensioners of the State, are the sources of the Indians' perpetual condition of discontent; for they are always ready on the slightest temptation or encouragement to quit their reserves, don the paint, and go upon the war-path, when the fierce, treacherous, cowardly, and bloodthirsty nature of their race reasserts itself, and the murder, mutilation and scalping of innocent and harmless men women, and

children, becomes the order of the day. The United States have had this fact instilled into them by several Indian wars; and Canada in the olden days, and even lately in the Riel rebellion, has also been taught a lesson. That the lot of the Indian is a hard one, and is made still harder through the rapacity and villany of certain officials with whom they have to deal, is beyond question, but the unlimited slaughter caused by the absence of Government protection, and consequent annihilation of the buffalo, has enforced a problem on the colonists of the new world that taxes the efforts of the wisest statesmen to solve satisfactorily. But in this instance, time is all that is required, for the race of the red man, the inhabitant of the American wilderness, is a doomed one.

Captain Butler,³ in describing these native Indians whose homes have been upon the wild, treeless, ocean-like prairies from time immemorial, and whose extinction is now probably close at hand, writes:—

“Back, since ages at whose birth we can only guess, but which in all human probability go deeper into the past than the reign of Arab in Yemen, or Kirghis in Turkestan, the wild red man has roamed these wastes: back into that dark night which hangs for ever over all we know or shall know of early America. ‘The time before the white man came:’ what a measureless eternity lies hidden under the words! This prairie was here when the stones of the pyramid were unhewn, and the site of Babylon was a river meadow—here as it is to-day, treeless, desolate, and storm-swept. But when and whence came the wild denizens of the waste? Who shall say? Fifty writers have broached their various theories, a hundred solutions have been offered. The missionary claims them as the lost tribes of Israel, one ethnologist finds in them a likeness to the Tartar, and another sees the Celtic eye, another the Roman nose, another traces them back to Japan, or China, or Australasia; the whole world is scarcely large enough to give them room for their speculations. And what say we? Nothing; or if aught, a conjecture perhaps more vague or shadowy than the rest. It has seemed to us when watching this strange, wild, hunter, this

³ “The Wild North Land,” 1873.

keen, untutored scholar of nature, this human creature that sickens beneath our civilization, and dies amidst our prosperity—it has seemed to us that he was of a race older and more remote than our own, a stock coeval with a shadowy age—a remnant perchance of an earlier creation which has vanished from the earth, preserved here in these wilds—a waif flung by the surge of time to these later ages of our own. . . .

“So much for the earlier existence of the human dweller on the prairie; to us he is but a savage—the impediment to our progress—the human counterpart of forests which have to be felled, mountains which must be tunnelled, rivers whose broad currents are things to conquer; he is an obstacle, and he must be swept away. To us it matters not whether his race dwelt here before a Celt had raised a Druid altar. The self-styled heirs to all the centuries reckon little of such things.”

Side by side with these Indians, legions of the buffalo have also dwelt, and the fate of these twin owners of the soil appear so closely bound up together, that by the extermination of the one the doom of the other has been sounded, and, as Captain Butler remarks, the Indian is aware of this himself.

“‘What shall we do?’ said a young Sioux warrior to an American officer on the Upper Missouri some fifteen years ago. ‘What shall we do? The buffalo is our only friend. When he goes, all is over with the Dacotatis. I speak thus to you because, like me, you are a brave.’

“It was little wonder that he called the buffalo his only friend. Its skin gave him a house, its robe a blanket and a bed, its undressed hide a boat, its short, curved horn a powder-flask, its meat his daily food, its sinew a string for his bow, its leather a lariat for his horse, a saddle, bridle, rein, and bit. Its tail formed an ornament for his tent, its inner skin a book in which to sketch the brave deeds of his life, the ‘medicine-robe’ of his history. House, boat, food, bed, and covering, every want from infancy to age, and after life itself had passed, wrapt in his buffalo robe the red man waited for the dawn.”

The buffalo being so necessary to their well-being, it is only natural to think that when the herds showed signs of decreasing

in numbers that, if for no other reason than that of self-interest, the Indians would have been prompted to take some steps to save the animals from the wanton slaughter of their hunters; but they did quite the reverse, and latterly actually encouraged the extermination by allowing the animals to be killed when their food and wants had been supplied, which at one time they would not permit. The improvidence that characterizes the savage has in this instance been again exemplified.

Next to the hunters, the most deadly enemies to the buffalo are the wolves, bears, and pumas, or cougars, as they are locally called. The wolves especially are perpetually prowling round the various herds, who take but little notice of them, for it is only a sick calf or a wounded animal that becomes their victim, as the bulls who feed on the outer circle of the herd form a protection to the cows and calves which keep in the centre, and the wolves never attempt to force the outer barrier, for a buffalo bull with his temper roused is more than their match. Even the grizzly bear, the most powerful beast of America, gets frequently the worst of it when he ventures to attack an animal whose horns are in good condition. According to Catlin, there were several varieties of wolves in the country, but the ones that were the most formidable and numerous were the white species. These brutes hunted in gangs of fifty or sixty in number, and appeared in the distance on the green prairies like nothing but a flock of sheep. The Indians used to avail themselves of the fact that buffaloes when herded together seem to have but little dread of wolves, and allow them to approach to very close quarters, for they would cover their bodies with the skins of these animals, and by crawling upon hands and knees they easily drew near the herds without raising any suspicion, and in this way were able to select and shoot down the fattest and the biggest.

Catlin makes the remark that "at present, whilst the buffaloes are so abundant [1832] and these ferocious animals [wolves] are glutted with the buffalo's flesh, they are harmless, and everywhere sneak away from man's presence; which I scarcely think will be the case after the buffaloes are all gone, and they are left, as they must be, with scarcely anything to eat."

That his supposition is correct is evident from the numerous complaints so frequently seen in western newspapers at the present day about the ravages committed on live-stock and dogs by wolves which are forced by hunger, through the absence of buffaloes and other wild animals, to hang about the more settled districts of the country, and even in the desperation induced by starvation to become dangerous to women and children, so that a regular war of extermination is being waged against them.

The railway companies were considerable sufferers from the damage the herds of buffaloes would cause their property. The animals soon discovered that telegraph-poles were first-rate rubbing-posts, and the vigorous way they used them resulted every now and then in hundreds of them being knocked down. It was no use ornamenting the poles with nails, for to their tough hides this only appeared to increase the pleasure they derived from the operation.

Even steamers on the rivers were inconvenienced by them, for on the Upper Missouri they often had to stop for hours to allow herds swimming across to get out of the way.

There are generally a pair of buffaloes on exhibition in the gardens of the Zoological Society at the present day, but until within a comparatively late period they were but rarely to be found in any collection.

Probably the first account of one of these animals being seen in a captive state by a European was given by Cortes in his description of Montezuma's menagerie which has already been described. De Solis states that the Spaniard found "lions, tigers, bears, and other of the savage kind which New Spain produced, among which the greatest rarity was the Mexican bull, a wonderful composition of divers animals. It has crooked shoulders, with a hunch on its back like a camel; its flanks dry, its tail large, and its neck covered with hair like a lion. It is cloven-footed, its head armed like that of a bull, which it resembles in fierceness, with no less strength and agility."

It is quite possible that specimens may have found their way to Europe prior to this date, but no work we can find refers to the

animals, although Steven says he saw the skin of one that had been dried in Spain ; but this statement is hardly evidence of the beast ever being there, and he may also have been mistaken with respect to the nature of the hide.

The flesh of the buffalo is very good eating, and although a little coarser is better flavoured than a great deal of the beef that is consumed, and by careful treatment, if domesticated, these animals might be made as useful for food as the oxen at present reared for that purpose, for the quality of the meat becomes under these conditions vastly improved. If the government of the United States took the matter up even at this late period, and extended the protection they give to the animals in the Yellowstone Park,—where it has been stated they do not thrive—to every remnant of a herd existing in the country, buffaloes might yet be saved from extinction. Farms for preserving and raising the stock should be encouraged, and if used for no other purpose than the feeding of the numerous bands of Indians that are now pensioners upon their bounty, they would be of the greatest service. The experiment of domesticating these animals, and utilizing them as beasts of burden and for slaughtering, has already been tried on a small scale on many farms, and some have met with considerable success. Mr. Bedson, the governor of Stony Mountain Penitentiary, fourteen miles from Winnipeg, has a herd of sixty buffaloes, and they are yearly improving and increasing, so the preservation of the breed is quite feasible. The hides are of more value than those of any species of domestic animal, and in this item alone would compensate for a considerable portion of the expense, especially if the robes were given to Indians to tan, for those tanned by white men are incomparably inferior to and of less value than those known in the trade as Indian tanned. For the red man takes a lot of pains, and besides has a method which, while it makes the skin pliable, does not reduce its thickness to hold the hair, or its capabilities of withstanding rough usage, which are the essential features of a good buffalo robe—an article of considerable importance to the dwellers in the cold regions of America.

CHAPTER XXIII.

THE BUFFALO (*BUBALUS*).

THE powerful animals known by this name are found in their wild state in Africa and India, and in a tame condition over Asia, North Africa, and the south of Europe.

The Indian buffalo (*Bubalus bubalus*) is a species perfectly distinct from its congener at the Cape. It is this animal which has been domesticated, and in this condition has been spread over the other countries of Asia, also over Egypt, and into Greece, Italy, and Spain. Its strength, endurance, and hardihood make it a very valuable beast of burden, and, strange to say, although it has been bred and employed by man for ages, yet the race exhibits but little variation from its original form, as is still shown in the wild animals of the same species.

Its introduction into Italy was somewhere towards the end of the sixth century, and in course of time it became thoroughly naturalized. Some of the old Italian chroniclers, who wrote about this period, describe the "wild ox from pagan lands" as of fierce disposition, and, in consequence of its great strength, enormous horns, red eyes, and savage aspect, as creating great terror in the minds of the people. However, its evident utility soon overcame any fear which its appearance may have inspired, for the great breadth of its feet, which somewhat resemble those of a reindeer, enabled it to traverse the swampy, marshy districts so abundant in Italy, where the roads were frequently two and three feet deep in mud, and as a beast of burden it had therefore a decided advantage in localities of this description over the horse and ordinary ox. It was also soon discovered that the buffalo throve best in the malaria-infected districts, and even to this day those animals that feed on the pesti-

lential marshes of the south, are found to be in better condition than the beasts occupying drier and healthier regions.

The prodigious strength of these tame buffaloes can be understood by the following facts which came under the personal observation of an Italian officer, who contributed the details to the author of "The Menagerie."

"During the building of the new theatre at Parma by Maria Louisa (Buonaparte's widow), I have seen six, and, I believe, sometimes eight buffaloes, transport one by one the immense columns of the façade, which are all of one piece of marble, and of a weight that you may conceive from their size and material. This they did with such ease as surprised everybody, while I am convinced from experience that twenty-four of our best oxen would not have been able to move one of the columns. These marble columns were brought as near as Sacca, on the River Po, by water, but from Sacca to Parma is a distance of more than twelve miles, and this the buffaloes performed in one stage without stopping.

"As to the passage of the bridge on the Taro, where I witnessed another extraordinary proof of the strength of these animals, the fact was simply this. Marshal B—— had been on business at Parma, and was in a great hurry to return to Milan. I was charged by Maria Louisa to attend him as an escort of honour as far as Piacenza. We set out in horrible weather, and it had rained the whole of the preceding night and day. On arriving at the Taro, we found that torrent in a fearful state, nor was it possible to pass it except by the new bridge which was not yet finished. Nobody had yet passed it, and the approaches to it on either side (the bridge being built very high) were not only steep, but composed of deep, loose earth, which had not been beaten or secured. It was determined, however, that we should attempt the ascent; but scarcely had we got a third of the way up, when the carriage sank in the mud to the axles of the wheels, and stuck fast in spite of the efforts of four excellent post-horses, and two pairs of oxen put to, to assist them. After toiling for an hour, the thought came into my head to try buffaloes, of which I saw some on the opposite side of the torrent. Only one pair was brought over to us, and the oxen being removed, these animals were put to, in front of the

foremost pair of horses. Although the horses were almost exhausted by the labour they had undergone, and one of them, frightened at the unusual company of the buffaloes, offered resistance rather than assistance, yet this single pair of robust animals, snorting and blowing a little at first, moved the carriage and dragged it upon the bridge. While thus ploughing with the carriage axle-tree deep, they were themselves nearly up to the chest in mud. B—— could scarcely credit the evidence of his senses. When we were about half-way over the bridge, the peasants who had gathered round the carriage to lend a hand or to obtain a present, making a little confusion, and, as usual with them, a great deal of noise, one of the buffaloes took fright and became unmanageable, and thus exposed not only the marshal, carriage, horses, and postillions, but your humble servant, the escort of honour, to the hazard of being drowned in the roaring torrent below, for our new bridge had neither parapets nor any kind of protection at its sides. Having caused the peasants to make a retrograde movement and hold their tongues, we waited the event. The restive buffalo, on finding itself alone with its master or conductor, who then ventured to approach and caress it, immediately became quiet, and, with his companion, dragged the marshal's carriage safely over the bridge. We had then to pass my own carriage, and this was done with equal ease by the same pair of buffaloes. In campaigns I have served in, how many pieces of artillery we were obliged to abandon, might have been saved by means of buffaloes !”

These domesticated animals possess one disadvantage, for they inherit the love of water, which is a marked characteristic of the wild race, and as soon as they see a pool or a piece of swampy ground, they will if not prevented in time make straight for it, and yielding to their natural instinct plunge into it or lie down for a roll in the mire, which are not proceedings calculated to improve the goods wherewith they may be laden.

The buffalo even in a domesticated state is a courageous animal. “A number of them together,” writes Mr. Sterndale,¹ “will not hesitate to charge a tiger, for which purpose they are often used to drive a wounded tiger out of cover. A herdsman was once seized

¹ “Natural History of the Mammalia of India and Ceylon.”

by a man-eater one afternoon a few hundred yards from my tent. His cows fled, but his buffaloes hearing his cries rushed up and saved him.

“The attachment evinced by these uncouth creatures to their keepers was once strongly brought to my notice in the Mutiny. In beating up the broken forces of a rebel Thakoor, whom we had defeated the previous day, I, with a few troopers, ran some of them to bay in a rocky ravine. Amongst them was a Brahmin who had a buffalo cow. This creature followed her master, who was with us as a prisoner, for the whole day, keeping at a distance from the troops, but within call of her owner’s voice. When we made a short halt in the afternoon, the man offered to give us some milk; she came to his call at once, and we had a grateful draught, the more welcome as we had had nothing to eat since the previous night. The buffalo saved her master’s life, for when in the evening the prisoners were brought up to court-martial and sentenced to be hanged, extenuating circumstances were urged for our friend with the buffalo, and he was allowed to go, as I could testify he had not been found with arms in his hands; and I had the greatest pleasure in telling him to be off, and have nothing more to do with rebel Thakoors. Jerdon says the milk of the buffalo is richer than that of the cow. I doubt this. I know that in rearing wild animals buffaloes’ milk is better than cows’ milk, which is far too rich, and requires plentiful dilution with water.”

The wild buffalo is known in India by the name of *arna*. It is so similar to the well-known tame species that a minute description of it is almost superfluous. If anything it is somewhat larger and stronger built. The hair, which is rather scanty, is dusky black. The forehead is rounded, and the extremely thick body is supported by stout muscular but rather short limbs. Its extreme length is between ten and thirteen feet from snout to the root of the rather short tail, and its height at the shoulder upwards of six feet. The horns of this buffalo vary very much in size, length, and curve. Some animals are seen with them remarkably long and straight, inclining well back over the neck and shoulders, and others have much shorter ones but curved, and the tips pointing upwards. Sometimes these horns attain a tremendous length. A

horn in the British Museum measures six feet six inches in length, and when on the skull the pair must have had an outer curve measurement of nearly fourteen feet. There is also another pair there attached to the skull, which belonged to an animal killed in Assam by Colonel Mathie, and they measure twelve feet two inches from tip to tip across the forehead.

Colonel Pollock² states that the largest animal he ever killed was twelve feet to the root of the tail, and the tail two and a half feet long, the height six feet two inches, size of horns round the outer circumference ten feet four inches, and five feet between the tips. "I killed a cow," he writes, "with horns ten feet eight inches, and I have seen them killed up to twelve feet, but these are getting very scarce now. I had in my possession a head of a cow-buffalo that measured thirteen feet eight inches in circumference, and six feet six inches between the tips, the largest buffalo's head in the world. I believe I gave them to the late Lord Mayor; they belonged to a cow potted by a policeman from a tree! The thickest horns I ever had were from a bull I killed in Burmah; they were not long, being of the curved kind, but the girth of one horn was twenty-seven inches and the other twenty-six and a half inches."

Wild buffaloes inhabit the dense jungles to be found near swampy or marshy ground. They are occasionally found in the Terai below Nepaul, and are numerous at the foot of the hills between Oude and Bhotan, also in the plains of lower Bengal and in the eastern portion of the game teeming jungles of Raipur of central India, also in Assam, Ceylon, and Burmah.

The animals to be found in these latter places are generally of a larger size than those seen elsewhere. "The Burmese buffaloes," according to the previously quoted author, "have huge heavy horns, much curved, as a rule, but the other variety with long straight horns is also found, but less plentifully; they inhabit remote swampy districts, and at times do a good deal of damage to the crops, as they are fearless, and often will not be driven off; they herd with elephants and rhinoceros, and occasionally with bison, but as a rule the bison inhabits different

ground. I have seen buffaloes lying down in the same mud-hole with a rhinoceros, whilst elephants have been grazing not far off; as a rule, whatever else he may be frightened at, a Burmese elephant cares little for a buffalo, he is so used to them both in the wild and the domesticated state." These animals associate together in small herds, eighteen or twenty may occasionally be found, but as a rule the numbers are under these figures.

The buffalo is a fierce and savage animal, and will frequently charge without the slightest provocation. It is also described as being of a treacherous disposition, for if one becomes detached, or has been driven from the herd he gets morose and will lie in wait and attack anything, man or animal, that comes in his way. In this respect he is more dangerous than a rogue elephant, and natives frequently come to an untimely end by accidentally encountering a solitary bull of this description, when passing through a jungle, or even when cultivating their crops.

The danger attending buffalo-stalking in such a country as Assam was clearly demonstrated by an adventure Captain Baldwin met with. The account is taken from his book, "The Large and Small Game of Bengal." Accompanied by a single native, he entered the jungle, which, as he states, on account of its denseness no sane mortal should have entered, as it was almost impossible for a man on foot to see two yards in front of him. Presently a splashing in the water some little distance away attracted attention, and as it was attributed to the noise made by a large deer drinking, they proceeded to stalk it. What follows is given in his own words:—

"We advanced cautiously a few paces till we reached the spot where the deer had been standing a few moments previously. I was just pointing out to my companion the water yet trickling into the slots made by its feet, when something moved in the grass close to us. I turned round sharply, but all was again silent. There was a tunnel under the reeds and jungle, up which the deer we were following had gone. I made sure that what we had heard in the grass was the sound of this deer retreating, little thinking that a treacherous monster in the shape of an old bull buffalo was ready waiting for me; so stooping, I followed the tracks. It was

a reckless thing to do in such a spot. We were up to our ankles in mud, and the overhanging reeds, nearly meeting overhead, made it very dark. I had only taken four or five paces, and was in a cramped position, listening as I took each step, and straining my eyes to catch a glimpse of the deer's hide, when there was a crash in the jungle close to me, and before I could turn to my right and bring the muzzle of my rifle to bear, in a second of time I was hurled to the ground with astonishing quickness by a tremendous butt in the right shoulder, followed by a pair of huge knees on my chest crushing me down. My rifle had been sent flying out of my hand at the first shock, but had I retained possession of it, it could not have assisted me in the least. My companion was close behind me at the time, and I called out twice to him in Hindustani to fire, but he rendered me no assistance in the hour of need. The buffalo commenced butting me with his huge head; I was covered with foam from his vile mouth. Most luckily the ground was very soft or I must have been killed. I had fallen on my back, but managed by clutching the root of a small tree to draw myself from under him, but as I did so and turned over, he struck me a terrible blow on the back with his foot, breaking two ribs, and then I was powerless and imagined all hope of escape to be over.

“He gave me a bad wound on the left arm, another dangerous one under the armpit, a third on the hip, all with his horns, and then I found myself lifted off the ground and thrown a tremendous somersault in the air. I must here mention that on this disastrous day I happened to be wearing a pair of strong English cord pantaloons, in which the animal when thrusting at me had caught the tip of one of his horns, and in trying to get clear, or in attempting some other vicious manoeuvre, during which he succeeded in giving me another terrible gash, as I have already said, sent me flying. I believe I descended on my head, but still having a portion of my senses about me, I remained perfectly still where I had fallen. Most luckily I was half hidden by a low thorn bush, and was almost on the edge of the lake again. About four yards off, from under the bush, I could see the head and shoulders of the enemy, and, as may be supposed, I watched him

with anxiety. He was snuffing the ground where he had been pounding me. He seemed to listen for a few moments, and then, to my inexpressible relief, went to look for me in exactly an opposite direction, and presently entirely disappeared. Now or never was the time to escape. I managed to struggle to my feet, the trees and grass seemed to be whirling round me. I took twenty or thirty hurried, tottering paces along the edge of the lake, and then, bleeding fearfully, fell over insensible. The next thing I remember on coming to my senses, was my wretched companion kneeling by my side crying, and attempting to stop the bleeding of my arm."

The native, after assisting to bandage up the wounds, went for assistance, and during the night returned with some of Baldwin's friends, and he was carried to his bungalow, where he lay for many weeks before recovering, which gave him plenty of time to ponder over the lesson he had been taught with respect to the care required when shooting in the jungle to avoid the chances of meeting an old bull buffalo.

The animal that was the cause of his troubles received his desserts shortly afterwards; for Baldwin's brother officers, bent on revenge, crossed on a number of elephants into the swamp that had been the scene of the disaster, and speedily found the old bull at home. He charged them once and died game, with his carcass riddled with bullets.

The Cape buffalo (*Bubalus caffer*) is readily distinguished from its Indian congener by the shape of its horns, for they are very broad at the base, and the roots so nearly meet on the top of the head that the whole forehead appears covered and protected by them.

This species was once well distributed in herds over the plains of central and southern Africa, but gradually and surely they are now decreasing in numbers, and being driven further back, for the hide is of value, and in consequence of late years the animals have been subjected to an incessant hunting. In a few more years, if the slaughter continues, the Cape buffalo in common with the African elephant will be nearly as scarce as the bison on the American prairies.

Buffaloes "have only two enemies," writes the Hon. W. H. Drummond³—"man and lions; but as the former follows them through the livelong day, often wounding when he does not kill, and the latter takes up the chase at nightfall, and unless he catches one does not retire till daybreak, whilst both occasionally change their times—the lion, pressed by hunger, following them during the daytime, while the hunter spends the night in ambush near their drinking-hole—it is not to be wondered at that in places where, even in my own day, herds varying from ten to a hundred were common, there are not now ten head in all to be found."

It is very seldom, however, that a single lion will attack a full-grown buffalo. It frequently happens that even when a calf has fallen his victim, the cow will rush to the rescue, and a toss from her often kills him. Dr. Livingstone speaks of his finding one or two lions killed this way, and says, "the amount of roaring heard at night, on occasions when a buffalo is killed, seems to indicate that there are always more than one lion engaged in the onslaught. On the plain, south of Sebituare's ford, a herd of buffaloes kept a number of lions from their young by the males turning their heads to the enemy. The young and the cows were in the rear. One toss from a bull would kill the strongest lion that ever breathed."

The Cape buffalo is the most ferocious of all the Bovidae family, and by many hunters is considered the most formidable of all South African wild animals, for they maintain, probably with some truth, that there are more lives lost through buffaloes charging than are due to the fangs of lions or the onslaught of elephants.

Dr. Holub, to whose recent account of "Seven years' residence in South Africa," reference has previously been made, observes: "Nothing can exceed the cunning that a buffalo will exhibit when it is wounded or infuriated. Having better powers of discrimination, it is more wary than a hippopotamus, and consequently is not so dangerous to an unarmed man; but once provoked it will fight to the bitter end. It generally makes a little retreat, and conceals itself behind a bush, where it waits for the hunter, and when he comes up makes a dash at him. Attacks of this kind

³ "The Large Game and Natural History of South and South-East Africa," 1875.

are by no means unfrequent, and huntsmen of considerable experience have been known to be outwitted and seriously injured by these South African buffaloes. Sometimes the angry brute will content himself with tossing its victim into the air, in which case the mischief is generally limited to the dislocation or fracture of a limb; but far more often it holds its antagonist down upon the ground, whilst with its feet it tramples him to death. I heard of an instance on the Limpopo, where a white man and three negroes were killed, and a fourth negro much injured, all by a single buffalo bull."

Buffaloes do not charge with their heads lowered in the way that artists generally depict, but on the contrary hold them straight out, a position which keeps the horns well back over the shoulders. Just before striking, however, the head is lowered so that the horns can be utilized.

Selous, after his experience in shooting nearly 200 buffaloes to his own rifle, and following very many of them into thick bush, gives it as his opinion that, although many accidents happen in the pursuit of these animals, the danger incurred in hunting them is marvellously exaggerated. "I know," he remarks, "of several instances where buffaloes have charged suddenly, and apparently in unprovoked ferocity, upon people who never even saw them until they were dashed, in many cases mortally wounded, to the ground; but I believe that, in at any rate the majority of cases, if the whole truth could be made known, these buffaloes would be found to have been previously wounded by some other hunter, and finding themselves suddenly confronted by another sportsman in the thicket or patch of long grass, to which they have retired to brood over their injuries, at once rushed upon the intruder, perhaps more from the instinct of self-defence than anything else."

This is conjecture, but even accepting it as the solution of the matter, yet other animals do not develop the same tendency to attack, and certainly the number of deaths with which the Cape buffalo is credited inclines the majority of people to agree with the sportsmen who have formed the conclusion that it is the most dangerous beast.

On one occasion Selous pursued two old buffalo bulls, and overtaking them twice endeavoured to fire at one of them, but the gun did not go off in consequence of the cap having fallen from the nipple, when the animal, entering a patch of short thick mopani bush, stopped suddenly, wheeled round, and came on at once, as soon as he caught sight of the horse, with his nose stretched straight out and his horns laid back, uttering the short grunts with which these animals invariably accompany a charge. The hunter observes :—

“There was no time to be lost, as I was not more than forty yards from him ; so, reining in with a jerk, and turning the horse at the same instant broadside on, I raised my gun, intending to put a ball, if possible, just between his neck and shoulder, which, could I have done so, would either have knocked him down, or at any rate made him swerve ; but my horse, instead of standing steady as he had always done before, now commenced walking forward, though he did not appear to take any notice of the buffalo. There was no time to put my hand down and give another wrench on the bridle (which I had let fall on the horse’s neck), and for the life of me I could not get a sight with the horse in motion. A charging buffalo does not take many seconds to cover forty yards, and in another instant his outstretched nose was within six feet of me, so, lowering the gun from my shoulder, I pulled it off right in his face, at the same time digging the spurs deep into my horse’s sides. But it was too late, for even as he sprang forward, the old bull caught him full in the flank, pitching him, with me on his back, into the air like a dog. The recoil of the heavily charged elephant-gun, with which I was unluckily shooting, twisted it clean out of my hands, so that we all, horse, gun, and man, fell in different directions. My horse regained its feet and galloped away immediately, but even with a momentary glance, I saw that the poor brute’s entrails were protruding in a dreadful manner. The buffalo, on tossing the horse, had stopped dead, and now stood with his head lowered within a few feet of me. I had fallen in a sitting position, and facing my unpleasant-looking adversary, I could see no wound on him, so must have missed, though I can scarcely understand how, as he was very close when I fired.

“However, I had not much time for speculation, for the old

brute, after glaring at me a few seconds with his sinister-looking, bloodshot eyes, finally made up his mind, and with a grunt rushed at me. I threw my body out flat along the ground to one side, and just avoided the upward thrust of his horn, receiving, however, a severe blow on the left shoulder with the round part of it, nearly dislocating my right arm with the force with which my elbow was driven against the ground, and receiving also a kick on the instep from one of his feet. Luckily for me he did not turn again, as he most certainly would have done had he been wounded, but galloped clean away."

"The first thing to be done was to look after my horse, and at about 150 yards from where he had been tossed I found him. The buffalo had struck him full in the left thigh; it was an awful wound, and as the poor beast was evidently in the last extremity, I hastily loaded my gun and put him out of his misery."

Drummond also had two or three ugly adventures with these buffaloes, and nothing but his strong nerve saved him on each occasion from being killed by the ferocious beasts. In one case, when he had to lie still in order to sham death, the animal, to see whether he was really dead or not, began to lick him over with his file-like tongue, which, as it in several places nearly rubbed the skin off, was, as he remarks, an ordeal most trying to undergo without moving. However he accomplished his purpose. Once, when he was pig-sticking with a large pack of dogs, not far from the river Mbuluzi, a buffalo, standing in a small thorn thicket, was disturbed by the hounds, and with a roar it charged out within a yard of him. His only chance being to throw himself flat, he did so, and the animal leaped over without touching him. He unwisely decided to attack the buffalo with the spears, and, keeping the thorn bush between them, he started towards the open where the bull now stood. The moment he was perceived, the animal, bellowing with rage, charged. "I had often been told," he observes, "by older and more experienced hunters what one ought to do under the circumstances in which I now found myself, and though it was embarrassing, I tried to carry out their instructions. I threw myself flat on my side, taking the longest stabbing spear—a very formidable weapon, as sharp as a razor—into my right hand, and

lay still. He came on until he almost trampled upon me, when, probably having just opened his eyes and missed me, he pulled up, and then suddenly catching sight of my position, he lowered his head and again came on. With my full strength I stabbed him in the nose, the long iron blade going right through it, and pricking him in the chest, while he struck me heavily with his horn-covered forehead, and his hoof trod on the fleshy part of my left arm, causing the most horrible pain. But the nose is a tender spot, and he sprang back, and he stood looking at me with his savage, bloodshot eyes, which peered from under the mass of horn which almost covers the face of an old bull.

“I wasn’t altogether at ease about the result, but I knew that so long as I kept perfectly still and flat he couldn’t stab me with his horns; their formation prevented that, and I trusted in my spear still. He made another rush, but not such a determined one, and again feeling the assegai point, he retreated on one side, but soon returned; this time coming from behind and catching me between the shoulders. Finding he did not get pricked here, he absolutely kneeled down, knowing that he could not get at me in any other way, and began to pound me on the back with his forehead. The blows were very heavy and jarring, and I felt myself fast losing consciousness, when one of the dogs—all of whom had been baiting him unnoticed the whole time—smelling the blood on his nose where I had stabbed him, pinned him by that delicate organ, and soon brought him on to his feet again, though in getting up he trod on me for the second time. The Kaffirs also ran in shouting, and one got near enough to send an assegai into the brute’s ribs, on receiving which he made a blind rush, and I took advantage of the respite to gain the friendly shelter of the tree. I was not much hurt, though considerably shaken, and as the buffalo’s evil genius made him come and stand directly underneath me, I took advantage of the chance, and with both hands and all my force, drove one of the great, spade-like spears right down into his vitals. He made a short rush, stood still, trembled, and then fell on his knees, on seeing which we all ran up, and stabbed him again and again as he attempted to regain his feet and bellowed with ineffectual anger, until after displaying that wonderful tenacity of

life which has been so often noticed, he ceased to struggle. None of the dogs were hurt, and except my left arm, which the weight of the brute had made into a sort of jelly, I was none the worse for it."

Dr. Livingstone had several opportunities of studying the habits of wild buffaloes, for, during his sojourn on the banks of the Kalomo, he constantly saw large herds of them feeding in all directions. He observes that if they are often disturbed by man, they change their habits, and retire into the densest part of the forests, and come out on the plains to feed by night only. Buffaloes, in common with several other wild animals, gore a wounded companion and expel him from the herd. "Even zebras," remarks the Doctor, "bite and kick an unfortunate or diseased one. It is intended by this instinct that none but the perfect and healthy ones should propagate the species."

On one occasion a herd of about sixty animals rushed past Livingstone's party in full gallop, and he noticed that the leader was an old cow, which was allowed to keep a full half-length in the front. "On her withers," he writes, "sat about twenty buffalo-birds (*Texator erythrorhynchus*, Smith), which act the part of guardian spirits to the animals. When the buffalo is quietly feeding, the bird may be seen hopping on the ground picking up food, or sitting on its back ridding it of the insects with which their skins are sometimes infested. The sight of the bird being much more acute than that of the buffalo, it is soon alarmed by the approach of any danger, and flying up, the buffaloes instantly raise their heads to discover the cause which has led to the sudden flight of the guardian. They sometimes accompany the buffaloes in their flight on the wing, at other times they sit as described."

During Mr. A. W. Mitchinson's⁴ travels he was a witness of the following extraordinary incident, in which a native of a village on the Gambia, called Mandingo, enticed a buffalo to his death in a very singular manner. While on the march "in a well-shaded place, an unexpected buffalo showed his head for an instant only between the bushes. The animal having a keen scent, and an ugly habit, when observed, of hiding in ambush, then

⁴ "The Expiring Continent."

suddenly charging in the rear, made the party very cautious. In this manner the brother of the hunter, a year previously, while hunting, was tossed in the air by one of these animals, and trampled to death. The Mandingo, remembering the death of his brother, was most unwilling to go through the thicket until the beast was either discovered again or killed. He was a good performer on a native flute, and proposed to call out the animal with it, which was willingly acceded to. He placed himself under a tree and played a tune, while the party remained on the watch; but as the buffalo did not show, the others insisted on continuing the route.

“ ‘The buffalo is asleep,’ said the hunter, ‘but my flute will call him out. I must kill him to revenge my brother’s death.’

“With long-drawn-out, monotonous tones he led the way for full two hours, when, suddenly, under a tree, the shining eyes of the buffalo reappeared. The beast’s ears were pricked forward, evidently attracted by the music. Nothing indicated fury, and its tail hung motionless.

“ ‘Stop!’ said the Mandingo; ‘don’t laugh at my flute. The buffalo belongs to us.’

“The party concealed themselves again. The bewitcher commenced with soft, long-drawn notes, broken at intervals. The soft tones were succeeded by shrill and loud ones, followed by trills, and an imitative cry resembling the whispering of the wind among the leaves. The animal raised its head and sniffed round in every direction with anxious looks, then slowly approached the place whence the sounds proceeded. In a few minutes it had come within a distance of forty yards, and though manifesting greater anxiety as it detected the presence of men, showed no inclination either to attack or to retire. The Mandingo suddenly came out of the bush, giving a very loud, and harsh, grating shout, at which the animal backed. The man renewed his peculiar music, which influenced the animal to such an extent that it remained motionless until the flutist lodged an arrow in its shoulder. The enraged buffalo, foaming at the mouth, with bloodshot eyes, and tail erect, furiously pawed the ground. The Mandingo had just time enough to hide himself behind the tree in front of which he

had been standing, before the thick-skulled buffalo, in blind fury, charged the trunk. The shock only stunned the brute. This gave the Mandingo an opportunity to discharge a second arrow into its side, near the heart. He immediately followed up the attack with a fresh tune.

“The buffalo looked distressfully in all directions, as if seeking for rest, and appeared wondrously puzzled whether to attribute his headache and the smarting of his wounds, from which the blood streamed, either to the tree or to the magic flute. Not observing the sorcerer who had caused the mischief, it backed a few paces, and then, with redoubled force and fury, again charged the tree.

“The Mandingo, who at first appeared the greatest coward of the party, now proved himself to be a thoroughly bold and courageous hunter—a ‘master of arts’ in killing buffaloes.

“This second charge against the tree still more stupified the animal. Before it had recovered its senses, a well-aimed arrow from the steady hand of the hunter, lodged deeply in the neck and severed the jugular vein, from which the blood spirted like a fountain. The beast’s end was fast approaching. It swayed violently from side to side, thereby increasing the irritation of the wounds. After several furious shakes of the head, it gyrated round and round on the same spot, first quickly, then slower. The hunter now rushed at the animal, and passed his sharp cutlass through its heart. A short stream of blood issued from the mouth of the buffalo, which moved a few paces, when a heavy stream of blood followed, and a moment later the beast lay prostrate on the ground.

“With a look of just pride, the Mandingo, showing his flute, exclaimed, ‘Now see what my flute can do!’ In reality the skill and courage he had displayed was worthy of the most celebrated matadore of Spain.”

Cape buffaloes have rarely been domesticated. Attempts to do so have occasionally been made, but seldom, if ever, by any of the native tribes. Their intractable disposition prevents the animals being reliable for employment, and they are said to be less hardy than the common ox, which, no doubt, arises from the

fact that they are accustomed, when in their natural condition, to retire during the heat of the day to shady and cool places.

THE YAK (*Bos grunniens*), or grunting ox, so called because the sound it utters resembles to some extent the grunting of a pig, is included by some naturalists among the buffaloes. The opinion also exists that it is identical with the Indian animal described by Ælian under the name of *Poephagus*, a word derived from two Greek ones meaning "grass-eater," and Gray gives it in consequence the name of *Poephagus grunniens*.

To any one who does not know the animal by sight, the accompanying illustration will show some of its peculiarities. The writers who surmise that it is of the same species as the Indian buffalo, consider that to the change from the swampy jungles of original home to the eternal snow of the high mountains of its present habitat are due the extraordinary modifications it presents. The yak is found on the loftiest plateaus of north Asia, such as Upper Ladak, Thibet, northern China, Mongolia, and the Himalayas, at an elevation of from 10,000 to 17,000 feet above sea-level; but they have to descend in the winter below 8000 feet, on account of the great quantity of snow preventing them from obtaining food. The profuse development of hair is therefore obviously an adaptation of the animal to these cold regions, to which it appears confined, for warmer or damper latitudes are unsuitable to its existence in an undeteriorated condition.

In general form the yak is not unlike the buffalo, but the specimens generally seen in Europe are much smaller in size, and are shorter in the legs. The great distinction, however, is in the coat, for instead of being thinly clad it is covered with thick silky hair, which is curly on the head, and so very long under the body that it reaches nearly to the ground. The tail is composed of full-flowing fine hair of great length. Its prevailing colour is black, but red, dun, parti-coloured and white yaks are not common.

The tail of the yak is a commercial commodity, and the domesticated animals are generally deprived of this appendage by their owners, for the article is in great demand, especially the white ones. In India they are to be seen mounted in either ivory or

silver, and used as "chowries," (i.e. fans to keep away the flies.) The state elephants of some native princes are trained to carry with the trunk a gorgeously-mounted chowrie of this description, and to keep it in incessant motion. In China the hairs of these tails are dyed red and borne in the caps of certain dignitaries as the insignias of rank, the distinctions being regulated by the number of them that are worn; they are also used as battle-standards by the Mongols; and the ingenious artisans of the East convert these handsome tails into all manner of useful and ornamental articles.

The yak exists in a wild as well as a domesticated state. In the valuable "Notes on Eastern Thibet," communicated by Dr. A. Campbell to *The Phœnix*⁵, in 1871, we learn that the wild yak of Thibet is called a "dong." It is described as the fiercest of all known ruminants. It will rarely allow a man to escape alive if it can come up with him. It is generally hunted on horseback, the great aim being to detach one from the herd. It affects open grassy places, and goes in large herds. The following is the plan adopted by hunters on foot for killing the "dong":—

"Its favourite pasturages are ascertained, and in the midst of these the hunters throw up circular enclosures of stone a few yards apart, the hunter taking up a position in one of them. When a 'dong' is within shot, the hunter having fired at him, instantly quits his enclosure for another; for as soon as the animal hears the shot, whether he is hit or not, he, guided by the smoke of the discharge, rushes furiously on the enclosure, and commences knocking it to pieces. When the hunter gets another shot at him he retires again from his shelter to a fresh enclosure, and so on, till he has killed his beast. The ordinary size of the 'dong' is four times that of the domestic yak; it is black all over, having occasionally a white streak in the forehead. The horns of a full grown bull are said to be three feet long, and the circumference must be immense. The common mode of describing it is to throw out the elbow, bring the fingers to the ribs and point to the circle thus formed as the size of the base. It is used by the grandees of Thibet at marriages and other feasts, when it is filled with strong drink, and handed round to the company. Nothing more

⁵ *The Phœnix*, a monthly magazine for China, Japan, and Eastern Asia.

commendatory of the host's joviality can be said, than that 'he regaled his guests out of the dong's horn.'

"The horns so used are finely polished and mounted with silver, or gold, or precious stones. . . . It is common in Tibetan goompas (Lamaserais) to see a stuffed 'dong' standing in front of the image of Mahá Káli, at whose shrine the animal is thus figuratively sacrificed; axes and other instruments of sacrifice are ranged around the image."

Colonel Prejevalsky,⁶ who came across the wild camel in his travels, also obtained specimens of the wild yak, which he describes as being a handsome animal of extraordinary size and beauty, totally unlike the species to be generally found in zoological collections. It measures when full grown eleven feet in length, exclusive of its bushy tail, which is three feet long; its height at the hump is six feet; girth round the centre of the body eleven feet, and its weight ten or eleven hundredweight.

"The head is adorned with ponderous horns, two feet nine inches long, and one foot four inches in circumference at the root. The body is covered with thick black hair, which in the old males assumes a chestnut colour on the back and upper parts of the sides, and a deep fringe of black hair hangs down from the flanks. The muzzle is partly grey, and the younger males have marks of the same colour on the upper part of the body, whilst a narrow silvery-grey stripe runs down the centre of the back. The hair of young yaks is much softer than that of the older ones; they are also distinguishable by their smaller size, and by handsomer horns with the points turned up, whereas those of the older males are turned more inwards, and are always covered near the root with dun-coloured wrinkled skin.

"The females are much smaller than the males, and not nearly so striking in appearance, their horns are shorter and lighter, the hump smaller, and the tail and flanks not nearly so hairy.

"But in order to have a correct idea of the yak he should be seen in his native state on vast plains, which lie at an elevation of 15,000 feet, seamed with rocky ridges as wild and barren as

⁶ "Mongolia: being a Narrative of Three Years' Travel in Eastern High Asia, 1876," translated by E. Delmar Morgan, F.R.G.S.

the surrounding deserts, where the scanty herbage finds little encouragement to grow, owing to the constant cold and the violent storms of wind which rage throughout the greater part of the year. In these inhospitable wastes, in the midst of a desolate nature, yet far removed from pitiless man, the famous long-haired ox roams in unrestricted freedom."

These animals are endowed with enormous strength, and such an excellent sense of smell that they can scent a man half a mile to windward, but their sight and hearing are so defective that they cannot see or hear him at any great distance. Their intelligence is also of a low order.

Except at the rutting season the old bulls are generally found singly, or in small herds of three or five, while the cows and calves assemble in such enormous herds that they frequently experience a difficulty in finding sufficient food.

Although not very fleet of foot yet they climb nimbly over the loftiest and rockiest mountains, and are found in places where but few other animals could obtain a footing.

Indolence is described as a prominent trait in the character of these wild yaks. "They feed morning and evening," Prejevalsky writes, "passing the rest of the day in unbroken repose, either lying or standing: at such times the only sign of life they show is in chewing the cud, otherwise they are as motionless as statues, even keeping the head in one position, and this for hours together."

Wild yak shooting is exciting and dangerous sport, for a wounded animal will often charge and evince such a tenacity of life that even a well-directed shot will not immediately kill, except in very occasional instances.

The Mongols are said to be so terribly afraid of these animals, that if a caravan chance to come upon one lying down in a narrow defile, they will halt, and not venture to resume their journey till the animal has risen.

Messrs. Huc and Gabet,⁷ during their journey, came to that river of many names, known to Europeans as Yang-dze-kiang, or blue

⁷ "Souvenirs d'un Voyage dans la Tartarie, la Thibet, et la Chine, pendant les années 1844, 1845, et 1846," par E. R. Huc.

river, and here a very strange sight presented itself. The river was frozen over, and the party had from their encampment observed dark, shapeless masses ranged across it, which when they came to cross they found these "fantastic islets" were neither more nor less than fifty wild cattle or yaks, which were absolutely embedded in the ice. They had, no doubt, endeavoured to swim across the river, but it froze too quickly for them to do so, and consequently they became hemmed in and were unable to extricate themselves. Their fine heads, surmounted with their great horns, were still above the surface, but the eagles and crows had pecked out their eyes. The ice was so transparent that the portions of their bodies, which were enclosed therein, were quite discernible, and the form and attitude of the unlucky beasts gave them the appearance of being still swimming.

It is a pity specimens of these magnificent animals have never been exhibited in Europe. The domesticated yak has frequently been seen, and although so much smaller than its wild congener, it is still a handsome animal, and its strength and hardiness render it invaluable to the mountaineers of its native countries. Although its pace is rather slow, it can carry a heavy burden twenty miles a day. The Tangutans, among whom camels are scarce, have to rely almost entirely on their yaks as substitutes, and large caravans of these animals are frequently to be seen wending their way often over lofty precipitous mountain paths where it would be next to impossible for other animals to keep their footing. The yak is used also for riding purposes. The fat Lamas are said to show a predilection for this mode of travelling, for they find its shaggy coat warm, and its paces easy. When being ridden the animal has, however, invariably to be led.

In the Réchang or Roonang Pass, which is 14,354 feet high, and has to be crossed to get from Lippe to Lúgnan, two places themselves about 9000 feet above sea-level, Wilson ^s states he for the first time saw and made use of the yak. "It certainly is a magnificent animal," he observes, "and one of the finest creatures of the bovine species. In the Zoological Gardens at Schönbrunn, near Vienna, there are some specimens of yaks from Siberia, but they are

^s "The Abode of Snow," by Andrew Wilson, 1876.

small, and are not to be compared with the great yak of the Himalaya, the back of which is more like an elephant's than anything else. Indeed, it is the shaggy hair and savage eye of the yak which make its appearance so striking, for the head is not large, and the horns are poor. The tail is a splendid feature, and the white tails of yaks are valuable as articles of commerce. . . . The yaks of burden which have been domesticated, or rather half domesticated, for generations, are exceedingly wild, and the only way they can be managed is by a rope attached by a ring through the nose. I had scarcely had time at Lippe to admire the yak which was brought for my use, than, the man in charge having dropped this rope, it made a furious charge at me; and I afterwards found that yaks invariably did this whenever they got a chance. I cannot say whether this was done because I was evidently a stranger, or because they regarded me as the cause of all their woes; but certainly, as he went up that terrible and apparently endless Réchang Pass, with one man pulling at the yak's nose-ring in front, and another propping it behind with the iron shod of my alpenstock, the *Bos grunniens* had an uncommonly hard time of it, especially when he tried to stop; he did not keep grunting without good reason therefore; and I could not help thinking that my Poephagus had been perfectly justified in his attempt to demolish me before starting.

“If my reader wants to get an idea of the comfort of riding upon a yak, let him fasten two Prussian spiked helmets close together upon the back of a great bull and seat himself between them. This is the nearest idea I can give of a yak's saddle, only it must be understood that the helmets are connected on each side by ribs of particularly hard wood. The sure-footedness, and the steady though slow ascent of these animals up the most difficult passes are very remarkable. They never rest upon a leg until they are sure they have got a fair footing for it; and, heavy as they appear, they will carry burdens up places which even the ponies and mules of the Alps would not attempt. There is a certain sense of safety in being on the back of a yak among these mountains, such as one has in riding on an elephant in a tiger hunt; you feel that nothing but a very large rock, or the fall of half a mountain, or

something of that kind, will make it lose its footing; but it does require some time for the physical man to get accustomed to its saddle, to its broad back, and to its deliberate motion when its rider is upon it and not in a position to be charged at."

Sir J. D. Hooker, in his "Himalayan Journals," describes the veal of a yak calf as being very fine eating, and states that when it was served up a foot had always to be left, for in the autumn, when the calf is killed, the mother will not yield any milk unless the herdsman gives her the calf's foot to lick, or lays a stuffed skin before her to fondle, which she does with eagerness, and expresses her satisfaction by short grunts.

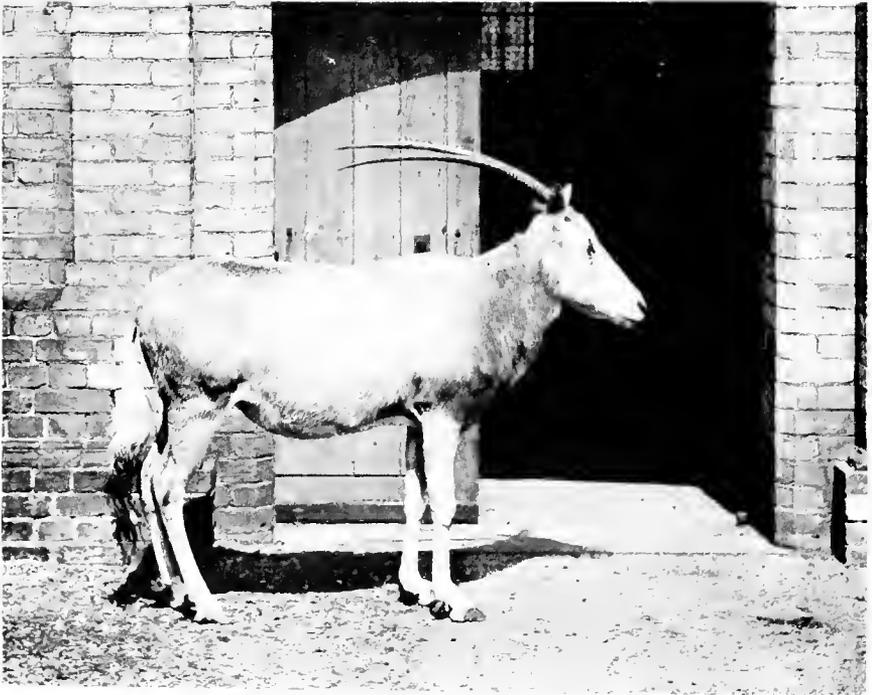
Besides being good eating, the yak yields the best of milk, for it is as rich as cream, and the butter made from it is superior to all others. Its hair is valuable, for when woven it makes a kind of waterproof material, from which tents or covers can be made; the finer qualities are used for shawls or soft carpets.

The yaks being so valuable for use and employment by man, their acclimatization and permanent settlement in Europe were the dreams of M. de Montingy, the energetic French consul at Shanghai thirty years ago, and his attempts in this direction were eminently successful. He had a herd of them brought from Thibet, which he kept at Shanghai for nearly four years, and when he found they bore the change of climate well, and bred abundantly, he brought them with him to France in 1853. They were shipwrecked on the Azores, and detained there for some months, but the French Minister of Marine sent a vessel to convey them to their destination.

This herd was divided into three portions; some were sent to the *Jardin des Plantes*, where, with their Chinese keeper, they aroused public interest in the experiment being made; several were given to the *Société d'Acclimatation*; and a few became the property of the Count de Morny, and were kept on his estate in the Allier. They did not appear to suffer from the change in temperature, but thrived, bred, and developed good fleecy coats, just as they would if they had not been removed from their mountainous home. Some of the descendants of these animals are still living in France.

Certain specimens that have been imported into England have done very well. Warren Hastings kept a yak at Daylesford, and when his household goods were sold, a painting from nature of this animal was amongst the articles disposed of. The late Lord Derby also had a yak among the animals that formed the well-known Knowsley collection, and it throve well while in his possession. This beast was sold to a showman, and died a few weeks afterwards through its having been kept cooped up in a caravan, which was too much for even its hardy constitution.

The attempts, however, to make the yak a common animal in Europe have shared the fate which unfortunately has so far befallen nearly all modern acclimatizing experiments. Some enterprising man or society, with a view of adding to the existing number of domestic and highly useful quadrupeds, succeeds in overcoming the initial obstacles, and by the introduction of some new species into the country demonstrate the fact that with ordinary care the animals will live, thrive, increase, and supply a public want; then however, instead of the venture meeting with cordial co-operation and the importation and breeding being continued, the experiment is simply looked on as a curious and harmless one, and although in some cases the benefit that would follow on the breed being continued is acknowledged, yet no one moves in the matter, and the stolid apathy of the very people in whose interest the work has been undertaken, renders the value of the labour —*nil*. A greater mistake was never made by the present generation, for in some countries the native animals which are capable of being bred for food supply or for labour purposes are being rapidly exterminated. The yak, certain species of antelope and deer, zebras, well-bred asses and some others might surely be thoroughly acclimatized in Great Britain, where they would cheapen food and the cost of animal labour. We can hardly imagine the benefit we derive from our ancestors not having neglected their opportunities in this direction. What should we do if we were without horses, asses, cattle, or dogs? Yet they are all animals our predecessors imported and acclimatized and the resulting advantages are our inheritance.



A YAK.

(*Bos grunniens.*)

A LEUCORYX.

(*Oryx leucoryx.*)

CHAPTER XXIV.

THE GNU AND ORYX ANTELOPES.

THE family of mammalia known as antelopes, is one which includes a most bewildering number of species and varieties, but some of them are very closely allied. They are ungulates, or hoofed animals, and are classified in the sub-division of ruminants, or those that chew the cud.¹

Among the antelopes are to be found some of the most graceful and symmetrically-proportioned animals in existence. Although each species differs from the others in some important particular, yet they all agree in many of their chief characteristics. For instance, their horns are hollow like those of the *Bovidæ*, not solid like the antlers of the deer; neither are they deciduous, that is, shed at certain periods, but, with few exceptions, are permanent and persistent throughout life. Both sexes are generally provided with these appendages, which are slender, straight, taper gradually to a point, and in some species are curved and spiral, but only in one or two aberrant varieties are they ever branched. Their hair is generally short and smooth, the eyes bright and

¹ The singular process called "chewing the cud," which is to be observed in all the ruminant group of mammals, and is the remastication of food returned to the mouth after a previous deglutition, may be briefly described as follows. In all these animals the stomach has four compartments. The first of these, which is known as the paunch or rumen, and in the adult animal is the largest division, receives all the herbage cropped during grazing, which is but slightly broken up by the short mastication it has undergone. From this receptacle it is transmitted in small portions into the second stomach, which is merely an appendage of the first, called the reticulum or honeycomb-bag. Herein the juices act upon the sodden food, and it is compressed into small masses or balls, which, when the animal is in a state of repose, are thrown back successively into the mouth for a second and more complete chewing. On its being reswallowed, when thoroughly masticated, it passes into the third compartment, the psalterium or manyplies, where it is prepared for digestion, and from thence passed into the fourth, the abomasum, which is the stomach analogous to the simple one of ordinary animals, and where the true digestion takes place.

beaming with the keenest power of vision. They also possess a delicate sense of smell, which is unsurpassed by that of any other family of quadrupeds.

Nearly all the various antelopes have the curious "tear-pits" or "lachrymal sinuses," which are also to be seen in animals of the deer family. These organs are small sacs situated below the eyes, which secrete a yellow waxy substance. Their use has never yet been discovered. A few zoologists think these glands communicate with the nostrils, and that the animals can breathe freely through them during their rapid flights when alarmed. Some suppose them to possess the sense of smell, and that they serve for detecting noxious or poisonous plants common among the rank vegetation of equatorial Africa. Others think these organs are of use when the animals are drinking. Still all these opinions are purely conjectural, for their precise functions are uncertain. All that is positively known about them is that the anatomy of the parts demonstrates the fact that there is no communication between these "tear-pits" and the nostrils or any of the other organs. They are simply a sac or fold of the skin, which varies in size according to the species, and can be opened or shut at the will of the animal. When angered many of the animals will open these glands, and others make continual use of them when any strange or odoriferous substance is presented to their notice, and some species appear to derive a certain amount of pleasure from rubbing the inner surface against such articles. The suborbital sinuses are not so general among the *antelopidæ* as in the *cervidæ*.

Some varieties of this extensive family are to be found in every quarter of the globe, but by far the greater number—in fact, three-fourths of them—are to be found in South Africa. They are therefore all peculiarly constructed for life in the sandy plains and deserts. They are also swift of foot, which enables them in a short space of time to travel considerable distances in case of necessity and when the food supply renders this essential. Their colour also as a rule harmonizes with their surroundings.

They are the most timid of all the larger mammalia, but some species are dangerous to approach when wounded or brought to bay, for their sharp and long horns are powerful weapons and can

be used to great advantage. By nature antelopes seem to be created to become the prey of the *carnivora*, for all the chief animals included under this heading seek them out by instinct, and lie in wait for them at their drinking-haunts. Occasionally, however, they can prove themselves a match for their opponents, for if alarmed in time, so that they can take to flight, they defy pursuit, and even if unable to escape, by a skilful use of their horns they can keep their enemy at a distance. Now and again even the lion will come to grief through these weapons, generally, however, in consequence of his own eagerness, for with a mighty bound he will land upon the sharp points and be there impaled. Several travellers in Africa have come across the dead bodies or skeletons of two animals, a lion and an antelope, lying side by side, the one transfixed on the other's horns.

In captivity, antelopes are very stupid animals; their chief trait being excessive timidity, and under its influence they frequently maim or kill themselves when startled, which they often are by so slight a thing as a bird alighting near them, or a person slipping on a stone, or even by some entirely inexplicable cause; their senses become subservient to the instinct that leads them to immediate flight, and away they start, madly rushing against the wall, or with a frantic leap dash against the fence and so injure their limbs, break their horns, or, in numerous instances, kill themselves. Experience apparently fails to teach them either the absurdity of their alarm or the fact that the height of the fence is beyond their powers of leaping, for again and again they will go through the same performance. The Zoological Society have on many occasions lost rare specimens in this unavoidable way, and of one particular species not a single animal of the number they have possessed at various periods has been known to die a natural death.

The family of antelopes is subdivided into two great divisions, the antelopes of the deserts and the antelopes of the plains. They are readily distinguishable by certain peculiarities about the nostrils. The animals of the latter category have the nostrils bald or free from hairs, while in the desert animals these organs are bearded within or covered with bristles. There are other distinctions, but they are not quite so obvious or easily recognized.

The GNU (*Catoblepas gnu*), or white-tailed gnu, for there is another variety of this species known as the brindled gnu (*Catoblepas gorgon*) is an antelope of the desert, and belongs to a sub-group of equine antelopes. The name gnu is the one given it by the Hottentots, but to the Dutch settlers it is known as the "wildebeest," i.e., wild ox.

Owing to their peculiar appearance, naturalists are divided in opinion respecting their true zoological position; and although they are generally classified as antelopes, some maintain they belong to the ox family (*Bovidae*), and others that they are a distinct species, forming the connecting link between these two great divisions.

The name *Catoblepas*, which comes from two Greek words meaning "down-looking," by which these animals are known in natural history, was given originally by Ælian to a beast of terrific aspect inhabiting Africa, which scientists now identify with the gnu.

Its aspect can hardly be called terrific, however, still it is a fantastic-looking creature, and has been aptly described as a beast made up of different parts of other animals. The head is considered to somewhat resemble a bison's, the body, crupper, and tail, those of a small horse, while the slight and slender legs are certainly shaped like the stag's. The pace of the gnu, which is a light gallop, is so similar to the action of the *equidae*, that a troop of them flying over the plains, even if seen only a short distance away, can easily be mistaken for quaggas or wild asses.

The eyes of the gnu are somewhat ferocious in aspect, and lowering; the muzzle is broad, flat, and surrounded by a circle of stiff projecting hairs. The neck is ornamented with a thick and flowing mane, and the throat, beneath the chin, and the dewlap are also supplied with an abundant growth of bushy black hair. The tail reaches nearly to the ground, and is more or less creamy coloured.

The horns are peculiarly shaped, for they are broad at the base and approximate so closely on the forehead that they nearly cover it, in this way resembling to some extent the horns of the Cape buffalo. From the base they curve downwards, slightly outwards, and then bend suddenly upwards, so that the tips are erect, in fact are hook-shaped. Both sexes have horns, but in the females

they are lighter, and do not meet so closely over the forehead. The animals can use these horns as weapons, if necessary, and with considerable effect, for when wounded or forced in self-defence to fight, they will turn, drop on the knees, and then springing up, dart forward with amazing force and velocity. In size the gnu equals a well-grown donkey, for it measures upwards of four feet in height at the shoulder and attains a length of nearly nine feet. The general colour of the white-tailed species is a deep umber brown in the summer, but during the winter it darkens so much that it approaches nearer to black.

The karros of the Orange Free State, the Transvaal, and the arid plains to the north and west adjoining, are the headquarters of these animals. They are only to be found, however, south of the Vaal river, for none have ever been reported as inhabiting the country on the opposite shores. Mr. T. E. Buckley² mentions the fact that when Harris first entered the colony in 1836 he found these animals in Graaf Reinet; now, however, their numbers are so much reduced by continued hunting that it is not till the plains fifty miles south of the Vaal river are reached that they are to be seen.

The Dutch Boers convert the flesh into "belting," and the skins, which are valuable, formed one of the chief exports of Natal; but the supply is now falling off through the scarcity of the animals, partly accounted for by the wholesale slaughter they have suffered, and also to some extent due to an epidemic to which they are liable, that at times creates great havoc among them.

Gnus congregate together in numbers varying from eight or ten to forty or fifty. These herds display considerable restlessness, for they are constantly on the move, migrating from one part of the country to another.

In disposition gnus exhibit some features common to the American bison, for although they look savage and defiant, yet they are in reality timid, and are very wary, so that the herds are difficult to approach.

"It is very amusing," writes Mr. Buckley, "to watch the antics of a herd when aroused or excited; when approached to within

² See "Zoological Society's Proceedings," 1876.

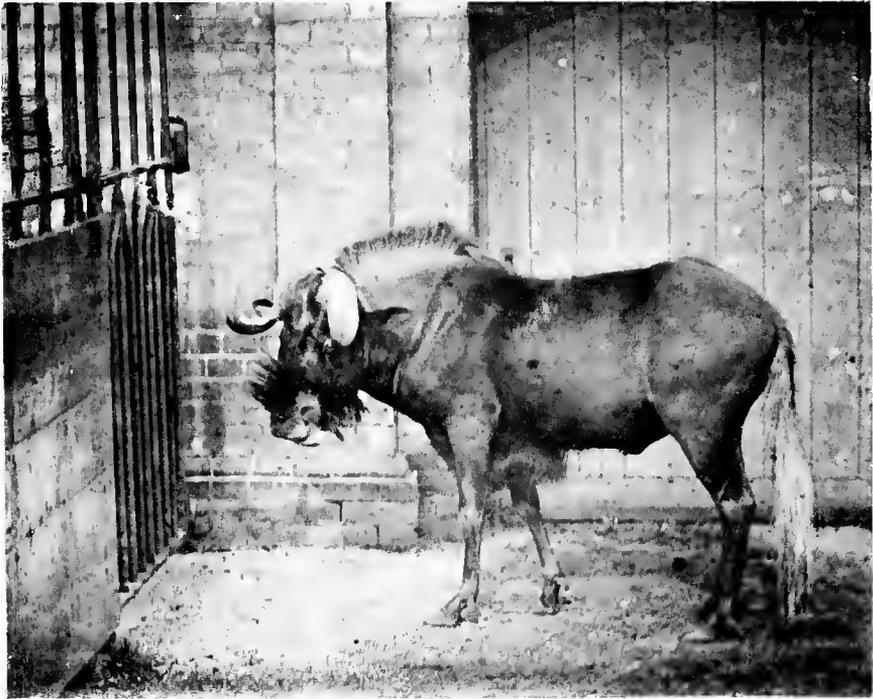
five or six hundred yards they chase one another round and round for a short time, stand, stare, and paw the ground, then lashing their long white tails against their sides, set off as hard as they can go."

Another traveller states that when the animals are put to flight, they do not scour away in a confused mass, but gallop off in single file in rear of a leader, and travel, when they are in good condition, at such a tremendous speed that their pursuers, be they men or lions, are soon left hopelessly in the rear.

In common with nearly all species of antelope they exhibit a most persistent curiosity, which becomes excited directly they catch sight of any strange object. They will frequently on such an occasion cautiously approach, and the herd, formed into a compact square, will come to a halt some little distance off, and there stand stupidly gazing at it. Harris noticed this trait in the gnu, for he writes, "During bright moonlight curiosity often prompted a clump of gnus to approach within a few yards of our bivouac, where they would stand for hours in the same position, staring wildly, lashing their dark flanks, and uttering a harsh note, resembling the harsh croaking of a frog." Buckley also mentions a similar incident, and states that he succeeded in shooting one out of three animals which approached his waggon close enough for him to do so.

"In summer the old males separate from the herds, and live solitarily. At this time they fix on one spot, making a sort of lair, to which they will return after feeding or being disturbed. This sometimes leads to their destruction; for if two or three men go together, the old bull immediately gets up and goes away; on this one of the party lies down in the spot lately occupied by the beast, the other two then retire. The wild beast thinking everything is now safe, goes quietly back to his particular spot, and is then shot at by the man who is lying down."

Among the bovine peculiarities of the gnu is the one of being strangely affected by the sight of anything scarlet-coloured. The extraordinary capers the animal can go through when excited will be generally exhibited directly he observes the obnoxious article. He will commence to lash his sides with his flowing tail and to plunge



YOUNG ANTELOPE REARING.

Scene in Zoological Gardens.

GNU.

(*Catoblepas gnu.*)

about in a most fantastic manner, bounding spasmodically off the ground, kicking up his heels, twisting round and round, or suddenly stopping and lowering his shaggy and bearded head between his slender legs, look as though he intended charging vigorously at it. But this comes to naught, and after a few more absurd evolutions he will probably kneel down on his fore-legs, and commence raking the ground with his horns, then, after madly trying to roll on his back, suddenly get up again and begin to paw the earth about like an infuriated rhinoceros, accompanying the action by a few defiant snorts; but it is all sound and fury, signifying nothing, for in a few minutes he will stand quiet again, and apparently totally ignore the article; then perhaps recommence capering. It is about the most ludicrous expression of impotent rage that any animal could or does exhibit.

The Oryx antelopes are antelopes of the plains, and the genus contains four elegant and brightly-coloured animals, each inhabiting a distinct geographical area. They are the *Oryx leucoryx* of Eastern and Western Africa, the *Oryx beatrix* of Arabia, the *Oryx gazella* of Southern Africa, and the *Oryx beisa* of the eastern shores of the Red Sea. Of these varieties the first and last will be found represented in the illustrations given herewith. They are all conspicuous by the beauty of their horns, which are long, gradually tapering, straight, or slightly arched backwards, ringed at the base, and are situated on the head so as to form a continuation of the facial line.

The LÆUCORYX (*O. leucoryx*), a name derived from two Greek ones meaning "white antelope," so called by Ælian, because of its colour, has the characteristic horns of the genus, rising generally in an exact parallel, and having a gentle curvature backwards; they are long, but not very thick, taper gracefully to the points, which are sharp, and are annulated half-way up. The ears are erect, elongated, and pointed. The tail, which is long, for it reaches below the hock, is furnished at its termination with a copious tuft of long black and grey-coloured hair. The general colour is white, but the neck and upper part of the throat are of a uniform brownish colour.

The leucoryx is the antelope of which we have the oldest record

for it is found frequently represented on the monuments of Egypt and Nubia, noticeably in the inner chamber of the great Pyramid at Memphis, where a number of them are to be seen being driven or led by the horns, or by a cord round the neck, and form part of the tribute levied, probably, on some conquered nation. The animals are generally portrayed in profile, and consequently only one horn is seen. From this circumstance Cuvier considers it is the unicorn of the ancients; but upon grounds that can only be considered as absurd, for even if the animals were represented in the side view exactly as they often appear in nature, with the two horns in such perfect parallel that only one is visible; still, their having two is so unmistakable, that no writer would describe them as actually only having one, or would the people have accepted as an appropriate name for a two-horned beast, one signifying "unicorn" or one-horned.

The BEISA (*Oryx beisa*) is a variety of the genus inhabiting Eastern Africa and the coasts of the Red Sea. It is a beautifully marked animal and conspicuous by the proud carriage of the head, and the beautiful tapering horns, which are set nearly close together upon the head, but gradually diverge towards their extremities.

As a rule the little antelopes born in captivity are rather troublesome to rear, for few of them possess a hardy constitution. One of the photographs accompanying this chapter exhibits a keeper in the Zoological Gardens attempting to teach an orphan beisa antelope how to procure nourishment from that modern nursery appliance, a baby's bottle. The little animal soon learnt how to suck from it, but he did not thrive, and although he had energy enough to butt the keeper whenever the suction pipe fell out of his mouth, he had the impression that it was due to some fault of his strange foster mother; yet he had not the requisite vitality for existing on the food substituted for the natural one, and at a very early age the pretty little creature departed this life universally regretted by all who knew him,



A BEISA ANTELOPE.

(*Oryx beisa.*)

CHAPTER XXV.

THE MOOSE (*ALCES MALCHIS*).

THE deer family, known in Natural History as the *Cervidæ*, embraces a large number of distinct species which are to be found scattered over various parts of Europe, Asia, and America; but in Africa, except for one species, which is an inhabitant of Barbary, the family would be unrepresented. In the Zoological Society's gardens upwards of twenty different kinds have at sundry periods been exhibited. The finest animals of the genus are the Moose or Elk, the Reindeer, Red deer, Wapiti, and Lühdorf's deer.

The male animals of all deer have horns, which in some species attain enormous dimensions, and in others are only diminutive points. To this rule, nevertheless, there is an exception, for the small water-deer (*Hydropotes inermis*) found in China, is perfectly destitute of antlers. The adult buck animal, however, is provided with other organs of defence, for he has two projecting canine teeth of considerable size and length.

The horns or antlers in every way constitute conspicuous features of the deer tribe, for not only are they highly ornamental, but the process of their construction and development is of a very wonderful nature, and one perfectly unique in the animal world. With the exception of the reindeer, only the males possess these horns, which differ from those of the antelopes in being caducous and solid. They are composed of a bony substance that is at first quite soft but becomes solidified when full grown. The horns are shed and renewed annually, and have branches or palmated extensions growing from the main stem; whereas antelopes are distinguished by having their horns, which are permanently retained during life, hollow at the base, and set into the head like those of the oxen.

In Blumembach's "Comparative Anatomy" (translated by Messrs. Lawrence and Coulson) there is the following remark:—"The annual reproduction of horns constitutes in many points of view one of the most remarkable phenomena of animal physiology. It affords a most striking proof, first, of the power of the nutritive process, and of the rapid growth which results from this process in warm-blooded animals; for the horn of a stag, which may weigh a quarter of a hundredweight, is completely formed in ten weeks; secondly, of the remarkable power of absorption, by which towards the time of shedding the old horn a complete separation is effected of the substance which was before so firmly united with the frontal bone; thirdly, of a limited duration of life in a part of an animal entirely independent of the life of the whole animal, which in the stag extends to about thirty years; fourthly, of change of calibre in particular vessels; for the branches of the external carotid, which supply the horn, are surprisingly dilated during its growth, and recover their former dimensions when that process has ceased; fifthly, of a peculiar sympathy which is manifested between the growth of the horns and the generative functions."

The reproduction of the antlers generally begins in the spring, and the rapidity with which these massive bony structures are secreted is almost marvellous. In the larger elk the budding horns are several inches high in ten days, and in a month they are almost fully formed, the magnificent antlers of a full-grown stag being produced in ten weeks. In the sockets from whence the old horns were cast, which, though they may have bled at first, have become skinned over, these new horns sprout. The blood then begins to flow strongly to the head, the vessels at the root of the vascular horn swell, and the horn itself pushes up, being protected while tender with a delicate and velvety covering. The development increases rapidly. Any one grasping these incipient antlers by the hand can soon realize some idea of the work going on in their creation, for they are startlingly hot, and seem to glow and throb—the very incarnation of natural reproduction. Then gradually the antlers appear, and soon are fully developed in all their grandeur. The velvety covering begins to fall off, or hang in ragged strips, which the animal very quickly clears away by rubbing them against tree-trunks, rocks,

or any similar conveniences. The last formation of this wonderful process is that of the burrs or pearls, which surround or clasp the base of each horn. They are also of rapid growth, and soon perform their office, which is by their tightening pressure to enclose and compress the blood-vessels, so that in a short space of time through their instrumentality the whole circulation is stopped, and as a consequence the sensitive vessels lose vitality, shrink up, and leave the antlers pure, naked horn, without pulsation or feeling.

The horns do not reach their full perfection in their first or second growth, but as a rule go on annually improving until the sixth or seventh year, when generally the number of the antlers attain their maximum. Their length, direction, and curvature, often vary, and it sometimes happens that there are more or less on one side than the other. The development of the horns is intimately connected with the vigour of the animal.

The MOOSE or ELK (*Alces malchis*), which is a grotesque-looking animal, is the largest member of the deer family—and in fact the largest mammal of Europe and America, for the elk of North Europe and Asia and the moose of America appear specifically to be the same.

Like all other American animals, their numbers are diminishing with fearful rapidity, but not at such a rapid rate as was noticeable a few years ago, before legislation in Canada and the United States had given them some protection. The adoption of this wise course has probably to a great extent retarded their extermination, for such reckless slaughter as that which occurred not very long ago in the province of New Brunswick, where many hundreds of these splendid animals were killed merely for their hides, while their carcasses were left to rot in the places where they fell, would, if the practice had extended, soon have made the moose extinct.

“To the early settlers in the States of Maine, Vermont, and New Hampshire, and the provinces of Nova Scotia and New Brunswick,” remarks the writer of an article on this subject in an American magazine, “the flesh of the moose was the main-stay, and his hide furnished them with serviceable clothing. At the present time, with the exception of Maine, the moose are almost extinct in the Eastern

states, and they are becoming scarce in Nova Scotia. In New Brunswick they are seldom found on the rivers emptying into the Bay of Fundy, where in former days they existed in vast numbers. They can yet be found, however, in considerable numbers on the head-waters of the Restigouché and Miramichi rivers and their branches; in the provinces of Quebec and Ontario, south of the St. Lawrence, in the central parts of the county of Rimouski, and thence southward along the borders of Maine, and all through the country south of the city of Quebec to New Hampshire. In the county of Gaspé they are extinct, having been exterminated by ruthless hunters for the sake of their hides. North of the Ottawa and St. Lawrence rivers, the moose ranges from Lake Wanapitiping nearly to the Saguenay. Their northern limit is now somewhere near the watershed of Hudson Bay; it was formerly beyond it. The western limit is about the longitude of Lake Huron. None are now found north of Lake Superior, although they have existed in that region as far north as the Albany River. In the North-West territories they are found as far as the Mackenzie River. A friend gave me the measurements of a moose killed in Rupert's Land, which, if correct, would go far to verify some of the old-time stories of the wondrous size of the moose. In the United States, moose are still found in sufficient numbers to warrant the belief that, by judicious protection, the species might be perpetuated. They are quite abundant in Oregon, Washington Territory, and the whole northern border of the United States as far as the Lake of the Woods. They are still met with occasionally in the northern part of Michigan, along the shores of Lake Superior, and very rarely in Northern Vermont and the Adirondack region. They also inhabit the wooded region of the great lakes, and that lying thence westward to the Rocky Mountains. The southernmost point at which they have been found in the west is in Baho, on the forks of the Snake River, near the Three Tetons, where several were seen and killed by members of the United States Geological and Geographical Survey of the Territories. The present southern limits of the moose on the Atlantic coast are the provinces of New Brunswick, and Nova Scotia, in the Bay of Fundy. These provinces are still his favourite haunts, and here in the present day he is

most accessible to the hunter. This is, perhaps, owing to the infinite number of lakes, and the prevalence of swampy, low-lying woods and bogs in which he loves to dwell.”¹

A male moose, when full grown, stands between five and six feet at the shoulder. Individuals of the exceptional size of seven feet, have occasionally been shot. The colour of the moose is a varying ash, the hairs darkening towards their tips, but in winter it assumes a much denser hue, sometimes almost black, which is a singular reversal of the change that other animals undergo who inhabit high latitudes, for they generally become lighter in colour, or even white, when the cold weather sets in.

The moose differs from the other members of the *cervidæ* family in several important features, especially with respect to the shape of the horns and the character of the nose. In the ordinary deer, of which the European red deer is a good type, the antlers have a rounded shape, and the nose is moist and naked. In the moose, however, the horns are broadly palmated, and the wide nose or muffle is, with the exception of a small naked spot, entirely covered with hair. The upper lip is long and prehensile, the ears are also conspicuously long and large; the neck is short, and remarkable for its thick shaggy mane; while the limbs are disproportionately long, which gives the animal the peculiar appearance that immediately strikes the beholder. The male animal has also a pendulous gland which hangs under the lower jaw and is covered with long hair. The massive horns, however, constitute one of nature's most ornamental productions. The wide palmated parts are fringed with short spikes or tines, and get larger and larger every year, until they attain their full development on the animal arriving at maturity. They are then very large, and have been known to measure over five feet from their base, the palmated parts at their greatest breadth being over fourteen inches, and at their juncture with the skull nearly ten inches in circumference, while in weight they may be anywhere between forty and sixty pounds. An adult moose sheds its horns in the month of January, and they are not perfectly restored until the summer is well advanced. The velvet

¹ *Scribner's Monthly*, 1878.

will then have been worn off, and the horns stand forth in all their glory, dark brown coloured, and well polished.

The great expanse of the antlers would appear to any one not knowing the facts, to be totally unfitted for a life among the forest-trees, where the moose spend so large a portion of the year; but, as a matter of fact, they are but of little inconvenience, for in common with all stags, when making their way through the trees they carry the head well up, and the horns are in this way kept lying horizontally along the back, which, to a considerable extent, prevents their entanglement with the branches.

In Smith's description of the moose, he says, "This animal is the largest of the genus, being higher at the shoulders than the horse; its horns weigh sometimes near fifty pounds. Accordingly, to bear this heavy weight, its neck is short and strong, taking away much of the elegance of proportion so generally predominant in the deer. But when it is asserted that the elk wants beauty or majesty, the opinion can be entertained by those who have seen the female only, the young, or the mere stuffed specimens; for us who have had the opportunity of viewing the animal in all the glory of its full-grown horns, amid the scenery of his own wilderness, no animal could appear more majestic, or more imposing. It is however the aggregate of his appearance which produces this effect; for when the proportions of its structure are considered in detail, they certainly will seem destitute of the harmony of parts, which in the imagination produces the feeling of beauty. The head, measuring above two feet in length, is narrow and clumsily shaped by the swelling upon the upper part of the nose and nostrils; the eye is proportionably small and sunk; the ears long, hairy, and asinine, the neck and withers are surmounted by a heavy mane, and the throat furnished with long, coarse hair, and in younger specimens encumbered with a pendulous gland; these give altogether an uncouth character to this part of the animal. Its body, however, is round, compact, and short, the tail not more than four inches long, and the legs, though very long, are remarkably clean and firm; this length of limbs, and the overhanging lips, have caused the ancients to fancy that it grazed walking backwards. The hair of the animal is

coarse and angular, breaking if bent. Its movements are rather heavy, and the shoulders being higher than the croup, it does not gallop, but shuffles or ambles along, its joints cracking at every step, with a sound heard to some distance. Increasing its speed, the hind-feet straddle, to avoid treading on its fore-heels, tossing the head and shoulders, like a horse about to break from a trot to a gallop. It does not leap, but steps without effort over a fallen tree, a gate, or a split fence. During its progress it holds the nose up, so as to lay the horns horizontally back. This attitude prevents it seeing the ground distinctly, and as the weight is carried very high upon the elevated legs, it is said sometimes to trip by treading on its fore-heels, or otherwise, and occasionally to give itself a heavy fall. It is probably owing to this occurrence that the elk was believed by the ancients to have frequent attacks of epilepsy, and to be obliged to smell its hoof before it could recover; hence the Teutonic name of elend (miserable), and the reputation, especially of the fore-hoof, as a specific against the disease."

The senses of smelling and hearing, are very acute in all the deer family, and especially in the moose. The ears are kept in perpetual motion, being moved to and fro so that they may catch the slightest sound made in their proximity. The nose conveys to the brain the faintest taint in the air of a man or an animal approaching with the wind, even from a considerable distance, and before the hunter can clearly discern the moose, it has become alarmed, and moved away with a silence that is perfectly wonderful for so ponderous a beast.

In his description of the dreamy solitudes of a North American pine-forest Captain Hardy,² observes, "Although almost all of our mammalia are nocturnal in their habits, and many of them beasts of prey, their nightly wanderings and strife with their victims are conducted in the most orderly manner. Quiet, noiseless stealth appears to be the characteristic feature of all animal life in the forest; mutual distrust of the same species, and ever-present tendency to alarm, predominate even in the wildest districts, where the sight of man is unknown, or at least unremembered. At the

² "Forest Life in Acadie," 1869.

slightest sound the ruminants and rodents cease feeding, remaining motionless, either from fear or instinct; the rabbit or hare thus frequently avoiding detection, whilst the moose can so silently withdraw if suspecting an enemy that I have remained hours together on the stillest night, believing the animal to be standing within a few yards in a neighbouring thicket, to which he had advanced in answer to the call, and found at length that he had suspiciously retreated. The great creature had retired, worming his huge bulk and his ponderous antlers through the entangled swamp, without detection of the straining ear to which the nibbling of a porcupine at the bark of a tree in the same grove was plainly audible."

At the end of the summer, when the horns have reached their full size for the year, the animal himself is also in the perfection of his strength and condition, and, "forsaking the swamps and bogs, where he has spent the summer feeding on the yellow pond-lilies, and evading the moose-fly and similar pests by frequently standing neck deep in some forest lake, he abandons the long silence maintained while his horns were in the velvet, and enters upon the rutting season—a noisy, aggressive, and pugnacious character. The fights which now occur between the old males are terrific—Greek has met Greek, and the combat is often prolonged until their horns become inextricably interlaced, and both animals die a miserable death."

Moose are rather solitary animals, wandering about from one place to another, but on the approach of winter, when through the shape of the hoofs, which are long and sharp-pointed, they cannot travel at any speed over the snow, they form into small herds of five and six, often containing a bull, a cow, and the young ones of the two previous seasons, and establish themselves in what is termed a moose-yard. They generally form this yard in the neighbourhood of young, deciduous trees, such as the white birch, maples, and mountain ash, for these, together with the coniferous trees, the balsam fir and juniper, form their staple diet. Moose cannot graze on the level ground, owing to the length of the legs and shortness of the neck, but they are able to feed on the leaves and small branches of these trees, and they very rarely wander far from that part of the country where there is an abundant growth of this

kind of food. The lips being prehensile, are perfectly adapted to its mode of feeding, for it can peel the bark from the trees, and draw within the mouth the branches and tender shoots it selects. Hunters who have studied the habits of these animals in their wild state, say that when the branches or topmost shoots are beyond the reach of the moose, they resort to a process termed "riding down the tree," that is, they get astride it, and bear it down by the weight of the body, until the coveted branches are within their reach.

Although they are very shy and timid, and very rarely attack even when angered, yet it must be remembered that a ferocious moose is an animal to be avoided, for besides employing his antlers, he has a tremendous power with the hoofs, for the great length of leg enables him to lash out vigorously with the hind-feet, and with a single kick one has been known to kill a wolf; but they usually defend themselves against these animals and dogs with their fore-feet, for they turn the hoof so as to strike with the sharp point, while they deliver their blows with extraordinary rapidity.

The Indians are great hunters of the moose, for the flesh is good eating, and the hide yields admirable leather for moccasins and snow-shoes. Captain Butler, who witnessed moose-hunting on the Peace River, gives a description of it in his book, "The Wild North Land," and remarks:—

"No man, save the Indian or the half Indian, can hunt the moose with chance of success. I am aware that a host of Englishmen and Canadians will exclaim against this, but nevertheless, it is perfectly true. Hunting the moose in summer and winter is one thing—killing him in a snow-yard or running him down in deep snow is another. The two methods are as widely different as killing a salmon which another man has hooked for you, is different from rising, hooking, playing, and gaffing one yourself.

"To hunt the moose requires years of study. Here is the little game which his instinct teaches him. When the early morning has come he begins to think of lying down for the day. He has been feeding on the grey and golden willow-tops as he walked leisurely along. His track is marked in the snow or soft clay;

he carefully retraces his footsteps, and breaking off suddenly to the leeward side, lies down a gun-shot from his feeding-track. He knows he must get the wind of any one following his trail.

“In the morning, ‘Twa-poos,’ or the Three Thumbs, sets forth to look for a moose. He hits the trail and follows it; every now and again he examines the broken willow-tops or the hoof-marks. When experience tells him that the moose has been feeding here during the early night, Twa-poos quits the trail, bending away in a deep circle to leeward; stealthily he returns to the trail, and as stealthily bends away again from it. He makes as it were the semicircles of the letter B, supposing the perpendicular line to indicate the trail of the moose. At each return to it, he examines attentively the willows, and judges his proximity to the game. At last he is so near that he knows for an absolute certainty that the moose is lying in a thicket a little distance ahead. Now comes the moment of caution. He divests himself of every article of clothing that might cause the slightest noise in the forest, even his moccasins are laid aside, and then, on a pointed toe which a ballet-girl might envy, he goes forward for the last stalk. Every bush is now scrutinized, every thicket examined. See! he stops all at once! You who follow him look, and look in vain; you can see nothing. He laughs to himself, and points to yon willow covert. No, there is nothing there. He noiselessly cocks his gun. You look again and again, but you can see nothing. Then Twa-poos suddenly stretches out his hand, and breaks a little dry twig from an overhanging branch. In an instant, right in front, thirty or forty yards away, an immense dark-haired animal rises up from the willows. He gives one look in your direction, and that look is his *last*. Twa-poos has fired, and the moose is either dead in his thicket or within a hundred yards of it.

“One word now about this sense of hearing possessed by the moose. The most favourable day for hunting is in wild, windy weather, when the dry branches of the forest crack in the gale. Nevertheless, Indians have assured me that on such days, when they have sighted a moose, they have broken a dry stick, and although many branches were waving and cracking in the woods,

the animal started at the sound—distinguishing it from the natural noises of the forest.”

Besides the method of “stalking” or “still hunting,” moose are hunted by “calling” or “creeping,” and in the winter when the location of a herd is known, they are easily killed by hunting them on snow-shoes, for if the animals attempt to escape over the deep snow they break through the upper crust at every step, whilst the hunter, on his snow-shoes, travels over it with facility. Moose-calling is probably the most exciting of all the methods adopted, and the one requiring the greatest amount of skill. It is only practicable during the rutting season in September and October, and can only be employed successfully between sunset and sunrise, for the bull-moose will rarely answer the call in the day-time. A calm clear night, when all nature seems in repose, and the slightest sound in the forest can be heard, and the bright moonlight, whilst it silvers everything around, yet renders objects clearly discernible even at a distance, is the one preferred by the skilful “caller.”

The art of bringing the moose within range in this way is one possessed by few white men, for it requires long practice, exceptional skill, and some qualities, which can only be found in men versed in venatorial lore. A great difficulty about it is the giving vent to the call so as to make it sound as though it came from the lungs of a moose and not from human ones. This is the true secret of the matter, and it is in the possession of this power that the red man excels the white one. The Micmac and Milecete Indians of the lower provinces of Canada are probably the most expert moose-hunters in the world, but even among them there are fewer really good and reliable callers than is generally supposed, for, as it is necessary to have many years' practice before thorough proficiency in the art can be attained, it is only the elder men of these communities that have fully mastered the secret.

“The art and mystery of calling,” remarked a writer in the *Field*,³ “consists in cleverly simulating the peculiar grunting roar which the cow-moose has a habit of uttering during the rutting time as

³ See *Field* for November, 1878.

a call to her lord. This call consists of a succession of low, deep grunts, ending in a very loud, prolonged, and hideous roar, which, in the profound silence of the woods on a calm night, is audible at a distance of two or three miles. Unmelodious and unsyren-like though the sound is to human ears, it apparently has its charms for the animal that it is intended to attract, and by closely and skilfully imitating this strange cry through a kind of horn or trumpet formed of a twisted roll of birch-bark, the hunter is enabled to decoy the most wary old 'bull'-moose within shot. To do this, however, requires, as a rule, much skill and experience on the part of the caller, who must be gifted with a good ear and a natural aptitude for mimicking sounds. A moose, especially an old bull, is one of the shyest and most suspicious of animals, and his sense of hearing is of the keenest; moreover, the nearer he approaches the spot from whence the call emanates the more wary and cautious he becomes, consequently the least inaccuracy in pitch or tone is immediately detected, and sends him to the right-about forthwith. Each note must therefore be correctly rendered, as one false note or improper variation will inevitably ensure detection of the imposition. The chief secret of success is in knowing exactly when and how to modulate the sounds in the manner best calculated to allay the animal's suspicions as he draws nearer; when to raise or lower the notes, in particular when the crafty moose makes a halt close to you, perhaps within range, but still concealed from view, and pauses thus irresolutely, keenly listening, and dubious whether to advance or take his departure; to be able, at this critical moment, to produce the low, half-uttered, and distant sounding grunts and subdued roars which are needed then to overcome his distrust, and entice him fairly under fire."

Although moose are wary animals, they seem to have considerable curiosity, for the sound of even an axe upon a tree has been known to attract them to the spot to investigate it, and men possessing but the most feeble powers of "calling" have on occasions allured an animal to their near proximity. Captain Hardy⁴ states that he knew a white settler in New Brunswick who thought

⁴ "Sporting Adventures in the New World."

he would try his hand at calling, as the moose were numerous in the woods at the back of his clearing, and got in consequence what he expressed as "a most horrid scarin" from a bull-moose. It appears that, somewhat to his surprise, he obtained an answer to his call, and the animal came up in broad daylight. But the man was so taken "aback" that it was not till the close approach of the moose that he fired, which he did without taking good aim, and missed the animal in consequence; it then furiously attacked him by at once knocking him over. "He said that for some minutes he did not know whether he was on his head or his heels, and that when he came to his senses again he found, no doubt to his great relief, his persecutor gone. He was badly bruised, but by good-luck escaped having his skull fractured by a blow from the fore-leg of the powerful animal."

The European elk is, or rather was, a native of the wooded wilds of the northern countries of Europe. Lloyd⁵ says it was at one time numerous in most parts of Sweden and Norway; but, owing to the increased population and other causes, the animal was when he wrote only to be met with in particular districts. In Scania, the most southern province of Sweden, where they once abounded, there are none now to be seen. Elk, however, can still be found in Finland, Lithuania, and some parts of Russia, also in the forests of Siberia, and in the neighbourhood of the Altai mountains. During the last half-century they have been steadily on the increase in some places in Norway, owing to the protection afforded them by law, and to their having abandoned the districts where their enemy the wolf abounds for regions where but few of them exist.

"The elk is a first-rate swimmer," remarks the Rev. M. R. Barnard,⁶ "and goes ahead through the water with great velocity, making the water hiss and foam again. It is also able to traverse swamps without sinking into the mire. If the ground be very soft it has recourse to an artful expedient. As soon as it begins to feel itself sinking, it sits down on its hams, stretches out its fore-legs, and regularly 'punts' itself along; but should it

⁵ "Field-Sports of the North of Europe," 1830.

⁶ "Sport in Norway and Where to find it," 1864.

happen that the swamp is too soft even to admit of this, it adopts the same plan as the mountain ponies do under similar emergencies. It throws itself over on one side, draws its feet together, and kicks them out simultaneously with great violence, and thus manages to jerk itself along. In this way it is enabled to cross places where even the wolf gets completely nonplussed. But on the smooth ice it is perfectly helpless. No cat on walnut-shells or donkey on stilts ever looked half so ridiculous as does an elk on the ice. It falls down directly it begins to move, and owing to its length of leg is unable to rise again."

"The skin is convertible to many purposes, and is very valuable. Mr. Grieff says: 'It is not long since that a regiment was clothed with buff waistcoats made from the hides of those animals, which were so thick that a ball could scarcely penetrate them.' He adds further, that 'when made into breeches, a pair of them, among the peasantry of former days, went as a legacy for several generations.'"

The elk was well known to the Romans. Cæsar makes the first allusion to the animal in the pages of history, in the sixth book "De Bello Gallico," wherein he describes it as being an inhabitant of the great Hercynian forests of ancient Germany. Pausanius also refers to it. Pliny, whilst declaring it to be a native of Scandinavia, states that it had not been, during his time, exhibited at the Roman games. At a later period, however, it made its appearance, for Gordian's collection included ten specimens, and according to the Latin biographer, Julius Capitolinus, who wrote about the end of the third century, Aurelian, when he celebrated his triumph over Zenobia, exhibited the rare spectacle of the elk, together with the tiger and giraffe.

Good representatives of the moose are rarely seen in England. The animals that appear occasionally in the Zoological Gardens are generally miserable-looking creatures compared to the animals to be seen wild in America. The climate evidently does not agree with them, and they suffer through the absence of their natural food. King Charles I., who among his other attainments was well versed in natural history, took great interest in all animals, and liked to possess rare specimens, gave directions, in

1637, for toils to be taken to Virginia to catch deer alive for him. By "deer" meaning the great elk of America now known as the moose, but the success of the venture is not recorded, for about this time the monarch's troubles began to thicken around him.

They are difficult animals to transport without injury, and this fact was brought home to Victor Emanuel, who, some five and twenty years ago, gave orders to have a number shipped from North America to Italy for him. After considerable labour some were caught and tamed, but all but one died at sea through rough weather.

When captured young the elk is easily tamed and domesticated; and to people who are partial to the rearing of hybrids it may be interesting to know that at the Veterinary Institute in Stockholm a cross between a tame elk and a cow has been obtained. A tame moose manifests considerable attachment to the person who takes care of it, for it will follow him about like a dog, and after a separation will exhibit in many ways unmistakable expressions of joy and pleasure on again seeing him.

Their powers were for two or three centuries utilized for sledge-drawing in Sweden. They were described as being quite as useful as the reindeer in harness, and could perform long journeys at a much greater speed. In the reign of Charles IX. (1550 to 1611) elks were employed in this way for conveying couriers; and their endurance and the rate they could travel can be imagined, for it is recorded that they accomplished 234 English miles a day even when harnessed to a sledge. It is stated that this fact was the reason their use was discontinued; for their great speed and the distance they could travel led to their being utilized by murderers and other criminals to accelerate their escape over the frontier, and their employment had consequently to be prohibited by the Government under heavy penalties.

Although so easily tamed and trained for work, yet the reason that they are not so utilized at the present day is no doubt owing to the fact that during the rutting season they become useless, for they get headstrong, pugnacious, and frequently dangerous. Some years ago, a gentleman in Three Rivers, a province of Quebec, had a tame animal, which he employed during the winter to

draw water from the river on a sledge made for the purpose, but despite its docility, it was liable to give great trouble through getting perfectly unmanageable at the season of its excitement.

At the present time a half-breed Indian, who has a homestead in the region of the Dead River in the State of Maine, employs a moose for his farm-work. The animal has been completely broken in for labour purposes, and when hitched to a sleigh travels as fast as a good horse. He is kept in an enclosure surrounded by a fence of ordinary height, and now and again the moose jumps over it and disappears, to taste the sweets of liberty once more for a few days ; but the half-breed does not appear to regard his absence with any alarm, for the animal has never yet failed to return sooner or later and submit to be harnessed.

Captain Hardy, while in Halifax, kept a young bull-moose which was so tame that he would come into the room and jump several times over chairs, backwards and forwards, for a piece of bread. His great delight was to have tobacco-smoke puffed in his face, which would cause him to rub his head, with great satisfaction, against the individual who would do it to him. It was at last accidentally killed by being given an over-feed of turnips.

CHAPTER XXVI.

THE REINDEER (*TARANDUS RANGIFER*).

CERTAIN qualities possessed by the reindeer make it the most important of all the species of deer, for it is the only one which has been thoroughly domesticated and employed by man. It has a somewhat similar range to the elk, but extends into the countries still more northerly. Murray describes it as inhabiting the whole of the boreal regions of the northern hemisphere. Its southern limit is very nearly the isothermal line of 32° Fahr., more frequently extending a few degrees to the south of it than to the north. Its most southerly limit now is 50° N.L., viz. the southern point of Kamtschatka, and its northern is most probably Spitzbergen. It is also a native of Greenland, and is found in Iceland, but it is not an aboriginal inhabitant. Sir G. S. Mackenzie¹ writes: "The reindeer has been introduced into the island, and has increased rapidly. Out of thirteen which were exported from Norway in 1770, three only reached Iceland. They were sent into the mountains of the Guldbringè Syssel, and they have since multiplied so considerably, that it is now no uncommon thing for those who pass often through the mountains in various parts of the island to meet with herds consisting of from forty to sixty or a hundred. They are very little molested, the Icelanders satisfying themselves with complaining that the deer eat their lichen; and, though sometimes for the sake of amusement the Danes go out in pursuit of them, very few are destroyed. They live almost entirely among the mountains, and are very shy; but sometimes in the depth of winter come down into the plains, particularly about Thirgvaka, to feed on the moss which abounds in that quarter."

¹ "Travels in the Island of Iceland," 1811.

Murray, commenting on this increase, says: "A happy future was anticipated for these animals. It was thought that although in Lapland they were losers by their connection with man, Iceland should make up for all. There is in the interior a tract which Sir G. Mackenzie computed at not less than forty thousand square miles, without a single human habitation, and almost entirely unknown to the natives themselves. There are no wolves; the Icelanders would keep out the bears; and the reindeer, being almost unmolested by man, would have no enemy whatever, unless they had brought with them their own tormenting gad-fly. The anticipation has not been realized. Lord Dufferin speaks of them as anything but common, and Mr. Baring-Gould says that they are almost confined to the north-eastern part of the island, where they are in some numbers."

In Spitzbergen, Finland, and Lapland, the reindeer attains its perfection in size and strength, for the animals generally to be seen in Norway and Sweden are in every way inferior.

In the New World, the reindeer, or caribou, as it is there called, extends through Greenland, Canada, and Newfoundland. The animal of these countries differs in the construction of the horns and in other minor particulars, so that it is easy to distinguish the American from the old world animal, and in consequence some naturalists have contended that the two varieties are specifically distinct; this opinion has not, however, been generally accepted.

Although even at the present day the range of the reindeer is a wide one, yet its habitat is confined to the northern regions of the world, but in earlier times this was not the case, for remains of these animals have been found in many parts of France. In the southern part of that country, especially, immense numbers of their bones have been discovered, and it is conjectured that the animals were used as food by the human dwellers in the caves. In Wales, some few years ago, many hundreds of reindeer antlers were found in the bone-caves of Glamorganshire, and the remains of many distinct varieties have been discovered in certain parts of England.

The reindeer differs in one important feature from all other members of the deer family in that the females possess antlers as

well as the males. They are of the same form as the bucks, but are smaller and are not shed at the same time, for the animals of the latter sex are deprived of their horns at the beginning of the winter, while the cow-reindeers retain theirs until the spring. Why this should be has not been accurately ascertained, although various conjectures have been made, but there seems no reason why, if the horns are of any service to the one sex during the winter, they should not be equally necessary to the other. The horns of the male animal begin to grow again in the summer, and by the middle of September are perfectly developed, and have become hard and firm. Barnard remarks that the animals at this time may often be seen rubbing their antlers against sandbanks in order to get rid of the coating of skin, and stamping with their hoofs on them till their horns are quite bare. "During this operation," he observes, "they frequently lose a great deal of blood. Should the weather be sunny their antlers assume a blood-red appearance, but if rainy they are quite white."

The reindeer is not a graceful animal, for the shortness and thickness of the neck, and the size of the head, together with a general want of symmetry, confer upon the animal anything but the elegant and attractive appearance noticeable in the other members of the deer genus. The head is not carried erect, but low down, so as to form nearly a straight line with the back. The antlers, however, are sometimes large and very ornamental. They are sub-cylindrical, flat on the insides but rounded off on the outer. The lower branches and tips are slightly palmated. Abnormal instances are occasionally to be met with, in which a considerable amount of palmation is exhibited throughout the entire extent of the horns. Major Ross King² says, referring to the horns of the caribou, "They are of singular and fantastic form, and though of great expanse—apparently but ill adapted for a forest-life—are so slight that their weight seldom exceeds nine pounds. The stem of the horn is considerably curved, the concave side being to the front, and the extremities of the palmated brow-antlers nearly fifteen inches over the face. Sometimes only one of these brow-antlers occurs on one or other of the

² "The Sportsman and Naturalist in Canada."

horns, though they are more frequently present in both, especially in the case of the older males ; and it is doubtless their peculiarity of form which has led to the belief that they are intended by nature for the purpose of removing the snows of winter in search of food. The fact, however, that the male animal sheds his horns about the commencement of that season demolishes the theory in his case ; and it is well known that he uses for this purpose his fore-feet and muzzle only, the skin of which latter is exceedingly hard and tough."

In Lapland, where the reindeer constitutes the most important possession of the people, the animals are found in a wild as well as a domesticated state, the former being slightly larger than the tame ones. The domesticated reindeer supplies the Laplander with nourishment and clothing, and not only does it constitute his support, but it is the object of his pride and happiness, for his whole wealth is estimated by the number of these animals he possesses. The man who owns many hundreds of them has attained the highest pinnacle of good fortune, but a traveller who studied the habits of this curious people states that on this account he will never think of altering his mode of living in the slightest degree, or of adding to his enjoyments, except, perhaps, by considerably increasing his daily supply of brandy.

From Tromholt's³ popular book, many particulars can be learnt respecting the Laplanders and their reindeer, which are the most important factors in their domestic economy. "They are his fields and meadows, cows and horses ; and from them he obtains every article which the townsman purchases at his stores. The reindeer furnishes the Lapp with food, clothes, and labour ; it supplies him with milk, cheese, meat, and money. The skin is used for clothes and furs, the skin of the head and feet for shoe-leather, and from the sale of the products of the reindeer he obtains every other requisite, such as *vadmel* for clothes and tent, flour, salt, spirits, tools, and nicknacks, while from the sinews thread is made by the women, and from the horns or bones, tools and glue."

³ "Under the Rays of the Aurora Borealis," by Sophus Tromholt, edited by Carl Siewers.

Reindeer are milked by some Laplanders once and by others twice a day, and this process of milking is described as one of the most interesting scenes to be witnessed in the country.

“Towards evening the reindeer are driven from the mountains to the tents. Their arrival is first announced by the barking of the dogs, who run round the herd to keep the animals together. Soon the whole herd is descried, forming a closely packed mass, which moves along like a grey cloud. As the animals approach nearer, the horns become a prominent object, resembling a moving leafless forest, and very various in the form and size. The fawns push through among the full-grown animals, and we at last hear a crackling noise, produced by the movement of their legs, and resembling the sound of burning fir-trees, or rather that of electric sparks. Here and there is heard a sound somewhat like the grunting of swine. Near the tents there is a circular enclosure, provided with two openings or doors. When the reindeer approach it they press closely together in order to enter, and one sees only the moving mass and the projecting horns. Should a deer or a fawn remain behind, or take a wrong path, a dog immediately pursues it, and the deserter is soon seen running back to the herd at full pace, followed by the dog. The animals now stand closely packed together within the fence, and are so tame that a stranger even can touch them without trouble or danger. In the centre of the enclosure there is a small erection, to which the animal is strongly bound during the milking in order that it may not become unruly, and upset both the milk and the milker. The milking is performed by men, women, and children; but the task of bringing the animals to the milking-place belongs exclusively to a particular man, and is accomplished in the following manner:—

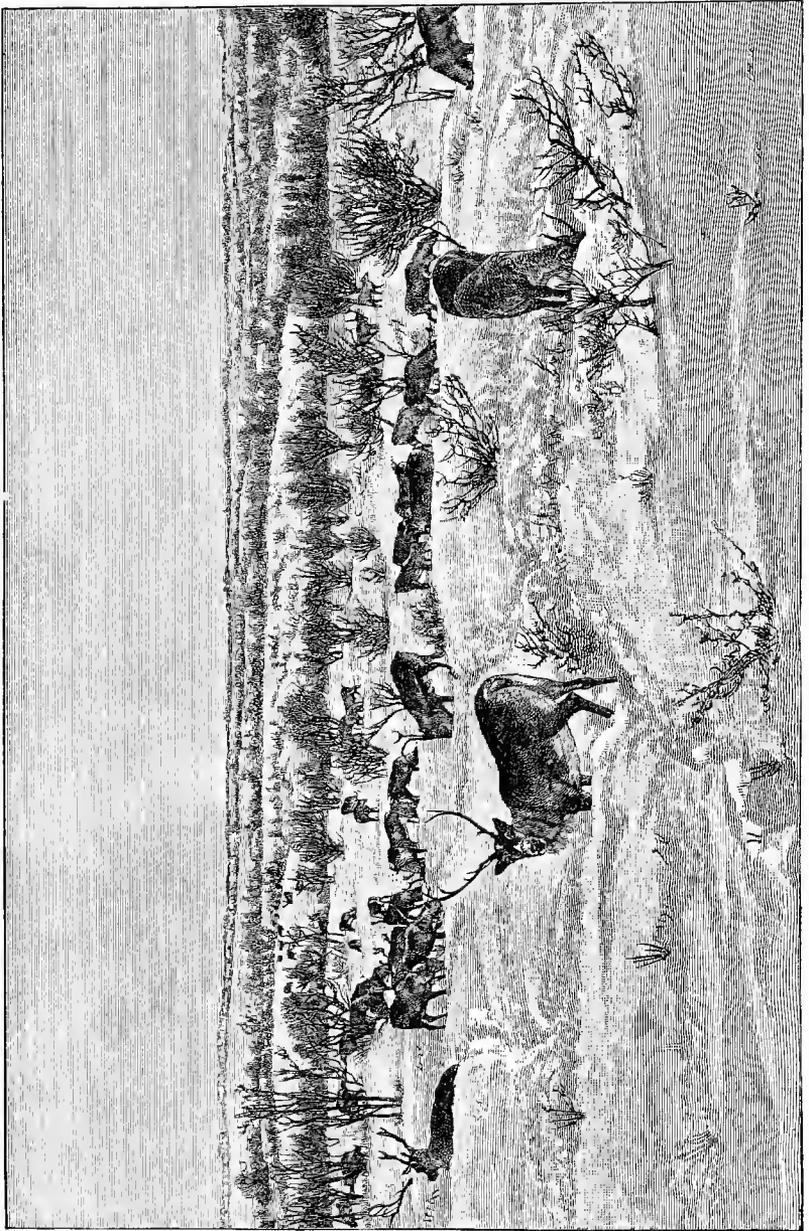
“This individual is accurately acquainted with every animal, even in a herd of several hundred, and knows if it is a male or female, and if it is milked or not. He goes with a noose in his hand, and throws it so dexterously over the horns of the animal he wishes to secure that he never fails in his aim, even at a distance of fifteen or twenty yards, and when many other individuals are standing between him and his object. So soon as the noose

is fastened round the horns, the animal is dragged to the milking-place and there securely tied; another animal is afterwards taken in the same way, and so on till all have been milked. The skill of the Laplanders in the use of this noose can only be compared to that of the savages of Africa, or the bull-takers in Brazil."

Du Chaillu ⁴ describes the process of milking as peculiar: the women hold in one hand a wooden scoop and frequently have to press hard with the other, for the thick fluid seems to come with difficulty. From the scoop the milk is poured into a keg-like vessel, closed by a sliding cover, and so contrived that it can be carried on the back of an animal. "I was surprised," he remarks, "at the small yield—some not giving enough to fill a small coffee-cup; but it was very thick and rich—so much so, that water had to be added before drinking; it is exceedingly nourishing, and has a strong flavour, not unlike that of goat's milk. The milk of the reindeer forms a very important item in the food of the Lapps, and possesses an amount of nutrition far greater than that of the cow or the ass; strange to say, the butter made from it is so bad that one might almost fancy that he was eating tallow; accordingly, the Lapps make very little butter, but cheese is produced in large quantities."

Sir A. De C. Brooke, in his book "A Winter in Lapland and Sweden," remarks that a mere glance at the reindeer will convince us how admirably Providence has qualified this animal for the Polar regions, and how indispensably necessary it is to the very existence of the inhabitants of these countries. "The peculiar make and strength observable in the neck, shoulders, and fore-quarters," he states, "would alone mark it as peculiarly adapted by nature for the purposes of draught, while its loins, the extraordinary degree of muscular power developed in the general formation, the thickness and bore of the legs, confirm it in as great a degree. The hoofs of the animal are wonderfully adapted to the country it inhabits; instead of being narrow and pointed, like those of the roebuck or the fallow-deer, they are remarkably broad, flat, and spreading; and when it sets down its foot, it has the power of contracting or spreading its hoofs in a greater or less degree,

⁴ "The Land of the Midnight Sun."



REINDEER FEEDING.

Scene in Lapland. From a photograph taken by Mr. Sophus Tromholt.

according to the nature of the surface on which it moves. When the snow is on the ground, and in a soft state, the broadness of the hoofs, which it then spreads out so as almost to equal in size those of a horse, gives it a firmer support on the snow, and hinders it from sinking so deep in as it would otherwise do; though it does not prevent it at times from plunging even to a great depth, particularly after a recent fall of snow, before the surface has acquired firmness sufficient to bear the weight of the animal."

"The snapping or clicking noise, which is heard when the animal walks, is occasioned by the contraction of the hoofs when the foot is raised from the ground, and the consequent striking of the inner parts of the hoofs against each other. This noise is perhaps of no inconsiderable advantage in enabling the herd when scattered, to rejoin each other, as from the acuteness of their hearing, it is audible at a considerable distance.

"No other animal probably has so thick and so close a coat as the reindeer, which is thus well protected against the severity of the climate it inhabits. Of all the garments worn by the inhabitants of the Polar regions, none can be compared with those made of the reindeer skin for effectually resisting the cold. The Laplander is fully sensible of this, and every part of his winter clothing is made from their fur. The hairs composing their coat are indeed so thick, that it is hardly possible by separating them in any way, to discern the least portion of the naked hide. At the lower part of the neck, a thick tuft of long hair hangs down, and serves as an additional protection to this part against the cold.

"The general colour of the animal during the summer is considerably darker than in winter, and when it gets its new coat the fur is thin, but as winter approaches, it thickens in an extraordinary manner, becoming of a greyish brown: and the flanks, breast, and lower part of the neck, are then of a greyish white."

The average duration of the reindeer's life is estimated at nine or ten years, but occasionally it will live to the age of sixteen.

In summer these animals feed on the leaves and tender shoots of certain trees and mountain shrubs. They also browse upon the

young herbage which they can crop hastily as they pass along. Brooke states that it is affirmed that where the reindeer has been feeding, no cattle will graze for a considerable time afterwards.

In winter the food and almost entire subsistence of these animals are different lichens, but chiefly the *lichen rangiferinus*, or reindeer-moss. Although the country is almost destitute of other vegetation, yet this plant, which is described as containing very nourishing properties, is providentially strewed plentifully over it.

The belief that the horns of the reindeer were employed by the animal to clear away the snow, so that it could reach its food, still exists, but it is an error; the snow is dug up with the broad, sharp-edged hoofs. Du Chaillu witnessed reindeer feeding in this way, and he describes the scene in the following words. He was driving with a guide one very cold day, when entering a forest they found themselves suddenly in the midst of a number of holes several feet deep, which had been dug by reindeer. "The track of the furrows of the other sleigh," he writes, "was soon lost, and the route became abominable. Down into the depths we would go—up again—then on one side, then on the other. From the top of a mound we were pitched into a hole, bumping against a tree, the boughs or branches often striking against our faces; to avoid these we had to keep ourselves flat in the sleighs, in constant danger of being upset. Several thousand reindeer had evidently been here, and we were completely lost in their excavations." When they came up with the herd, Du Chaillu remarks that he witnessed an interesting sight. "The snow in this district was not deep," he continues, "not over four feet. Under that thick cover was buried the rich moss of which the reindeer is so fond. All except the younger ones were busy digging, first with one forefoot, then with the other; the holes gradually became larger, and the bodies of the animals were more and more hidden; they would not stop till they had reached the moss. Wherever I turned my eyes they were seen doing the same work, for they were evidently hungry.

"On our way back another strange sight presented itself. Where had the reindeer gone? None were to be seen. Had they been taken away? As I approached the herd, I discovered that

all of them had dug holes so deep that I could see only their tails, which swayed to and fro. This was certainly a landscape I had never seen before."

It is a well-attested fact, although a singular one, that the reindeer occasionally eats the lemming, or mountain rat.

A good deer is capable of drawing a weight of nearly 300 lbs., but the Laplanders generally allot about 240 lbs. for each animal. They are by their construction better calculated for hauling than for carrying weights, yet in some countries they are made available even for this purpose, and formerly in Kamtschatka, Siberia, and even in Russia, they were ridden by travellers. Martin Sauer, in his account of the geographical and astronomical expedition performed by Commodore Joseph Billings to the northern parts of Russia, by command of the Empress Catherine the Second, during the latter part of the last century, gives a curious description of this mode of travelling: "Having with me," he writes, "the ship-builder and my servant, at 3 p.m. I left the party mounted on a beautiful young reindeer; the saddle placed on its shoulders, without stirrups; no bridle, but a leather thong about five fathoms long tied round the head of the deer; this is kept in the rider's left hand, that he may prevent its escape if he falls, and when refreshing have a little scope to select its food. A strong stick about five feet long assists the rider to mount, though the Tungoose, for this purpose use their bow; standing on the right side of the deer, they put the left leg upon the saddle, lean on the stick with the right hand, and spring up with astonishing apparent ease: we, however, could not effect it by any means without assistance; and during about three hours' travelling, I daresay that we fell near twenty times. The top of the saddle is square and flat, projecting a few inches over the sides of the deer; the seat is secured by drawing up the calves of the legs towards the thighs, and clinging fast to the projecting parts of the saddle, which at first causes astonishing pain to the thighs; by the third day, however, I became a very expert rider; the ship-builder could not manage it at all, and went for the most part on foot: of course my travelling was not very expeditious."

Rev. M. R. Barnard assures sportsmen who contemplate visiting Norway that wild reindeer are certainly to be met with in Finmark, and in Nordland, yet they are comparatively few in numbers, for most of the deer in these provinces are tame ones belonging to the Laps. It has been computed that this latter variety number over 28,000 head, and the reindeer being the sole possession of the people, it is almost needless to say that they are most jealously guarded. He also draws attention to the fact that there is a heavy penalty for shooting one purposely, and cautions Englishmen who go out there for sport not to indulge in any "eccentricities" with the animals, for the Laps occasionally take the law into their own hands, as the following history proves :—

"Some years ago a number of convicts escaped from the fortress at Vardohuis. In order to obtain food, they had recourse to killing tame reindeer. This exasperated the Laps beyond measure. They tracked these unfortunate poachers from place to place, slowly, but as surely as the bloodhounds follow on the track of a runaway slave. For years nothing was heard of them, till at last their bleached skeletons were found, bearing evident signs that their former inmates had fallen into the hands of their remorseless and avenging pursuers."

A writer of a book on Lapland observes that reindeer have nothing of the antlered monarch of the forest look about them, but a careworn, nervous one, which, he adds, "I do not wonder at, considering how they are bullied. There are creatures which sting them all over, and creatures which lay their eggs in their eyes and nostrils, and make themselves comfortable under their skin; and wolves, and gluttons, and dogs, and Laps; in short, barring a cat, I know of no animal that *is* so worried." De Brooke also remarks upon the same subject, that "no creature suffers more than the reindeer from a species of gad-fly, as it not only torments him incessantly by its sting, but deposits its eggs in holes which it has made in the hide. The poor animal is tormented to such a degree, that were the Laps to remain in the forest from June to August, they would run the risk of losing the greater part of their herds, either by actual sickness, or by the deer being off on their own accord to escape the 'fly.' For these reasons the Lap is driven

from the forests to the mountains overhanging the Norwegian and Lapland coasts."

The reindeer will only gallop when actually forced to do so, although in pictures the animal is generally represented as flying over the snow in this manner. Its ordinary pace is an awkward, straddley walk, varied occasionally by a still more ungraceful, slouching trot. Its speed in a loaded sledge is about ten English miles an hour, and its powers of endurance are very great: so much so, that journeys of one hundred and fifty miles in nineteen hours are not uncommon. De Brooke states that there is a portrait of a reindeer in the royal palace of Drotningholm, (Sweden), which is said to have performed the extraordinary feat on an occasion of emergency in 1699, of drawing an officer who carried important despatches, a distance of eight hundred English miles in forty-eight consecutive hours. The report is current that the poor beast dropped down dead at the conclusion of the journey.

The caribou of North America appears, as before stated, to be identical with the European reindeer. These animals are to be found across the whole width of the American continent, but except perhaps in certain districts of Nova Scotia, are most abundant on the western side of the Rocky Mountains and the northern parts of British Columbia.

It is almost impossible, however, to accurately define the territories in which the animals are most plentiful, for the work of exterminating the larger *fauna* of America is one that makes rapid strides. The observation made with respect to the habitat of the reindeer being confined to the northern regions is also applicable to the caribou in America. It now abounds south of the Hudson's Bay to the United States, and from Newfoundland to the Pacific, but their fossil remains have been found as far south as Ohio. Mr. S. J. Hays, in a paper read before the New York Lyceum of Natural History in 1871, remarked that at the period fraught with so much meaning to the Indians, namely, "the arrival of the white man," the range of the caribou was no more extensive than at present. The settlers of New Amsterdam knew of it only from the Indians, and, from the inaccurate description

of it which they received from this source, wrote back to their friends in Europe that the fabled unicorn had been found.

There are two varieties of this species of the *rangifer*—the woodland caribou and the barren ground caribou, the latter being much smaller animals in every way. Their range is along the shores of the Arctic Ocean and of Hudson's Bay, above the northern limit of the forests. They are also to be found in Greenland.

Owing to the stupid and fearless character of these deer in some districts, the sport of caribou-hunting is not remarkably exciting. One hunter states: "I have repeatedly known deer which I had failed in approaching unseen come up boldly of their own accord until they were within easy shot of me, although I was not only in full view but to windward of them. Neither does the report of a rifle much alarm them; but that is more easily understood, as they are no doubt accustomed to hear the cracking of the glaciers, and the noises caused by the splitting of rocks by the frost in winter. On one occasion my companion found a troop of five deer, and, obtaining a concealed position whence they were within range of his rifle, knocked over four of them by a bullet from each of his four barrels; the survivor then stood sniffing his dead companions until Kennedy had time to reload and consummate this unparalleled sporting feat by polishing him off likewise." And again he writes: "In the first valley we came to we espied some small troops of deer feeding within half a mile of the shore. We landed, and I killed nine of them without much trouble; I might easily have shot as many more, but I got disgusted with such a burlesque upon sport, and left them alone." This, however, was a very exceptional experience.

The lowing of the caribou is a short, hoarse bellow, which is more like the bark of a dog than the voice of an animal of the deer tribe.

The caribou does not appear to have ever been domesticated, although attempts have frequently been made to utilize it in the same way as the European reindeer, but through some cause or another these experiments have not been crowned with success, for although carefully reared and trained by man from their very birth they become wild and untractable on attaining maturity.

CHAPTER XXVII.

THE WAPITI AND THE LÜHDORF'S DEER.

THE WAPITI (*Cervus Canadensis*) is frequently called the elk in America, and by some of the hunters in the Hudson's Bay Territory is spoken of as the "red deer." The moose is, however, the true elk, and although the wapiti resembles the old-world red deer in many ways, yet it far exceeds it in size. The wapiti is, in fact, one of the largest and most stately specimens of the deer species, being frequently found as big as a good-sized ox, and possessing wonderful power and activity.

"This antlered monarch of the forest," remarks Mr. J. M. Murphy, "stands about as high as a horse, and often attains a weight of eight hundred pounds. Having strong though lithe limbs, a full body, large dark eyes, and a splendid head, which is adorned with magnificent branching antlers five or six feet in length, and bearing from five to seven prongs each, it is, in my estimation, the finest specimen of its family on the continent. It has a proud, defiant, yet graceful mien, which makes it one of the most superb adjuncts to a landscape, and its very gait is enough to arouse the ardour of the most unimpressible sportsmen, it being the acme of easy yet vigorous motion. Its antlers, which are highly prized for adorning dining-rooms, frequently weigh from fifty to sixty pounds, so that they are fit trophies to grace the proudest baronial halls. They sometimes assume eccentric shapes, for it is no very unusual sight to see a burly stag with one of his antlers largely palmated, and the other curving downward instead of upward, so that it resembles the bend of the horns so marked in the mountain sheep. Such antlers are deemed to be unusually valuable, as their eccentricity is highly prized by collectors and ardent lovers of the chase."

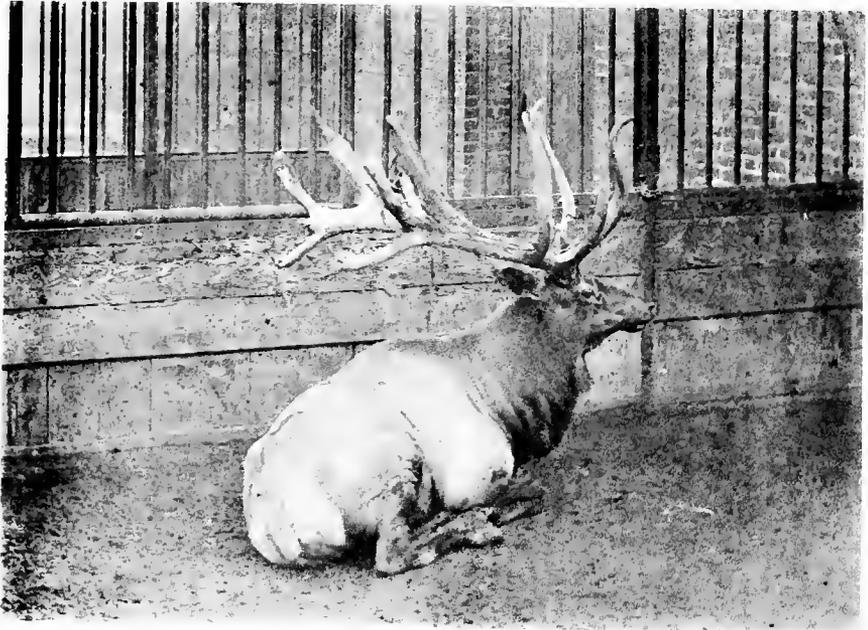
These handsome antlers are often seen between four and five feet in height. They are round, brownish-coloured, and have a roughened surface except at the points, which are generally worn quite smooth and white. They are usually shed in March or April.

Unfortunately, the fashionable people of the United States having discovered these horns are splendid adjuncts in the ornamentation of their halls and dining-rooms, a demand has been created for them which is materially hastening the total disappearance of the wapiti from many of the States where even lately they used to be abundant.

In summer the prevailing colour of the wapiti is a light chestnut-red, which is darker under the throat and centre of the belly, and there is a large whitish patch upon the hind-quarters. The colour becomes greyish in the autumn, and continues so through the winter. The ears are long and sharply pointed.

The sexes differ considerably in size, the females being much the smaller, and they do not possess any horns. The males, even when encumbered with their huge appendages, make their way through dense woods with ease and without slackening their usual pace when alarmed, which is a long-measured trot, that carries them over the ground at a rapid rate, for they throw their cumbrous antlers back over the neck, till they nearly rest on the body, and with their noses well up in the air, the branches are easily parted asunder and the opening widened sufficiently for the passage of the horns.

The true habitat of the wapiti at the present day is west of the Rocky Mountains. There its range extends from California in the south to British America in the north, but it is stated to be most numerous between the parallels of thirty-eight and fifty-two, where formerly it was seen in herds that varied from fifty to five thousand. It used to be abundant in the wooded portions of Northern California, Idaho, Montana, Utah, Wyoming, Dakotah, British Columbia, and in the beautiful and extensive natural parks of Colorado. Murphy states that being exceedingly gregarious in habit, where one is found there are sure to be others; and in many places they spread over the country like small herds of domestic cattle.



A WAPITI STAG,

With horns in the velvet.

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(*Cervus canadensis.*)

A WAPITI STAG,

With horns fully developed.

But the various industries, mining, ranching, and farming, are fatal to the existence of big game, and the same story has to be told of the noble wapiti as of all the other animals indigenous to the new world; the demand for their hides, which have more than doubled in value lately, the increase in the number of sportsmen who annually visit their haunts, and other causes, are all conducive to the one inevitable result. The extermination of the wapiti is nearly an accomplished fact in the countries east of the Mississippi, and after the lapse of a few more years the same remark will doubtless be applicable to the territories to the west of the river.

The wapiti deer was found all along the coast of America from Canada to the Gulf of Mexico. Mr. Hays, in the paper referred to in the previous chapter on the elk, drew attention to the fact that Vanderdonck mentions them as being plentiful in 1642 around New Netherland, which nearly corresponds with the modern State of New York. Father Le Moine made a journey in 1654 to the western part of this State, and speaks of the astonishing number of the deer and of the great number of elk (wapiti), many of which were killed while crossing the rivers. According to Brickell, elk were plentiful in the Carolinas as late as 1737. "As late as 1826," remarks Hays, "elk were killed on the Saranac in New York; a few were in the mountains of Pennsylvania in 1864; now it is probable that not one could be found east of the Great Lakes."

The wapiti is probably the most ferocious of all the deer tribe, for at certain seasons of the year, when his horns have attained their full size, he will boldly face a man, and charge straight at him. The animal in the Zoological Gardens is also of a fierce disposition, and very hard to photograph, for, as the writer discovered, when the bars were approached so that the lens of the camera could be inserted between them, the animal would immediately charge it; and it was necessary to beat a rapid retreat from the range of the huge horns.

The wapiti stags fight desperately among themselves during the rutting season, and these encounters often end fatally, though perhaps, in the majority of cases, they are terminated simply by

neither animal getting a decided advantage, in consequence of their having to stop fighting from sheer exhaustion. The extraordinary endurance, pluck, and wonderful skill displayed in these tussles for the mastery are sights which will amply reward a sportsman, who has a chance of witnessing an encounter of this nature, for any toil it may be necessary to undergo in order to get to the scene of battle unobserved. For it is blood-stirring to watch the quickness of the animals' movements, their defiant attitudes, their vigorous onslaughts, and to hear the attestation of the savage force with which they charge being echoed from the hills as their antlers clash together and rattle in the conflict; or should their horns become inextricably locked, there will ensue a tussle of strength that can only be described as a magnificent exhibition of animal prowess which must terminate in the discomfiture of the weaker stag, without perhaps at the last, when both have been forced to their knees, one should get the chance of driving his horns into the exposed flanks of the other, for in such a case death is almost an immediate result, and his victory is complete.

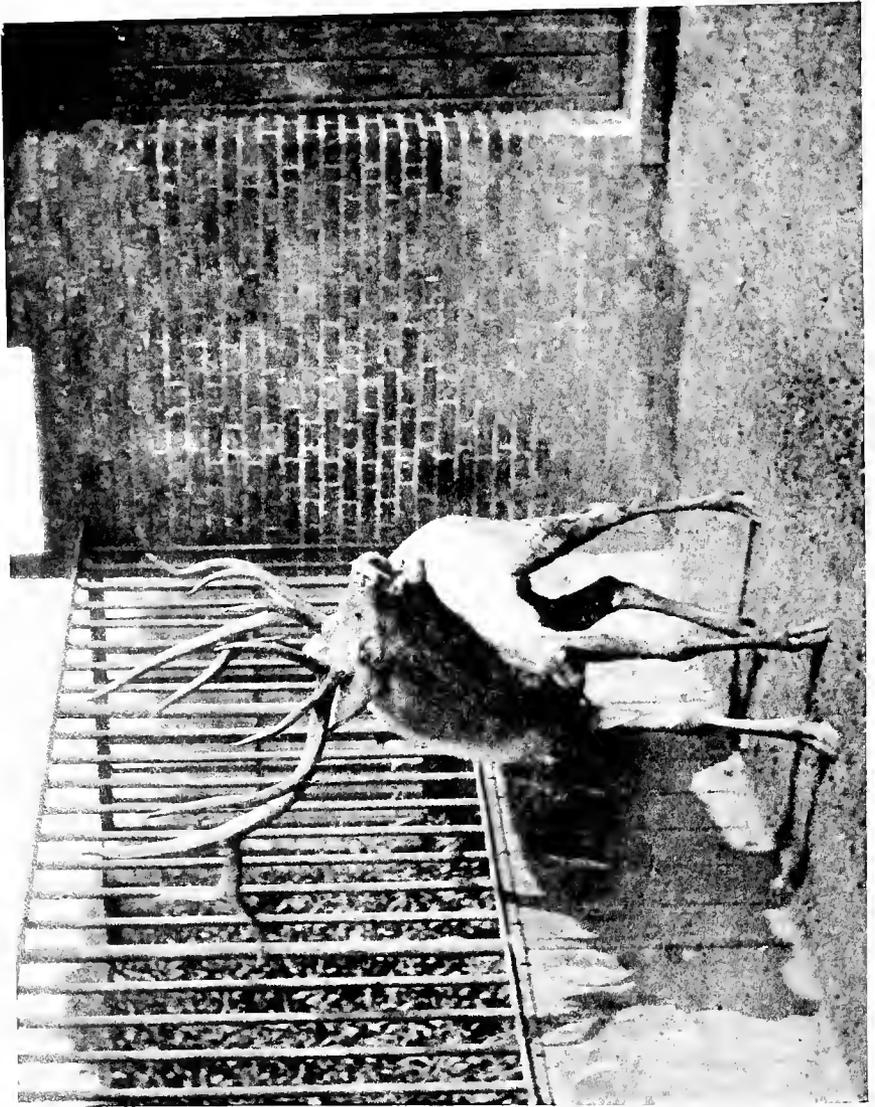
“The size, strength, and speed of the elk,” writes the hunter before quoted, “ought to fit it for some useful domestic purpose. It could be trained to be a valuable beast of burden; and its speed is so great, and it has so much power of endurance, that it could be used either for drawing a carriage, or to carry couriers who have to ride long distances at a rapid rate. By treating it as geldings are, the pugnacity and ill-temper it displays during the rutting season could be readily overcome, and it would be rendered as docile as a donkey. A friend of mine once owned a pair treated in this manner, and he found that very little training was required to fit them for drawing a carriage. When it came to road driving, he saw that no steeds he met could even keep in sight of his antlered Pegasus for any length of time. Their long trotting gait, which never seems to falter either in measure or speed, makes them the perfection of carriage roadsters; but they have this one great drawback, that if they hear the cry of hounds they will bolt immediately, and probably leave carriage and driver behind them. The pair which I refer to were startled suddenly

one day while enjoying their exercise by the baying of a pack of mongrels, and no sooner did they hear the cry than they jumped over a high bank—carriage, driver, and all—and landed in a deep pool in a river. Making for the land with all possible haste, they soon battered the vehicle into small pieces, while the unfortunate owner had some difficulty in reaching shore. By offering a large reward he recovered his runaways the next day, and being a man of determination as well as resources, he concluded to get rid of their penchant for bolting at once. With this purpose in view, he put them into a field having very high fences, and kept hounds yelling about it all day long. The elks were at first thoroughly scared, but after running themselves nearly to death, and finding no means of escape nor any result from their great alarm, they gradually became indifferent, and settled down to feeding. This experiment being repeated a few times, their idle fears were allayed, and the owner suffered no more mishaps from their impetuosity.”

The LÜHDORF'S DEER (*Cervus Luehdorfi*). The accompanying illustration is a photograph of this rare animal, and it will be seen that it bears a close resemblance to the wapiti in appearance. In fact, except from the character of the horns it would be almost impossible to distinguish them. In the formation of the antlers, however, it more nearly resembles the red deer (*Cervus elaphus*).

The existence of a large stag in North-eastern Asia had been known for some time, but the species to which it belonged had not been very clearly established, for the horns were the only parts of the animal which had ever reached Europe. The animal itself had never even been seen in his native country by any naturalist—or at least the fact had never been mentioned—consequently nothing in any way was known respecting it. In the autumn of 1876, Herr Lühdorf, the German consul at Nikolaevsk, the seaport town on the Pacific coast of Siberia, having obtained two pairs of these fine animals which had been brought down the river Amour from the interior, where they had been obtained from some of the nomads on the steppes, he shipped them to the Hamburg Zoological Gardens. The director, Dr. Bolau, took special charge of them, christened them with Lühdorf's name, and when his small

herd had increased he parted with one of the male fawns to the Zoological Society of London in June, 1881. This rare animal, which was a beautiful and graceful specimen of the deer family, has unfortunately lately died. When any attempt was made to photograph him, he invariably expressed his dissatisfaction at the proceeding by bellowing and looking as though he would like to get at the camera and destroy the whole apparatus if he could. While in this attitude he was therefore taken, and that the result was not a better picture is due to the fact that the exposure had to be made with extreme rapidity, for in bellowing, the horns or mouth would hardly be motionless for an appreciable division of time. Nevertheless the position is a graceful and very natural one.



A LÜHDORF'S DEER.

(*Cervus Luehdorfi*).

CHAPTER XXVIII.

KANGAROOS (*GENUS MACROPODIDÆ*).

SPECIMENS of these unique members of the animal world can generally be seen at the present day in any of the well-known public zoological collections, and also in many of the private ones. Even in the damp, uncertain climate of England, kangaroos can be said to have become more or less naturalized, for they not only breed regularly under the fostering care of the keepers in the Regent's Park menagerie, but have been kept out in the open in the parks of several English landowners. They used to be seen in the grounds at Glastonbury Abbey, also on the estates of Lord Hill and the Duke of Marlborough, and during the lifetime of the late Lord Derby they formed part of the Knowsley collection of rare animals that the enterprising earl endeavoured to acclimatize. They were also kept in other places, and in this way these animals became a familiar sight to many Englishmen whose great-grandfathers had never even heard that such creatures existed, for it is only a little over a hundred years ago since they were first discovered. Their appearance is so unlike that of any other class of quadruped, that the bold explorers of the now well-known southern seas, when they first beheld such large animals hopping and bounding about on the plains at the various places where they landed, examined them with considerable wonderment, as is evident from the narratives of the event.

In May, 1768, the small but good ship *Endeavour*, of 370 tons, commanded by Captain (then Lieutenant) Cook, with several men of science, including Mr. Joseph Banks (afterwards Sir), set sail on that voyage of discovery which was fated to be a memorable one, and to enroll the name of Cook, whilom a Yorkshire haber-

dasher's apprentice, in a conspicuous position on the list of England's distinguished navigators and explorers.

After reaching Otaheite, and remaining there to make the observations on the transit of Venus, which was one of the objects of the expedition, they sailed in quest of that mysterious continent supposed to exist in the South Pacific Ocean. In this way they reached the islands of New Zealand, and ultimately arrived on the coast of New Holland, now known by the name of Australia. Here they discovered a spot which from the number of plants found there they called Botany Bay, a pleasant sounding and no doubt appropriate name, but one which the British Government subsequently made of terrible significance by selecting it as the place for the enforced expatriation of convicts.

Not far from Botany Bay the ship struck a rock, and a hole having been made in her it became necessary to have it repaired, and for this purpose they were detained in a river (about 15° south latitude), which was christened Endeavour River. Here they were destined to make a discovery other than new rivers or lands, namely a new species of mammal, for it was at this place they first saw a kangaroo.

On Friday, June 22, 1770, Captain Cook writes:¹ "some of the people were sent on the other side of the river to shoot pigeons for the sick, who at their return reported they had seen an animal as large as a greyhound, of a slender make, a mouse-colour, and extremely swift." On Saturday he remarks: "This day almost everybody had seen the animal which the pigeon-shooters had brought in an account of the day before; and one of the seamen who had been rambling in the woods, told us on his return that he verily believed he had seen the devil. We naturally inquired in what form he had appeared, and his answer was in so singular a style that I shall set down his own words: 'He was,' says John, 'as large as a one-gallon keg, and very like it; he had horns and wings, yet he crept so slowly through the grass, that if I had not been *afear'd*, I might have touched him.' This formidable apparition was afterwards discovered to be a batt; (*in reality a flying-fox*), and the batts here must be acknowledged

¹ See Hawkesworth, "Voyages," 1773.

to have a frightful appearance, for they are nearly black, and full as large as a partridge; they have indeed no horns, but the fancy of a man who thought he saw the devil might easily supply that defect."

The next day Captain Cook remarks: "As I was walking this morning a little distance from the ship, I saw myself one of the animals which had been so often described; it was of a light mouse-colour, and in size and shape very much resembling a greyhound, and I should have taken it for a wild dog, if, instead of running, it had not leapt like a hare or deer; its legs were said to be very slender, and the print of its foot to be like that of a goat, but where I saw it the grass was so high that the legs were concealed, and the ground was too hard to receive the track. Mr. Banks also had an imperfect view of this animal, and was of opinion that its species was hitherto unknown."

Again on Friday, the 6th July, the *Endeavour* being still in the river, Mr. Banks, with Lieutenant Gore and three men, went on a hunting and exploring expedition, and on their return on Sunday, the 8th, reported that on the previous day "with the first dawn they set out in search of game, and in a walk of many miles they saw four animals of the same kind, two of which Mr. Banks' greyhound fairly chased, but they threw him out at a great distance by leaping over the long, thick grass, which prevented his running. This animal was observed not to run upon four legs, but to bound or hop forward upon two, like the *Jerboa* or *Mus Jaculus*."

Finally on Saturday, July 14th, Cook records the fact that "Mr. Gore, who went out this day with his gun, had the good fortune to kill one of these animals which had been so much the subject of our speculation."

Accompanying this narrative there is a drawing of the animal, which they continued to call a *kangaroo*, for this was the name which had already been given it by the natives.

The following day the creature that had been shot was dressed for dinner, and, writes Captain Cook, it "proved most excellent meat," an opinion in which others who have dined off kangaroo do not quite concur, but all agree that the tail makes most excellent soup, and the dried tongues are capital eating.

This is the earliest notice recorded of this animal by an Englishman, but a Dutch traveller, Cornelius de Bruins or Bruns, as early as the year 1711 described the first kangaroo of which scientists had ever heard. He saw in a garden at Batavia some specimens of these extraordinary creatures that were kept in captivity there. They were subsequently identified as a species of *Marsupiata*, inhabiting New Guinea. De Bruins called the animal *Filander*, but naturalists have named it after the Dutchman himself, and call it "*Macropus Brunii*."

Pallas in 1777, and Schreber in 1778, both described this species, which resulted in public attention being drawn to this entirely new order of mammals, and as a consequence their natural history soon became better known.

Although it was left to Captain Cook to give the first description of a kangaroo to Englishmen, yet it is not improbable that the earlier explorers in the southern seas were in reality the first to see these animals, but failed to record the fact from its being such a trifling incident to men who had so many other wonderful things to narrate. Dampier, the celebrated buccaneer and adventurous navigator, stated that on the 12th August, 1699, being on the western coast of Australia, two or three of his seamen "saw creatures not unlike wolves, but so lean that they looked like mere skeletons." From this meagre description it is not possible to accurately identify the animals they did see, but they were probably kangaroos.

The curious group of animals now known as the family of *Marsupiata*,² or pouched animals, of which the kangaroo forms the sub-genus *Macropus*, a word meaning long-footed, are exclusively confined in their habitat to the Australian continent, and a few of the islands immediately adjoining, with the single exception of the opossum family which occur in America. In New Zealand, however, strange to say the family of marsupials is not represented, nor, as far as can be learnt, has it ever been, for some of their fossilized bones would have been found ere this.

Since the kangaroo, or rather the land it lives in, was dis-

² From *marsupium*, a purse or bag; alluding to the peculiar pouch with which the female marsupial animals are furnished.

covered and explored, scientific men of all countries have had a puzzling problem to account for the peculiar type of animal and vegetable life of which Australia is the home, and to assign a reason why kangaroos should now be confined in their habitation to this one region of the world. The evidence furnished by the fossils that have been procured in places very widely separated, tends to show that these animals, or ones of a kindred type, were distributed during the ages known to geologists as the Oolite and Triassic periods, over a very extensive range of the earth's surface as it then existed.

The marsupials are quadrupeds of a lower order than most of the existing mammals, and another fact scientists say they have gleaned from the discovery of their remains is that they were among the first animals created, for they are found in the terrestrial formations, made long before those animals now recognized as of a superior order were in existence. Consequently dogs, horses, oxen, cats, and the brute creation now familiar to us, or in other words the higher class of animals, being a later growth or the creation of succeeding ages, the kangaroos, which are among the latest discovered animals by man, yet are the direct descendants of the oldest family of quadrupeds that were brought into existence.

The GREAT KANGAROO (*Macropus major*) is the name given to the species which was first seen by Captain Cook's party, and it was so called when it was ascertained that it was the largest of all the existing varieties of the *Macropodidæ*.

However, this was not always the case, if we are to believe those professors who, upon the scanty material of a jawbone or a tooth, can reconstruct in their mind's eye the animal who owned it, and sitting down write off a lengthy treatise upon the peculiarities of its formation and habits, after informing the world, to begin with, that the animal has been dead some thousands of years, or perhaps that its species ceased to exist ages before the first man was created.

Relics of a beast that, according to these professors, was closely allied to the kangaroo, have been found in the tertiary deposits of Australia, which they state must have been of gigantic

bulk, far larger than the largest rhinoceros, for its head alone was about three feet long. Therefore the great kangaroo is but a pigmy descendant of its progenitors.

The family of kangaroos is a numerous one, there being nearly thirty different species or varieties differing from each other by well-marked characteristics.

The great kangaroo inhabits New South Wales, Van Diemen's Land, and Southern and Western Australia.

The peculiarity of its structure, is the first thing that strikes the observer as remarkable about a kangaroo. If it is sitting up, which is the posture it generally assumes when not moving about, it is readily seen that the upper parts of the body are much slighter than the lower ones, so that the superior extremities taper pyramidally from a heavy and solid-looking base of hind-quarters, legs, and tail. The extraordinary difference in the length, size, and shape of the fore and hind-limbs, is also apparent when the animal is in this position, for the former are disproportionately short and slender, while the latter are disproportionately long and of fair size. It will be seen that the animal rests upon the fore-part of the foot or the bones of the instep, which are exceedingly long. Each fore-paw has five toes furnished with claws, but the hind ones have only two large and conspicuous toes, of which the inner one is by far the larger, and is provided with a very long and strong claw or nail. On the inner side, again, of this large toe there is what appears to be a small toe bearing two very small claws, which are in reality two diminutive toes united together in the folds of the skin. These hind-feet are very powerful, and the animal can not only take extraordinary bounds or hops with them, which is the way it progresses when it requires to move rapidly, but it can use them as instruments of defence, and with such good effect occasionally that a large dog will be killed with a single well-delivered blow, or even a man be ripped up if he comes in too close contact with these formidable weapons. The muscular force they possess can be surmised by the marvellous exhibitions of agility they display. The tendons of the lower joint of the legs are also exceptionally strong and efficient, so much so, that one writer states adult kangaroos have been

known to snap the bone asunder when startled into taking a sudden spring, so powerful is their contractile force.

The extraordinary capability they have of leaping, especially the small pretty little hare kangaroos (*M. Leporoides*), so called from their being about the same size as the common hare, can be judged by the following account which is given by Mr. Gould of a performance he once witnessed. "While out on the plains of South Australia," he writes, "I started a hare kangaroo before two fleet dogs; after running to the distance of a quarter of a mile it suddenly doubled and came back upon me, the dogs following close at its heels. I stood perfectly still, and the animal had arrived within twenty feet before it observed me, when to my astonishment, instead of branching off to the right or the left, it bounded clear over my head, and on descending to the ground I was enabled to make a successful shot by which it was procured."

As Professor Owen pointed out many years ago, there undoubtedly exists with very few exceptions a wonderful harmony between the climate and the structure and habits of the animals to be found diffused over the world's surface. Thus in countries subject to prolonged droughts, such as the plains of South Africa and Australasia, rapidity of locomotion is of vital necessity to those animals that require succulent food or cannot exist without water, for the distance to be travelled before these requirements can be found is often so great that a slow-paced animal would die on the road. In all hoofed, and in fact in the majority of all quadrupeds, the whole four limbs are therefore exclusively used for locomotion, but in the case of the kangaroo we have an animal which only employs the hind-limbs for this purpose, the front pair being used as required, as prehensile organs, or for the requisite manipulation of the pouch which its peculiar uses render necessary. Accordingly the hind-limbs are constructed to serve the purpose of the whole four in other animals, and to carry the kangaroo with great speed long distances over the drought-dried plains, which it has occasionally to traverse in pursuit of the absolutely requisite water.

The hair of a kangaroo is at first only a short, ashy-coloured down, but subsequently, though after an unusually long period as

compared with other animals, it becomes long and thick of a greyish-brown colour. Some very different opinions exist with regard to the appearance of these animals, for certain people describe them as being very graceful, and others as awkward and ungainly in the extreme. Probably both these views are to some extent correct, paradoxical as this may sound; but kangaroos come from a continent remarkable for the curious and what may be called paradoxical structure of many species of its fauna, such as the *Ornithorhynchus*, which is the barbarous name given to the "duck-billed water-mole," and other peculiar-looking creatures. It is in reality a mere trifle in the eccentricity of Australian mammals, that one species should display combinations of widely divergent characters.

When a kangaroo is sitting erect on a base made with its extensive development of hind-limbs and thick tail, its short and slender fore-limbs hanging negligently by its side, and its small deer-shaped head turned so as to display its soft and lustrous eyes, mild and placid countenance, and long erect and well-shaped ears, the animal cannot be described as inelegant, but very much the reverse. When, however, it begins to move, its progress is certainly accomplished in a most ungainly fashion for so large a creature; it either hops on its two long hind-legs or, tilting itself on to the two short fore ones, it draws the hind-limbs as far forward as possible, cramping up the body, and then repeats the operation, the stride being therefore about equal to the animal's length.

"Among the singular positions assumed by kangaroos," observes Mr. Nicols,³ "a most striking one deserves mention. In order to see better over long grass or ferns they raise themselves quite on the tips of the large claws attached to the hind-limbs, at the same time stiffening the tail. The animal then stands upon a tripod, formed by the tail and the hind-legs, all three members being quite straight and rigid, and is then probably between six feet and seven feet high. An apparition of this kind rose suddenly close to me while stalking one day, and surprised me greatly, for I could not see the lower limbs, and had no idea how the animal had become so tall; but I have since observed the attitude fre-

³ "Zoological Notes," by Arthur Nicols, F.G.S., F.R.G.S.

quently in the Zoological Gardens, and it is so grotesque, and so unlike anything a kangaroo would seem to be capable of, that a draughtsman who should transfer it to paper would be thought to be labouring under the effects of a disordered imagination. All the slow movements are awkward and unattractive, as when the animal is crawling along with its short fore-feet spread upon the ground, dragging the long hind-legs and massive tail after it, or sitting up scratching its sides and back; but at full gallop, with dogs in chase, over short grass covering the ground in magnificent leaps, executed with the utmost rapidity, it presents a picture of graceful and powerful action, unsurpassed by anything in the animal world."

But the most singular formation of the kangaroo is its abdominal pouch, which is a feature only to be seen in this animal and the opossum. Take the instance of the great kangaroo: although it is a large animal, standing upwards of six feet high when adult, yet it is born when scarcely more than an inch long, and weighs about twenty grains; its skin is naked, and it is in such a feeble and undeveloped condition that it looks very much like a small earth-worm. It has not even developed the power of suction. The mother has, therefore, to foster her offspring for a considerable period after its birth, and to enable her to do this she is supplied with a pouch or *marsupium*, to which the young one is transferred, and she therein attaches it to her breast, and has herself to inject the milk with which it is nourished. Professor Owen, who examined a young kangaroo twelve hours after birth, said that it breathed strongly but slowly, and extraordinary as it may appear, the fore-legs were one-third larger than the hind-legs. No doubt this construction is rendered necessary to enable the diminutive creature to move about in the pouch, while the hind-legs, which would be of no service to it at this period of existence, remain undeveloped until the animal's requirements necessitate their employment, when they rapidly grow to the proportions seen in the parents.

The young one does not cease to reside within the pouch until it has reached its full maturity. It occasionally, however, comes out for exercise or amusement. Even after it has grown

to be a good-sized animal, it will often run into its mother's pouch for shelter, or protection from a supposed danger. It is a very funny sight to see an old female kangaroo sitting up and a little face peering out of the pouch, looking around to see if it would be safe to venture forth, apparently being very well assured of this before it does so. This happened when the photograph was being taken for the illustration of this chapter. The young and well-grown animal was sitting up demurely alongside its mother watching the proceedings, but evidently not liking some part of the performance, it hopped into the pouch, and after turning round so that it could see what subsequently took place, was photographed in that position.

When the female kangaroo is pursued, she is said to take the little animal with her fore-paws from the pouch, and to throw it away, so as to lighten her own weight, and facilitate her escape. This act was supposed to be indicative of a want of that maternal affection which most other animals exhibit by defending their offspring to the last, but it is now stated that if she makes good her escape, she returns, seeks out and rescues the young one; the act being one instinct teaches her is necessary for their mutual safety.

The kangaroo feeds entirely on vegetable substances, such as the herbage and the bushes common in the country it inhabits. Its teeth are well adapted for the purpose of cropping and chewing this kind of diet, and it is provided with plenty of them, for it has twenty-eight teeth in all, being only four less than the number given to human beings.

Kangaroos are gregarious, and are generally to be seen in herds of thirty or forty, with one animal stationed some distance from the rest, apparently to give warning of approaching danger.

"All the kangaroo family," remarks Mr. Nicols, "have a habit similar to that of the rabbit, of striking a sharp blow upon the ground with the hind-feet as a signal of alarm, or perhaps as a call simply, for they have no means of vocal expression. I have never heard any sound uttered by them even in their death-agonies, except on a single occasion, when a badly wounded wallaby, upon being handled, emitted a noise like the growling of a small terrier, and bit me sharply in the leg, tearing my trousers—the only instance



A KANGAROO.

(Macropus giganteus.)

nale animal with the young one peering out from the pouch.

I ever knew of any defence being made by these animals; while their arboreal congeners, the opossums, daysures, and flying squirrels fight most desperately, and inflict serious injury upon those who handle them incautiously. At very considerable distances, on a still night the thud of a kangaroo's feet in the act of drumming may be heard, three or four times in succession; and when one has stalked into the midst of a 'mob' among rocks, ferns, or other good cover, it is amusing to hear the kangaroos communicating to one another by this means their apprehension of the presence of an enemy, although uncertain of his position, and undetermined as to the safest line of escape."

The Australian settlers hunt them with dogs, which run by sight, and not by scent, and are a cross between the staghound and the English greyhound. Both these breeds conferring the points necessary for a good kangaroo dog, namely, speed and strength. The first is an absolute essential, for the bounds of of a kangaroo, or "old man," as the Australians call it, are made so rapidly and of such great length as to tax the speed of a good dog, for each hop, it has been ascertained, exceeds twenty feet at a time. The strength is necessary, for few dogs are a match for an adult great kangaroo. If it cannot disable or kill its adversary with the claws on its formidable hind-legs, it will seize him with its fore-arms, and if water is near carry him off, and therein do its best to drown him.

If hard pressed, a kangaroo always, as a last resource, makes for water, and when it is reached turns at bay and waits for its pursuer, for here it has a decided advantage. Standing up, it closes with its antagonist, and deliberately tries to deprive it of life by holding it under the water: a dog that has to support himself by swimming has, therefore, but a slight chance of escape. Human beings also are occasionally treated in the same way, so that a kangaroo is not an animal by any means to be despised.

A communication made to "Notes and Queries" in 1867, quotes the following paragraph, from the *Grenville Advocate*, a respectable journal, published at Smythesdale, a town twelve miles from Ballarat, which substantiates this statement: "A reliable correspondent furnishes us with the following remarkable in-

stance of a kangaroo carrying or running away with a lad. It occurred at the mail tent, midway between Wickliffe and Dunkeld, on the Hamilton road to Portland. It appears that a kangaroo dog, about three weeks since, was in pursuit of an old man kangaroo and stuck him up. The lad, James Withington, fearing that the dog would get the worse for attacking the kangaroo, went to the dog's assistance, but no sooner did the kangaroo see the lad than the boomer seized him by the body, and carried him a distance of forty yards towards some dam that was close by, evidently with the intention of making short work of him by drowning him therein. The lad says he had a knife in his pocket at the time he was being carried away, but the kangaroo held him so firmly in his grasp, that he was prevented from cutting the throat of his supposed intending murderer. At last the faithful dog, who had attacked him first, came to the rescue, and saved his master from a premature death by drowning."

In the magazine *Once a Week*, for March, 1867, Mr. Edward Jesse published a letter that he had received from an old friend, which gives a proof of what he calls "the ferocity" of the male kangaroo when driven to extremity, but many people from such accounts will arrive at the opinion that these animals are not ferocious, but only when it is absolutely necessary intelligently employ their faculties and natural weapons for self-preservation, which is recognized as the first law of nature. This letter we take the liberty of quoting:—

"Speaking of kangaroos, I shall never forget what a struggle I once had for life with one of these creatures. I had been out kangaroo-hunting on my run in Queensland, taking with me a black boy and a couple of dogs; and after a very fair day's sport, was returning home, when I fell in with an 'old man' (local name for a kangaroo) who had escaped us in the morning. I chased him, and followed him into a water-hole, thinking he was pretty well exhausted, there intending to finish him with the knife I always carry in a strap round my waist, for the dogs had lingered some distance behind with the black boy, who also carried my gun; but no sooner had I reached him than he sprang upon me, and grasped me so tight in his two fore-legs, effectually pinion-

ing my arms and rendering me powerless against him. Still I struggled to free myself, hoping every minute the dogs would be up. He succeeded in getting me down, still grasping firmly; while with his hind-legs he kept flapping backwards and forwards close to my head and neck, evidently trying to score me with the powerful claws with which they are provided. It was not a pleasant sensation, as if he succeeded in tearing the jugular vein, of which I was in terror, it would have been all over with me. Moreover, I was beginning to feel my strength failing, when with the expediency of despair a thought flashed across me that my teeth, which, thank God, are good and strong, might prove a formidable weapon against him. Whereupon I seized him by the throat, and held on to him like grim death. In a very short time I felt his grasp gradually relax, and I breathed freer, and was soon enabled to liberate myself. I had throttled the brute. A *fact*, unvarnished."

A dead kangaroo has considerable marketable value, for the skin makes good leather, the tail excellent soup, and at one time a considerable business was done in exporting the tongues when dried, under the name of kangaroo venison.

Kangaroos are frequently kept as household pets by many Australians, but that they are capable of being employed for work as the motive power of machinery will be news to many. Still this is a fact, for a correspondent to the *Times*, writing in 1866, states:—

"While on colonial enterprise and originality, let me do justice to a colonial genius who seems to have a spice of that faculty for adapting means to ends which we admire so much in a Brindley or a Stephenson. We read of water-power, of steam-power, of wind-power, of horse-power, but not until the other day had I ever heard or read of kangaroo-power. But the Melbourne correspondent of a country contemporary supplies the following: 'A market-gardener in the neighbourhood of Portland has put a kangaroo, which he caught and tamed, to various uses. The animal stands nearly six feet high. The owner has tested its strength and capabilities in the following manner: he had a large circle made of slabs an inch thick, with the outside diameter 20 ft., and with an inner one of 17 ft. 6 in. On the circular floor are

nailed flat ridges and furrows, thus affording a floor for the kangaroo's feet, and a resting-place, about 3 ft. long, for his tail. It is fitted up with simple wheels in the centre, like those of a horse chaff-cutting machine, and it is fixed on an incline. The kangaroo is kept fast to a framework of post and rails, stuffed with hay and bagging, to prevent his legs and back from being bruised. An opening is left in the rear to give his tail full play. By continually springing up he sets the machine in motion. The animal works at about half a horse-power, and turns a grinding-stone, chaff-cutter, bean-mill, turnip-cutter, and a washing-machine, and all at the same time. This simple contrivance also lifts water for irrigating the garden.'

"I do not believe this unique creature was ever so utilized before, and I record him as the latest recruit enlisted from the animal creation into the industrial service of man. The mechanical genius must be considerable which can discipline and control to the required purposes the tremendous jumping power of an 'old-man' kangaroo."

Although these animals have only been known to man for a little over a hundred years, and when the first settlers reached the Eldorado of Oceana kangaroos were found to be existing there in millions, yet Australians now talk of the race being a doomed one, and state that in many places where once they were plentiful they have already been exterminated. For this, however, they assign a reason which to them is a good and sufficient one. Formerly the squatters grumbled fearfully about the loss they sustained by the kangaroos eating up the grass necessary for their cattle. It was shown that one of these animals eat as much grass as a sheep, and destroyed as much again as it eat, for it exhibited such a discerning appetite, that instead of cropping it as it came, the creature picked out the best and sweetest herbage in a most knowing manner. A few hundred kangaroos would in consequence very soon spoil a considerable extent of pasturage by eliminating the most nourishing parts.

There is no doubt they existed in certain districts in very large numbers: some idea of this fact can be gleaned from the figures occasionally given in the public prints. In 1863 one squatter was



GROUP OF RED KANGAROOS.

(Macropus rufus.)

said to have shipped to England 30,000 skins taken from animals killed on his own run, and the statement made that, incredible as it may appear, after this slaughter their number did not seem to be perceptibly diminished.

When the small remnant left of the aborigines gave up living by the chase and evinced a predilection for loafing about the various settlements begging for their food, and the squatters themselves had nearly exterminated the wild dogs or dingos, kangaroos began to enjoy a perfect immunity from their natural enemies, and availed themselves of the fact to increase in certain places very rapidly. It became obvious that some steps had to be devised for reducing their number, and the Legislature was petitioned to assist. This it did by passing a "Marsupial Destruction Act," which held kangaroos to be pests and their destruction or reduction a necessity, and to effect this object offered a reward for every animal killed, on its skull being presented to the proper officer.

This soon set the young farmers and stockmen to work, and in the short space of eighteen months nearly 40,000 scalps were paid for by the official receiver. Battues were organized, and the disgusting butchery, which had nothing akin to healthy genuine sport, was enjoyed by hunting-parties composed of both sexes, or to quote the local papers, "gentlemen and ladies." The method adopted was to surround large herds, and driving them into stockades made on purpose, so that escape was impossible, kill the unfortunate beasts with clubs, butt-end of whips, even old cutlasses, anything, in fact, with which they could be maimed, or their brains dashed out. Then one of these self-called hunters would write to the newspaper an account of the splendid sport they had, and the good appetite it gave the ladies and gentlemen who enjoyed it. From the perusal of some of these descriptions the fact is gleaned that these battues occasionally resulted in the death of thousands of kangaroos, three or four thousand not being unusual numbers. The Roman matrons who frequented the circus in the palmy days of the later Cæsars would have found even this rather a strong dose without the accompanying excitement of a fierce fight and a brave death-struggle; but the Australian ladies who were reported as having taken part in these kangaroo hunts, or let us hope only

looking on, were evidently of a different stamp, and did not think it necessary that their "sport" should be so highly spiced with bravery or danger.

However, the Marsupial Destruction Act is now virtually a dead letter, and the animals are beginning to find out that there is still plenty of room away from the squatters' territories where they can exist unmolested, so it will doubtless be many a long day yet before the entire race of kangaroos will be classed under the heading of "animals that have been."

CHAPTER XXIX.

SEALS (*PHOCIDÆ*).

THESE remarkable animals belong to the sub-order *Pinnipedia*, which comprises the amphibious *carnivora* known as seals (*Phoca*) and the walrus or morse (*Trichechua*). The *Phocidæ* are again subdivided into two principal groups, the one commonly known as seals proper, and the genus *Otaria*, which include the sea-lions, sea-bears, fur-seals, and others distinguishable by having an external ear, and by some important differences in the construction of their limbs and dental formula.

Every species and variety of the curious marine animals included in the seal family are peculiarly interesting to the students or lovers of the natural world. They are formed upon the same general plan as the animals which are purely terrestrial, and atmospheric air is a necessity of their existence, yet their abode is in the sea, and they are dependent on its products for their sustenance. At the same time they have little or nothing in common with the fish tribe, and in intellectual endowments, size, and commercial importance they are in no way inferior to the terrestrial mammalia; some of the species being, in fact, in all these respects far superior to the majority of other animals.

The features most worthy of attention about the *Phocidæ* are those wherein they differ from other types of mammals. Among the animals to which the reader's attention has already been invited, the hippopotamus, and in a far lesser degree, the polar bear, both take naturally to the water, and derive a large portion of their food from its depths, yet they cannot correctly be called amphibious. Neither in reality can the seals, for, as before said, they have to inhale the air, and to do this must come to the surface, for they are not

provided with gills that would enable them to breathe while completely submerged. The hippopotamus possesses the capability of remaining under the water a considerable time when compared with the powers possessed by other large quadrupeds, yet the intervals between the respirations of these huge beasts are short by comparison with the necessities of the various members of the seal family.

As was shown in a previous chapter, the hippopotamus appears created more to live on the water than in it, for although the massive body is kept submerged, yet the senses all being situated upon the flat, broad, upper plane of the head, this part of the animal, when it is in a quiescent state, is generally kept on or above the surface. They are also supplied with four legs, formed on the ordinary model in all but their size, and they are used for walking on the land in the same manner as other quadrupeds, as well as for swimming in the water. The seals, however, display completely different forms, for they exhibit modifications adapting them to a thoroughly aquatic existence. When these divergencies from other animal types are carefully examined, the marvellous resources of the creative Power are again exhibited, and make the study of these denizens of the seas wonderfully interesting.

The common or earless seals, although differing most materially, yet in outward appearance, bear a closer resemblance to the fish family than to that of ordinary quadrupeds, for the body is elongated and tapers from the chest to the extremity. But it is in the formation and situation of the limbs that the variations from the ordinary type of mammals are, perhaps, most conspicuous. The limbs are short and so completely enveloped in the skin of the body that little more than the paws project. All the feet are five-toed and completely webbed; the hind-feet are directed backwards, so as to appear like a prolongation of the body, with the tail, which is a short one, between them. The webbed intervals between the toes are capable of considerable expansion, particularly those of the hind-feet, and they have great propulsive power, for by opening and shutting them the animal can make them act like the blades of a steamer's screw-propeller, only with far greater variety of motion. The spine is very flexible, and admits of considerably more curvature than

the vertebral column of other large animals will allow. By bending the body, and using its webbed feet, a seal can move itself up or down, right or left, keep on the surface, or dive to the bottom, explore the submerged recesses of the rocks around, and pursue its prey with lightning-like rapidity.

On the land a seal displays but little grace or beauty of any sort, except, perhaps, in its intelligent eyes and the gracefully undulating outline of its body. The short neck, which is hardly to be distinguished from the trunk, and the small fore-feet or hands, which, owing to the cylindrical shape of the body can scarcely be made to touch the ground, unless the creature lies as flat as possible, and the hind-limbs stretching out behind, give a floundering character to its movements which are very awkward-looking. Their progression is a laboured one, which produces a somewhat uncomfortable sympathetic feeling in the onlooker, for it is accomplished with a shuffling, wriggling, or jumping motion, effected by the contraction of the body, formed by an upward bending of the spine and followed by a rebound or succession of jerks. Although there is an almost entire absence of agility, yet the rapidity with which a seal can get over the ground on occasions is surprising, especially when it is remembered that no animal of this species can raise its body from the ground, and only in one or two varieties are the fore-feet ever employed while on land.

But once they slip from *terra firma* into the water, which, except perhaps in the case of the very largest specimens, they do so easily and quietly that hardly a splash or a ripple is created, it is at once seen that they are in the element which is their true home. Here their shape and the construction of the limbs that seemed so useless when on land are seen to be beautifully adapted for aquatic motion, and by their use they display extreme activity, easy grace, and extraordinary agility. They swim beneath the surface with great velocity, for the rounded head, tapering body, and close-lying outer hair present no obstacle to their passage through the water. Only the hind-limbs are used in swimming, the fore-limbs or flippers being employed to guide or balance the body. So thoroughly are they at home in the water that seals very often sleep while afloat.

A seal's head bears some resemblance to that of a dog, or rather of an otter, for it is short and broad, and is provided with stiff and thick whiskers, which are evidently used as organs of touch, for the root of each bristle is connected with a highly sensitive nerve, as it is in the carnivorous order of land animals. The dental formula is not the same in all species, but they all have teeth adapted for the seizure and retention of their slippery prey. The eyes are large and brilliant. The ears are inconspicuous cavities, which are provided with small perfectly-fitting valves, that enable them to be closed or opened as required, and the sense of hearing seems to be very acute.

The respiration of the seal family is extremely slow, and not only slow, but very irregular; for when on land and moving about, they will be observed to take a breath perhaps once in every two minutes, but in the water they can remain without breathing for over twenty minutes. Cuvier noticed the seals that were kept in the menagerie at Paris remained asleep with their heads under water, and consequently without the power of breathing, for upwards of an hour. Their ability to suspend respiration for so long a period enables them to make long pursuits after their prey.

A seal's nostrils are also closed with a sphincter-like muscle, whose use was described in the case of the camels. In these latter animals, it was employed to exclude the sand; in the partially amphibious animals, however, it effectually closes the apertures against the water—a provision which is absolutely necessary to them, for they spend such a large portion of their lives in that element, and take their food there; for although they can eat on land, the seal family generally eat when beneath the surface.

The thick soft fur that covers the skin prevents sudden changes of temperature from affecting them, and aids in the retention of the heat of the body. This last object is also assisted by the thick layer of subcutaneous fat which covers the bones, and which also serves to make the specific gravity of the animal nearly as light as the water in which it passes so much of its time.

Mr. J. A. Allen, in his able monograph of the North American Pinnipeds, published by the Department of the Interior of the United States Government, gives such full and accurate de-

scriptions of the seals and sea-lions, that we cannot do better than quote some of his remarks upon them.

The number of species existing are not accurately known, naturalists being divided on the subject, and such confusion reigns on their classification, that, as Mr. Allen observes, one hundred and three distinct specific and varietal names have been bestowed upon sixteen species, leaving eighty-seven of the names as synonyms—an average of about six to a species. Fourteen names appear to be wholly indeterminable, while fourteen others can be referred only with more or less doubt.

The geographical distribution of the Phocidæ embraces the sea-shores of all parts of the temperate and colder portions of the globe. The earless seals, however, are for the most part inhabitants of the northern hemisphere, only two or three of the species reaching the middle temperate latitudes. Mr. Allen writes, “Of the Phocidæ, one species, the Monk Seal (*Monachus albiventer*), is found on both shores of the Mediterranean Sea, in the Adriatic and Black Seas, and at the Madeira and Canary Islands, and probably on the neighbouring Atlantic coast of Africa. An apparently near relative and geographical representative of this species is found on the shores of Yucatan, Cuba, Jamaica, the Bahamas, and the Florida Keys. None of the remaining members of the *Phocidæ* occur in the North Atlantic, except as stragglers, south of the British Islands and Spain, on the European coast, or of New Jersey on the American, or of Japan and Lower California in the North Pacific. The species having the widest distribution is the common *Phoca vitulina*, which occurs not only in both the North Atlantic and North Pacific Oceans as far southward as the limits just given, but reaches Greenland, Finmark, and the northern coast of Europe generally, and is also found in Behring’s Straits. Other species, as *Erignathus barbatus*, *Phoca fetida*, and *Phoca grænlandica*, extend beyond its habitat to the northward, but have a much more limited range to the southward, the British Islands and the coast of the United States being quite beyond their usual southern limit of distribution. Like *Phoca vitulina*, these species also occur in the North Pacific. Two other species are restricted to the North Atlantic, namely, *Halichærus*

grypus and *Cystophora cristata*, neither of which ranges so far northward as the others, and the latter only casually wanders to the southward of Newfoundland and the southern coast of Scandinavia, while the former reaches Nova Scotia and Ireland. *Phoca foetida* and *Erignathus barbatus* are the most northern of all, both being winter residents of the icy shores of Davis's Straits and Jan Mayen Island. It thus appears of the six species found on the northern shores of Europe, Greenland, and the Atlantic coast of North America, two only are confined to the North Atlantic, the other four being common also to the North Pacific. The *Histriophoca fasciata*, on the other hand, is limited to the North Pacific, and is the only species occurring there that is not also found in the North Atlantic. Consequently about one-half of the commonly recognized species of the Phocidæ of the Northern Hemisphere have a circumpolar distribution."

Andrew Murray makes the observation, that "perhaps the most interesting circumstance in the distribution of the seals is the existence of a species in the Caspian Sea, and another in Lake Baikal, notwithstanding that the latter is wholly fresh water, and that the former does not contain one-fourth of the usual saline contents of sea-water. The species in the Caspian (*Phoca Caspica*) is described as very nearly allied to our common *Phoca vitulina*, and that in Lake Baikal is equally close to *Phoca foetida*, a species found in the North Atlantic, and but for their geographical position no one would think of separating them from these species. In fact the one is the *Phoca vitulina*, and the other the *Phoca foetida* (*Phoca annellata*, Nilss.).

"One's first impression is so much opposed to the possibility of such an occurrence as a marine animal inhabiting permanently a fresh-water lake, that we naturally expect that there must be some mistake about it, and that it may turn out that the animal is an otter, or some unknown species, but there is no room for doubt about the matter; it is notorious and a commercial fact, and your ledger is a sore destroyer of your theoretical assumptions. A regular seal-fishery has for long been carried on in both waters, and in Pallas' time the Baikal seal-fishery was of great importance, and although much diminished since then, still, so late as 1859,

forty individuals were killed at one village; and, to crown all, Herr Radde brought home with him a specimen from it, and no specific differences can be discovered between it and *Phoca annelata*. The only difference is, that it is of a uniform grey colour, instead of being more or less spotted. This variation, however, is also found in specimens from the North Atlantic."

All seals show a partiality for basking in the sunshine, and for this purpose frequently crawl to the shore, where, on a sand-bar, rock, or ice, according to the season, the species, or the locality, they will quietly lie by the hour. Mr. McNeill, who furnished Mr. James Wilson with a considerable portion of the information he published in an article on the common seal, says that he observed these seals always selected the flattest and most shelving rocks which have been covered with water at full tide, and almost invariably those that are separated from the mainland. "They generally go ashore about half-ebb, and lie together so close as to appear almost touching, to the number sometimes of one, two, or three dozen, with their heads invariably turned towards the water, and seldom more than a yard or two from it. Like many other animals, however, they place one of their number a little further up the rock, who seems constantly on the watch, and is every now and then raising his head to snuff the wind. In this position they frequently go to sleep with their head, I may say, hanging towards the water."

Seals are very voracious. They feed chiefly on fishes, but in part on crustaceans and mollusks. A curious and remarkable fact about the Phocidæ is, that they all swallow quantities of small pebbles. One of the large species of these creatures was found to contain twenty pounds' weight of them; some of the stones individually weighed nearly half a pound. The object of this habit is still a matter of conjecture. Sailors believe these stones serve as ballast, and assert that they are swallowed to enable the animal to sink in the water. Some naturalists seem to agree with this opinion, and one traveller asserts that he himself saw a female instructing her cub in the art of swallowing a proper quantity. It is also affirmed that a larger number are swallowed when the animals are fat than when they are lean, for at this period they

require a greater weight to give them the specific gravity requisite for easily remaining under the water. It has been stated that when they return to land they eject these stones, and an officer in the navy assured a writer on the subject that he had seen a sea-lion at the Falklands engaged in the operation of "discharging ballast." Another observer of their habits conjectures that these stones may be swallowed in order to get rid of the parasitic worms which are contained in the stomach of all seals. However, be the cause what it may, the strange fact that they do swallow the stones rests on abundant and trustworthy evidence.

Low, in his "Fauna Orcadensis," states that "seals seem to have a great deal of curiosity : if people are passing in boats they often come quite close up to the boats and stare at them, following for a long time together : if people are speaking loud, they seem to wonder what may be the matter. The church of Hoy, in Orkney, is situated near a small sandy bay much frequented by these creatures ; and I observed when the bell rang for divine service all the seals within hearing swam directly for the shore, and kept looking about them as if surprised rather than frightened, and in this manner continued to wonder so long as the bell rang."

Allen also observes, "Most species of seals are strongly attracted by musical sounds, but whether their interest is merely that of curiosity or real fondness for such sounds may be fairly judged to be an open question. That they possess a great deal of curiosity admits of no doubt."

"Strange as it may seem, it is a well-established fact that the young seals take to the water reluctantly, and have to be actually taught to swim by their parents. The young of some species remain entirely on the ice for the first two or three weeks of their lives, or until they have shed their first or soft woolly coat of hair. Those that are brought forth on land, as in the case of elephant seals, are like the otaries, timid of the water, swim at first awkwardly, and tire easily in their first efforts.

"Seals utter a variety of cries, from which they have derived such various names as sea-dogs, sea-calves, sea-wolves, &c. Some have a barking note, others a kind of tender bleat, or a cry more

or less resembling that of a child. The cry of the young is usually more or less pathetic, while that of the adults is heavier and hoarser. None appear to produce the loud barking or roaring so characteristic of most of the sea-lions and sea-bears."

Seals are gregarious, or at least many species of them. Some keep together in large numbers at all seasons, while others only during the breeding season. With the exception of the crested seal of the North Atlantic they are all harmless animals, for only this species will habitually resist an attack or possesses powers that can be regarded as in any degree dangerous. All the *Phocidæ* exhibit very strong affection for their young, and as a rule they have but one at a time.

The greatest enemy to seals is undoubtedly man, for considerably over a million of them are annually slain for their oil and skins. Large numbers also become the prey of sword-fish and sharks; Mr. Carrol states that he has observed the former denizen of the sea resort to the ingenious device of pressing down the edge of a piece of ice upon which a seal was floating, so that the animal had perforce to slip into the water. He also asserts that seals have been known, when a sword-fish or shark appeared, to wriggle up to a man for protection. As before described, the species which inhabit the northern seas are the favourite food of the Polar bears. Many of them are also destroyed during the spring when a heavy sea is running, and the annual breaking up of the ice takes place, by the jamming together of the drift-ice and ice-floes upon which they lie.

The natives of Greenland and the northern tribes generally are dependent on the seals for many of their comforts and necessaries. From the skins they make materials for their boats and sledges, and they also use them for clothing, and by the exercise of considerable ingenuity they fashion most useful articles and implements from the bones and hides. The flesh is most palatable, and forms the chief food of these people. Our Arctic voyagers always appear to appreciate it, if we can trust the accounts that have been published at various times on the subject.

Dr. Horner, surgeon to the *Pandora*, writing in *Land and Water*, in December 1875, refers to the importance of the seals to the

Esquimaux in the following manner :—“ From the length of time these people have inhabited this cold country, one naturally expects them to have found some particular food well adapted by its nutritious and heat-giving properties to supply all the wants of such a rigorous climate, and such is found to be the case, for there is no food more delicious to the taste of the Esquimaux than the flesh of the seal, and especially that of the common seal (*Phoca vitulina*). But it is not only the human inhabitants who find it has such excellent qualities, but all the larger carnivora that are able to prey on them. Seal's meat is so unlike the flesh to which we Europeans are accustomed, that it is not surprising we should have some difficulty at first in making up our minds to taste it; but when once that difficulty is overcome, every one praises its flavour, tenderness, digestibility, juiciness, and decidedly warming after-effects. Its colour is almost black, from the large amount of venous blood it contains, except in very young seals, and is therefore very singular-looking, and not inviting, while its flavour is unlike anything else, and cannot be described except by saying delicious! To suit European palates, there are certain precautions to be taken before it is cooked. It has to be cut in thin slices, carefully removing any fat or blubber, and then soaked in salt water for from twelve to twenty-four hours, to remove the blood, which gives it a slightly fishy flavour. The blubber has such a strong taste, that it requires an Arctic winter's appetite to find out how good it is. That of the bearded seal (*Phoca barbata*) is most relished by epicures. The daintiest morsel of a seal is the liver, which requires no soaking, but may be eaten as soon as the animal is killed. The heart is good eating, while the sweetbread and kidneys are not to be despised.

“ For my own part, I would sooner eat seal's meat than mutton or beef, and I am not singular in my liking for it, as several of the officers on board the *Pandora* shared the same opinion as myself. I can confidently recommend it as a dish to be tried on a cold winter's day to those who are tired of the everlasting beef and mutton, and are desirous of a change of diet. It is very fattening, and if eaten every day for several weeks together is likely to produce rather surprising effects.

“Seal’s meat is a panacea for all complaints among these primitive people. Our Esquimaux interpreter ‘Joe’ had a most troublesome cough when he left England, and was convinced he should not get rid of it until he had seal’s flesh to eat. He would not look at any medicine offered to him on board, but shook his head and said, ‘By and by eat seal, get well.’ His prescription turned out to be a very good one, for he had not long been feasting on his favourite food before he lost his cough, and we heard no more of it. For delicate persons, and especially young ladies and gentlemen who cannot succeed in making their features sufficiently attractive on chicken and cheese-cakes, no diet is likely to succeed so well as delicate cutlets from the loin of a seal.

“For my own part, I cannot help thinking that the diminution in the number of seals caught near the principal Danish settlements in Greenland, has a great deal to do with the prevalence of consumption and other diseases among the native inhabitants of those places. Seals are becoming scarcer every year, and in company with the bison of the North American prairies will ere long be of the past, and leave the poor Greenlander and Red Indian to follow them.”

The common seal (*Phoca vitulina*) is found all round the British coast, and is similar in its habits to the various other species of its genus. When adult it attains a length varying from three to five feet, and its general colour is yellowish-grey, marked with black and brown spots, which are united on the back and sides so as to form a dark mottled grey; the under parts are silvery.

Animals of this species have upon several occasions been seen and even caught in the Thames. Two were caught in 1869 near Putney.

The Greenland seal (*Phoca grænelandica*) is readily distinguishable by its peculiar markings. Bell,¹ referring to this species, writes, “It is strictly migratory, and is in no one locality found all through the year. It may be said to be resident on the coasts of Greenland, but leaves them twice annually from March to May to breed, and again in the pairing season from July to September. In spring it is found in great numbers near the island

¹ “History of British Quadrupeds.”

of Jan Mayen, and occasionally it wanders much further to the southward."

"In the adult male the general colour is tawny or yellowish-grey, sometimes nearly white. The so-called "saddle-mark" is a large crescentic patch of brown or black crossing the front part of the back, and passing backwards towards the hind-limbs. The muzzle and extremities are dark, the former sometimes nearly black. These markings, however, are not constantly alike, the saddle-mark being much more pronounced and regular in some than in others. The lower parts are of a 'dingy or tarnished silvery hue.'"

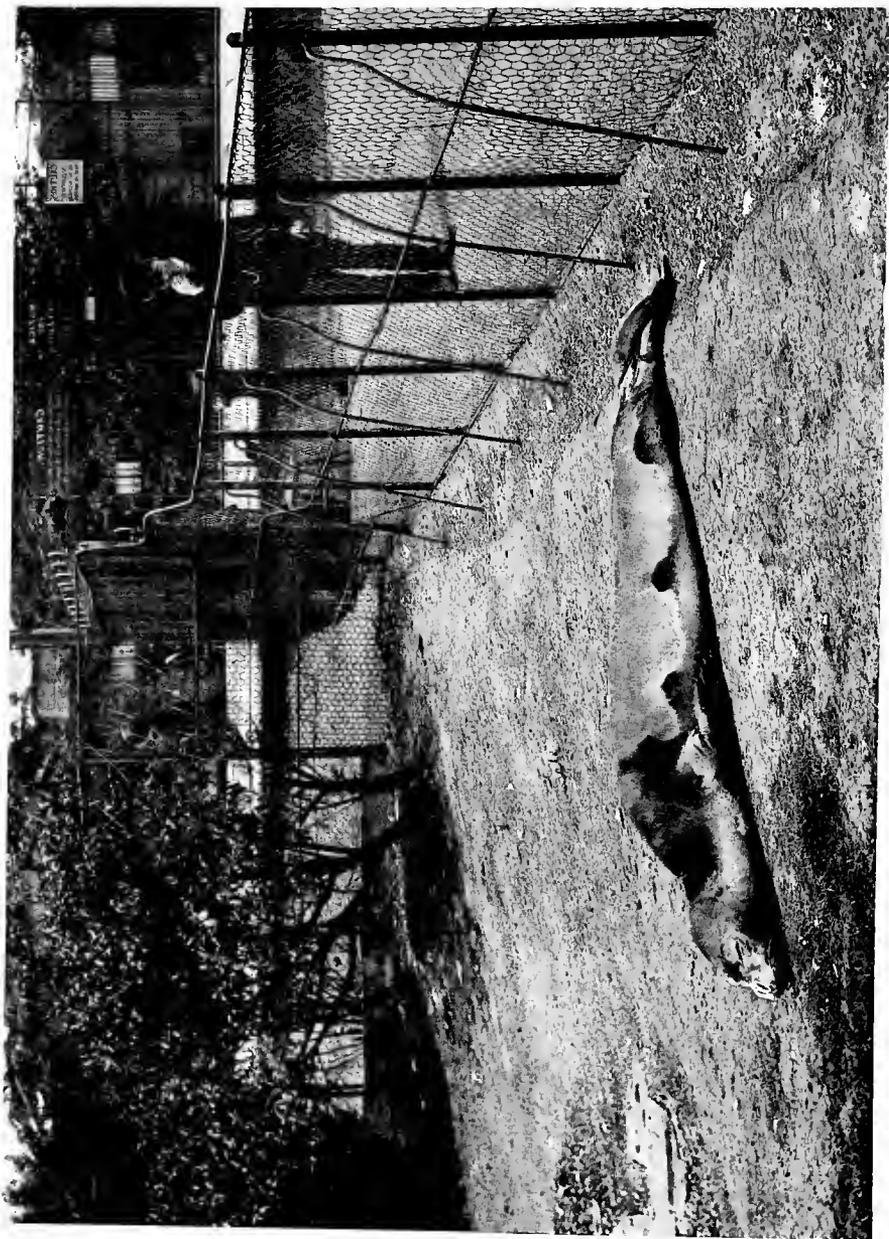
"The adult female," says Dr. Brown, "is of a dull whitish or yellowish straw-colour, and tawny on the back. Some are bluish or grey above, with oval markings: these he believes to be younger individuals.

"The adult animal attains usually a length of five feet, and sometimes more, but rarely reaches six feet."

Professor Newton² observes of this seal, in his paper on the Zoology of Spitzbergen, "It is of a social disposition, and we saw it in herds of not less than fifty in number. These were very fond of swimming in line, their heads alone above water, engaged in a game of 'follow my leader;' for on the first seal making a roll over, or a spring into the air, each seal of the whole procession, on arriving at the same spot, did the like, and exactly in the same manner. While viewing this singular proceeding (and I had many opportunities of doing so), I could not but be struck with the plausibility of one of the suggested explanations of the appearance which has obtained so wide-spread a notoriety under the name of the 'Great Sea Serpent.' If any rule of the game in which *Phoca grænlandica* loves to indulge ever would permit the leading seal to swim (say) one-third out of the water, as I have seen *Phoca barbata* do, I could quite understand any person, not an unromantic naturalist, on witnessing for the first time such a sight as I have tried to describe, honestly believing that the mythical monster was actually before his eyes."

The seal that was kept in Exeter Change Menagerie was a constant source of amusement and wonderment to the visitors who

² "Proceedings of the Zoological Society," 1864.



GREENLAND SEAL.

(Phoca Grænlantica.)

assembled there daily. It was taught by its keeper to perform sundry small tricks, such as bowing to the audience, and diving for the articles thrown it, but its performances were of a very tame character compared with those that have been witnessed since then.

Seals seem to exhibit a strong liking for their keepers, and a partiality for being kept in a tame state. There are several accounts of specimens which have been kept on board of ships, or by fishermen living near the coast, which have had perfect liberty given them, but on their being thrown into the sea have invariably returned, and followed their owner's boat and could in no way be induced to keep the freedom given them.

Mr. H. Maxwell, in "Wild Sports of the West," says, "In January, 1819, in the neighbourhood of Burntisland, a gentleman completely succeeded in taming a seal; its singularities attracted the curiosity of strangers daily. It appeared to possess all the sagacity of the dog, and lived in its master's house and eat from his hand. In his fishing excursions this gentleman generally took it with him, upon which occasions it afforded no small entertainment. When thrown into the water it would follow for miles the track of the boat, and although thrust back with the oars, it never relinquished its purpose; indeed it struggled so hard to regain its seat, that one would imagine its fondness for its master had entirely overcome the natural predilection for its native element."

Their intelligence, docility, and social disposition invite comparison with the similar traits of the dog, and certain writers have expressed the opinion that their services could be employed for some similar duties in the water to those in which dogs are employed on the land.

The so-called "Talking Fish" which were exhibited in England some years ago, and seem to have astonished the British public, were merely some seals that had been well instructed.

That seals are capable of being trained and will display more than ordinary animal intelligence were facts well known to the ancients. Pliny in his Natural History states, "They are susceptible of training, and with their voice and by gesture can be taught to salute the public, and when called by their name they answer with a discordant kind of grunt."

The oil and skin of these seals being valuable commercial commodities, they are slaughtered in a most wanton and reckless fashion annually, old and young, male and female all falling victims to the men engaged in these fisheries, and the total annihilation of the Newfoundland seals has been threatened in consequence. In 1868, 445,000, or \$1,000,000 worth of seals, were brought back by the Newfoundland fishers, and in 1872 one steamer alone caught 32,000, the largest number that any one vessel had ever procured.

When taken in the spring of the year, which is the time at which the animals are in good condition and fat, a full-grown seal will yield from eight to twelve gallons of oil, and a small one from four to five gallons. The oil, which has to be extracted before putrefaction commences, is beautifully transparent, quite free from offensive odour, and not unpleasant in its taste.

In the minds of those members of the public who have not given the matter much attention there exists some confusion regarding that beautiful and highly-valued fur which is called "Sealskin," and used by ladies in nearly every part of the civilized world for their jackets or "sacques," and in the colder regions by men for coats, gauntlets, and caps. Many people, being simply guided by its name, think it is the skin of the common seal, that is, of the true or earless species, but this is not the case. This misconception is also partially due to the same name being given to two completely separate articles of trade.

The skin of the seals just described, which are killed annually so recklessly and in such vast numbers on the coast of Newfoundland and other places, have short bristly hair which has but little beauty about it, and although it is occasionally dressed with the hair on and used for garments, and was formerly largely used for trunk coverings, this skin is as a rule only now used for tanning. The hide, when converted into "patent leather," is found to be of a remarkably soft and fine quality, and therefore admirably adapted for boots, shoes, and bags. It is rather a singular thing that Pliny should have been aware of the soft qualities of this leather, for he recommends people afflicted with gout to wear shoes made of the sea-calf's (seal) skin, and that they should rub themselves with the animal's fat or oil.

He also makes some curious and mythical statements about this skin, for he remarks that even when it is separated from the body it retains a certain sympathy with the sea, and at the ebb of the tide the hair on it always rises upright. Fortunately this is not so, or in the places where people wear coats made of this fur, they would when near the sea look like ruffled tom-cats whenever the tide ran out. Another one of Pliny's statements is that the right fin of this animal has a certain soporiferous influence, so that if it is placed under the head it induces sleep.

The beautifully dense fur so coveted by young ladies, and in consequence the cause of so many domestic heartburns and longings, is taken from a totally distinct species of the amphibious carnivora, for it is only found on the animals classified in the subdivision of the eared-seals (*Otaria*), which are known as fur-seals or sea-bears, which it will now be in order to describe somewhat more fully.

CHAPTER XXX.

EARED-SEALS (*OTARIA*).

THE eared-seals (*Otaria*) have been divided and subdivided so often that it is almost impossible to state correctly how many absolutely distinct species really do exist. So many names have been given to each variety by certain naturalists who are the victims of a species-mania, and upon discovering the slightest individual variation in size, colour, or equally unimportant differences between the animals, have thought it incumbent upon them to confer some new and barbarous name upon the creature, and advertise the christening far and wide, that great confusion now prevails.

Mr. Allen is only able to recognize nine species of these animals, and two of these he even considers doubtful. These he classifies into two groups, for, as he says, they are obviously divisible by the character of their pelage. Of these, five are therefore called Hair-Seals or Sea-Lions, for they have no under-fur; and four, Fur-Seals or Sea-Bears, which are smaller animals and have an abundant soft, silky under-fur from which the famous sealskin is produced, after the coarse stiff hairs are plucked therefrom, and the skin dyed the attractive and uniform rufous tint noticeable in the manufactured article. The skins of the females and younger males are therefore of great value commercially.

These two distinct varieties have nearly an equal geographical distribution, and are commonly found frequenting the same shores, but generally living apart. Both species are about equally distributed over the temperate and colder latitudes on both sides of the equator, but strange to say none of them are found in the waters of the North Atlantic.

In the first place, it will be well to notice the distinctions that can be observed between the eared and earless seals; that, is between the *Otaria* and *Phocidæ*. The most conspicuous one is that the sea-lions have the power of walking on land with some degree of comfort when compared with the laboured progression of the true seals. The body of the sea-lion does not lie flat on the ground like the seal's, but even when at rest it is raised several inches off it, upon the hind and fore limbs. The neck of the sea-lion, instead of being short and thick, is long, flexible, and mobile, while the head is shaped more like the head of a terrestrial animal, for it has pointed ears and thick lips, covered with stiff whiskers, and may be compared with a polar bear. The small, scroll-like, external ears, which led the French naturalist, M. Péron, early in this century, to give them a distinct classification, are appendages entirely wanting in the *Phocidæ* or common seal family.

The fore-limbs of a sea-lion, instead of being as it were buried in the skin, are free from the body, and although the "hands" are enclosed in a leathery skin, yet they are exceedingly flexible, so much so that when on land these flippers accommodate themselves to the shape of any obstacle over which the animal may have to pass. When swimming they are also capable of such a considerable flexion that they can be twisted or feathered like an oar, and the power they give the animal makes its movements in the water as beautifully graceful as the flight of a bird in the air, for it swims slowly or rapidly along, on, or beneath the surface, apparently by only an immediate act of will, for it is unaccompanied by any visible exertion corresponding to the effect produced.

Again, with regard to the hind-limbs, in the true seal these are disposed backwards, in a line with the tail and body, and exist in a permanently extended condition, and are used entirely for swimming, as they are of little service to the animal on land. In the sea-lion, however, these limbs, as far as the ankle and foot are concerned, are freely separated from the body, and the foot is turned outwards, and is not unlike the same organ in the polar bear, although its action may be somewhat limited, owing to the way it is fastened, yet it is used exactly as a terrestrial animal uses its paw. When walking on the ground these fore-limbs are lifted

alternately by a swaying movement of the body, and the animal can travel along very rapidly. Occasionally it makes an attempt at a gallop, but it is an awkward pace, for the gigantic feet, or rather flippers, are used in a flaccid, fin-like manner, which reminds one, as Buckland says, of Bob Ridley's shoes in nigger performances. If the animal in the Zoological Gardens is watched for some little time, it will be observed occasionally twisting itself into queer attitudes, like a dog or a cat, stretching itself or scratching its back for amusement.

The body of these seals is singularly flexible. On this subject, Dr. Murie¹ says, "At one moment the entire body presents a long, cylindrical, tapering cone; in another, the body seems foreshortened, and the head and neck thrust out turtle-fashion to a length as astonishing as unexpected to any visitor who may chance to be near; at other times the chest and abdomen become deep and laterally flattened, while the back is arched like that of a defiant cat. And so, waking and sleeping, walking or swimming, there is a ceaseless change of relation in the figure and proportion of the parts. This does not depend on mere change of attitude, but also upon the unusually lithe and mobile nature of the entire spinal column and ribs, furnished as these are with an abundance of cartilaginous material and fibro-elastic ligaments."

"The teeth," writes Mr. J. W. Clark,² "are thirty-six in number, twenty in the upper jaw and sixteen in the lower. Occasionally there is a total of only thirty-four. There are always six incisors in the upper jaw, distinguished by a deep furrow across the longer axis of their crowns, and four in the lower; two canines in each jaw, and usually six molar teeth above, and five below on each side. The canines are of enormous size, and the two outermost incisors of the upper jaw only a trifle smaller; so that when the jaws close, and the lower canine falls between these two enormous teeth, anything that may happen to come between them is held as in a vice. The molar teeth are of uniform, or nearly uniform, size and shape. They are solid—so solid, indeed, that sailors have mistaken them for flints—but from their diminutive size, it

¹ "Zoological Transactions,"

² *Contemporary Review*, vol. xxvii.

is plain that they can be of no use for purposes of mastication. Indeed the *Otaria*, having caught its prey, holds it in its mouth by means of its powerful canines and incisors, and, raising its head, swallows it whole. When it has caught a fish too large to be thus disposed of, it has been seen to give its head a sudden twist, so as to break off a portion, which it swallows rapidly. It then dives into the water, picks up the other portion, and repeats the tearing process until the last fragment is devoured."

The habits of nearly all the various species of the *otaria* are somewhat similar. The Pribylov Islands, which are included in the Alaska group, now in the possession of the United States, are, with the Falkland Islands, the chief resorts of the fur-seals during the summer months. They assemble at these places in immense numbers for the purpose of breeding.

In 1880, Mr. Henry W. Elliott made a report on the Seal Islands of Alaska to the American Government,³ which contains most curious and entertaining information on the fur-seal, furnished from actual observation. And to those who are unable to obtain access to this formidable-sized volume of Government reports, a few quotations from his work will no doubt be interesting. In fact it is almost impossible to write correctly about these animals without constantly referring to his wonderfully graphic and minute monograph. The opening remark draws attention to the slight amount of information that existed regarding these strange animals, prior to the present decade.

"During the progress of the heated controversies that took place pending the negotiation which ended in the acquisition of Alaska by our Government," he writes, "frequent references were made to the fur-seal. Strange to say, this animal was so vaguely known at that time, even to scientific men, that it was almost without representation in any of the best zoological collections of the world. Even the Smithsonian Institution did not possess a perfect skin and skeleton. The writer, then as now, an associate and collaborator of this establishment, had his curiosity very much excited by these stories, and in March, 1872, he was, by the joint action of Professor Baird and the Secretary of the Treasury, enabled to

³ See "Tenth Census of the United States, 1880," vol. viii.

visit the Pribylov Islands, for the purpose of studying the life and habits of these animals.

“The fact is, that the acquisition of these pelagic peltries had engaged thousands of men, and that millions of dollars have been employed in capturing, dressing, and selling fur-seal skins during the hundred years just passed by; yet, from the time of Steller, away back as far as 1751 up to the beginning of the last decade, the scientific world actually knew nothing definite in regard to the life-history of this valuable animal. The truth connected with the life of the fur-seal, as it herds in countless myriads on the Prebyloo Islands of Alaska, is far stranger than fiction. Perhaps the existing ignorance has been caused by confounding the hair-seal, *Phoca vitulina* and its kind, with the creature now under discussion. Two animals more dissimilar in their individuality and method of living can, however, hardly be imagined, although they belong to the same group, and live apparently on the same food.”

The two islands, St. Paul and St. George, are the most important of the whole group, and it was at these places Mr. Elliott made most of his observations, and they were certainly of an extremely interesting and exciting kind. The mass of animal life, the desperate fighting that accompanies their settlement, and at a latter date the gamboling of the thousands and thousands of beautifully coated young sea-bears must be a sight peculiarly fascinating. One ceases to wonder that Steller, whose diary contains some of the most accurate and earliest information regarding these animals, when wrecked with Vitus Bering on the Commander Islands, and suffering bodily tortures, the legacy of gangrene and scurvy, with the energy of a true naturalist, “daily crept with aching bones and watery eyes over the boulders and mossy flats of Bering Island, to catch glimpses of these strange animals which abode there then as they abide to-day.”

The fur-seal, *Callorhinus ursinus*, is, according to Mr. Elliot, the highest organized of all the Pinnipedia, and there are few members of the animal kingdom that can be said to exhibit a higher order of instinct, or one approaching more nearly to human intelligence. The animal is thus described: “I wish to draw attention to a specimen of the finest of this race—a male in the

flush and prime of his first maturity, six or seven years old, and full grown. When it comes up from the sea early in the spring, out to its station for the breeding-season, we have an animal before us that will measure $6\frac{1}{2}$ to $7\frac{1}{2}$ feet in length from tip of nose to end of its abbreviated, abortive tail. It will weigh at least 400 pounds, and I have seen older specimens much more corpulent, which in my best judgment, could not be less than 600 pounds in weight. The head of this animal now before us, appears to be disproportionately small in comparison with the immensely thick neck and shoulders; but as we come to examine it we will find it is mostly all occupied by the brain. The light framework of the skull supports an expressive pair of large bluish hazel eyes, alternately burning with revengeful passionate light, then suddenly changing to the tones of tenderness and good nature. It has a muzzle and jaws of about the same size and form observed in any full-blooded Newfoundland dog, with this difference, that the lips are not flabby and overhanging; they are firmly lined and pressed against one another as our own. The upper lip supports a yellowish-white and gray moustache, composed of long, stiff bristles, and when it is not torn out and broken off in combat, it sweeps down and over the shoulders as a luxuriant plume. Look at it as it comes leisurely swimming on towards the land; see how high above the water it carries its head, and how deliberately it surveys the beach after having stepped upon it (for it may be truly said to step with its fore-flippers, as they regularly alternate when it moves up), carrying the head well above them, erect and graceful, at least three feet from the ground."

The first to arrive at the "rookeries," as the breeding-grounds are called, are generally the strong adult males and oldest bulls. These rookeries are situated on the shore in the space between the high-water line and the foot of the cliffs.

In the beginning of June, "the seal-weather—the foggy, humid, oozy damp of summer—sets in; and with it, as the gray banks roll up and shroud the islands, the bull-seals swarm from the depths by hundreds and thousands, and locate themselves in advantageous positions for the reception of the females, which

are generally three weeks or a month later than this date in arrival.”

“A well understood principle exists among the able-bodied bulls, to wit, that each one shall remain undisturbed on his ground, which is usually about six to eight feet square, provided that at the start, and from that time until the arrival of the females, he is strong enough to hold this ground against all comers; inasmuch as the crowding in of the fresh arrivals often causes the removal of those which, though equally able-bodied at first, have exhausted themselves by fighting earlier and constantly; they are finally driven by these fresher animals back farther and higher up on the rookery, and sometimes off altogether.

“Many of these bulls exhibit wonderful strength and desperate courage. I marked one veteran at Gorbatch who was the first to take up his position early in May, and that position, as usual, directly at the water-line. This male seal had fought at least forty or fifty desperate battles, and fought off his assailants every time—perhaps nearly as many different seals which coveted his position—and when the fighting season was over (after the cows are mostly all hauled up), I saw him still there, covered with scars and frightfully gashed; raw, festering and bloody, one eye gouged out, but lording it bravely over his harem of fifteen or twenty females, who were all huddled together on the same spot of his first location and around him.

“This fighting between the old and adult males (for none others fight) is mostly, or rather entirely, done with the mouth. The opponents seize one another with their teeth, and, then clenching their jaws, nothing but the sheer strength of the one and the other tugging to escape can shake them loose, and that effort invariably leaves an ugly wound, the sharp canines tearing out deep gutters in the skin and furrows in the blubber, or shredding the flippers into ribbon strips.

“They usually approach each other with comically averted heads, just as though they were ashamed of the rumpus which they are determined to precipitate. When they get near enough to reach one another they enter upon the repetition of many feints or passes, before either one or the other takes the initiative

by gripping. The heads are darted out and back as quick as a flash, their hoarse roaring and shrill piping whistle never ceases, while their fat bodies writhe and swell with exertion and rage; furious lights gleam in their eyes; their hair flies in the air, and their blood streams down; all combined, makes a picture so fierce and so strange, that from its unexpected position and its novelty, is perhaps one of the most extraordinary brutal contests man can witness.

“In these battles of the seals the parties are always distinct; the one is offensive, the other defensive. If the latter proves the weaker he withdraws from the position occupied, and is never followed by his conqueror, who complacently throws up one of his hind-flippers, fans himself as it were, to cool his fevered wrath and blood from the heat of the conflict, sinks into comparative quiet, only uttering a peculiar chuckle of satisfaction or contempt, with a sharp eye open for the next covetous bull or “see-catch” (native name for the bulls on the rookeries, especially those which are able to maintain their position).”

“All the bulls have the power and frequent inclination to utter four distinct calls or notes. This is not the case with the sealion, whose voice is confined to a single bass roar; or that of the walrus, which is limited to a dull grunt; or that of the hair-seal, which is inaudible. This volubility of the fur-seal is decidedly characteristic and prominent; he utters a hoarse resonant roar, loud and long; he gives vent to a low, entirely different gurgling growl; he emits a chuckling, sibilant, piping whistle, of which it is impossible to convey an adequate idea, for it must be heard to be understood; and a splitting or rapid choo-choo-choo sound, like steam puffs as they escape from the smoke-stack of a locomotive. The cows have but one note—a hollow, prolonged bla-a-ting call, addressed only to their pups. On all other occasions they are usually silent. It is something strangely like the cry of a calf or an old sheep.”

“The sound which arises from these great breeding-grounds of the fur-seal, where thousands upon tens of thousands of angry, vigilant bulls are roaring, chuckling, and piping, and multitudes of seal mothers are calling in hollow, bleating tones to their

young, that in turn respond incessantly, is simply defiance to verbal description. It is, at a slight distance, softened into a deep booming, as of a cataract, and I have heard it, with a light, fair wind to the leeward, as far as six miles out from land on the sea, and even in the thunder of the surf and the roar of heavy gales it will rise up and over to your ear for quite a considerable distance away. It is the monitor which the sea-captains anxiously strain their ears for when they run their dead-reckoning up, and are laying-to for the fog to rise, in order that they may get their bearings of the land; once heard, they hold on to the sound, and feel their way in to anchor. The seal roar at 'Novastoshnah' during the summer of 1872 saved the life of the surgeon and six natives belonging to the island, who had pushed out on an eggging trip from North-East Point to Walrus Island. I have sometimes thought, as I have listened through the night to this volume of extraordinary sound, which never ceases with the rising or the setting of the sun throughout the entire season of breeding, that it was fully equal to the cheering boom of the waves of Niagara. Night and day, throughout the season, this din upon the rookeries is steady and constant."

Although the bulls have been quarrelling all the time and continue to do so all through the season, yet when the cow-seals begin to arrive, they signalize the event by a period of universal, spasmodic, desperate fighting among themselves, the contests being far more bloody and vindictive, and result in a heavier percentage of mutilation and death than at other times.

The cows are from 4 feet to $4\frac{1}{2}$ feet in length from head to tail, and besides having much smaller bodies than the bulls, are more lithe and elastic, and much more shapely in their proportions. They exhibit a strong contrast to their ferocious and saturnine lords by wearing an air of exceeding peace and dove-like amiability. "The head and eye of the female are exceedingly beautiful; the expression is really attractive, gentle, and intelligent; the large, lustrous, blue-black eyes are humid and soft with the tenderest expression, while the small, well-formed head is poised as gracefully on her neck as can be well imagined; she is the very picture of benignity and satisfaction when she is perched up on some

convenient rock, and has an opportunity to quietly fan herself, the eyes half-closed, and the head thrown back on her gently-swelling shoulders."

The females "are noticed and received by the males on the water-line stations with attention; they are alternately coaxed and urged up on to the rocks, as far as these beach-masters can do so, by chuckling, whistling and roaring, and then they are immediately under the most jealous supervision; but owing to the covetous and ambitious nature of the bulls which occupy these stations to the rear of the water-line and way back, the little cows have a rough-and-tumble time of it when they begin to arrive in small numbers at first, for no sooner is the pretty animal fairly established on the station of male number one, who has welcomed her there, than he, perhaps, sees another one of her style in the water from whence she has come, and, in obedience to his polygamous feeling, devotes himself anew to coaxing the latter arrival, by that same winning manner so successful in the first case; then when bull number two, just back, observes bull number one off guard, he reaches out with his long strong neck and picks up the unhappy but passive cow by the scruff of hers, just as a cat does a kitten, and deposits her upon his seraglio-ground; then bulls number three and four, and so on, in the vicinity, seeing this high-handed operation, all assail one another, especially number two, and for a moment have a tremendous fight, perhaps lasting half a minute or so, and during this commotion the little cow is generally moved, or moves, further back from the water two or three stations more, where, when all gets quiet again, she usually remains in peace. Her last lord and master, not having the exposure to such diverting temptation as her first, gives her such care that she not only is unable to leave, did she wish, but no other bull can seize upon her. This is only a faint (and I fully appreciate it), wholly inadequate description of the hurly-burly and the method by which the rookeries are filled up from first to last, when the females arrive."

The ground selected is always on a gentle slope from the sea, and is chosen with special reference to its drainage, so that it may remain, or easily become dry and free from puddles.

The number of wives appropriated by each bull varies, apparently, according to the position of the ground upon which the animal has been able to establish himself. Those nearest the water have between fifteen and twenty, and those in the rear from five to twelve.

The males that come late and are unable in consequence to obtain or keep a position any way near the water-line, have to remain in the rear of the rookeries, in a bachelor condition, and patiently await their opportunity, but when one of the more fortunately situated males is severely wounded, or has to vacate his position from any cause, one of these single animals promptly moves into the vacant place.

Soon after the cow-seals have all landed, the little jet-black pups are born, and begin to paddle about and enjoy life from the very start. They are treated with great apathy by their mothers. Mr. Elliott says: "I have never seen a seal-mother caress or fondle her offspring; and should it stray to a short distance from the harem, I could step to and pick it up, and even kill it before the mother's eye, without causing her the slightest concern, as far as all outward signs and manifestations would indicate. The same indifference is also exhibited by the male to all that may take place of this character outside of the boundary of his seraglio; but the moment the pups are inside the limits of his harem-ground he is a jealous and fearless protector, vigilant and determined; but if the little animals are careless enough to pass beyond this boundary, then I can go up to them and carry them off before the eye of the old Turk without receiving from him the slightest attention on their behalf. A curious guardian, forsooth!"

An odd, paradoxical thing about these young pups is, that until they are a month or six weeks old they are utterly unable to swim. If one of them is pitched into the water, "his bullet-like head will drop instantly below the surface, and his attenuated posterior extremities flap impotently on it. Suffocation is the question of only a few minutes, the stupid little creature not knowing how to raise his immersed head and gain the air again. After they have attained the age I indicate, their instinct drives them down to the margin of the surf, where the alternate ebbing and

flowing of its wash covers or uncovers the rocky or sandy beaches. They first smell, and then touch the moist pool, and flounder in the upper wash of the surf, which leaves them as suddenly high and dry as it immersed them at first. After this beginning they make slow and clumsy progress in learning the knack of swimming. For a week or two, when overhead in depth, they continue to flounder about in the most awkward manner, thrashing the water as little dogs do, with their fore-feet, making no attempt whatever to use the hinder ones. Look at that pup, now, launched out for the first time beyond his depth; see how he struggles, his mouth wide open, and his eyes fairly popping. He turns instantly to the beach ere he has fairly struck out from the point whence he launched in, and, as the receding swell which at first carried him off his feet and out, now returning leaves him high and dry for a few minutes, he seems so weary that he weakly crawls up, out beyond its swift returning wash, and coils himself up immediately to take a recuperative nap. He sleeps a few minutes, perhaps half an hour, then awakes as bright as a dollar, apparently rested, and at his swimming lesson he goes again. By repeated and persistent attempts, the young seal gradually becomes familiar with the water, and acquainted with his own power over the element which is to be his real home and his whole support. Once boldly swimming, the pup fairly revels in his new happiness."

The male seals, from six years of age, which go by the expressive name of "bachelors," are compelled to herd apart. They number from one-third to one-half the whole aggregate of near 5,000,000 seals known to the Pribylov group, and are never allowed by the "see-catchie," under the pain of frightful mutilation or death, to put their flippers on or near the rookeries. The ground they occupy is about ten times as large as that covered by the breeding seals, for they wander about aimlessly, or as the weather and caprice may dictate. Thus they frequently journey inland distances varying from a half to a whole mile, and as they do not travel in desultory files over the winding, straggling paths, but sweep along in solid platoons, they obliterate every spear of grass, and rub down nearly every hummock in their way.

“Since the ‘holluschickie’ (Russian for bachelors) are not permitted by their own kind to land on the rookeries and stop there, they have the choice of two methods of locating, one of which allows them to rest in the rear of the rookeries, and the other on the free beaches. The most notable illustration of the former can be witnessed on Reef Point, where a pathway is left for their ingress and egress through a rookery—a path left by common consent, as it were, between the harems. On these trails of passage they come and go in steady files all day and all night during the season, unmolested by the jealous bulls which guard the seraglios on either side as they travel; all peace and comfort to the young seal if he minds his business and keeps straight on, up or down, without stopping to nose about right or left; all woe and desolation to him, however, if he does not, for in that event he will be literally torn in bloody gripping, from limb to limb, by the vigilant old ‘see-catchie.’”

About the end of July, or the first week in August, the disorganization of the rookeries begins. The whole place has a changed appearance. The regular disposition of the families or harems has disappeared, and the clockwork order which has heretofore existed becomes broken up. The bulls leave, and the majority of the cows also take to the water, only coming ashore again to nurse and look after the pups for a short time longer. The bachelors, who have been kept in the background hitherto, now come forward, and, in a very disorderly manner, take possession of the rookeries. By the end of October, with but few exceptions, the whole body of seals desert the islands and migrate southward.

An extraordinary feature about these annual family gatherings is, that during the *three or four months they are assembled together, the bull animals have existed without food of any kind, or even water.* The females go to and come from the sea to feed and bathe quite frequently, so do the bachelors, and they retain their sleek, plump forms in consequence. But the bulls, when they first leave their post, which they have not quitted for a single moment, night or day, since they landed in May, and gently slip off shore to obtain their first meal, are but the bony shadows of

their former selves, for besides being covered with wounds, they are abject and spiritless, and laboriously crawl back to the ocean, there to renew a fresh lease of life.

“Such physical endurance,” writes Mr. Elliott, “is remarkable enough alone, but is simply wonderful when we come to associate this fasting with the increasing activity, restlessness, and duty devolved upon the bulls as the heads of large families. They do not stagnate, like hibernating bears, in caves; there is not one torpid breath drawn by them in the whole period of their fast; it is evidently sustained and accomplished by the self-absorption of their own fat, with which they are so liberally supplied when they first come out from the sea and take up their positions on the breeding-grounds, and which gradually disappears, until nothing but the staring hide, protruding tendons and bones mark the limit of their abstinence. There must be some remarkable provision made by nature for the entire torpidity of the seal’s stomach and bowels, in consequence of their being empty and unsupplied during this long period, coupled with the intense activity and physical energy of the animals throughout that time, which, however, in spite of the violation of a supposed physiological law, does not seem to affect them, for they come back just as sleek, fat, and ambitious as ever in the following season.”

The natives of these islands, or those engaged in the trade, procure their supply of skins by getting between the sea and the “bachelor” seals, and driving them inland, which is easy work, for the poor creatures are of a timid disposition, and when they find their retreat to the sea cut off, they instinctively turn and scramble rapidly back up and over the land. The natives leisurely walk on the flanks of the drove they have thus secured, and keeping the seals on the move, drive them to the flats selected for the scene of slaughter.

The actual killing is done by knocking the animals on the head with a club or stout oaken or hickory bludgeon, specially constructed for the purpose. The men accustomed to the work are adepts at it, and, consequently, the individuals are killed, as a rule, with a single blow, and without suffering, for it is only occasionally that a second stroke is required. “The aim and force with which

the native directs his blow," observes Mr. Elliott, "determines the death of the seal; if struck directly and violently a single stroke is enough. The seals' heads are stricken so hard sometimes, that those crystalline lenses to their eyes fly out from the orbital sockets like hail-stones, or little pebbles, and frequently struck me sharply in the face, or elsewhere, while I stood near by, watching the killing gang at work."

The "Alaska Commercial Company" have the sole right of killing the seals on these islands, and they are only permitted to take 100,000 male skins annually during the months of June and July. After this date the animals begin shedding their hair, and the skins are worthless. The Act of Congress, passed in 1870, leasing these islands for twenty years to this company for a rental of \$50,000, with a tax of \$2 on each skin, regulated the time at which the killing was to take place, the number and sex that were to be killed, and these stipulations are strictly enforced.

Nine-tenths of the skins obtained by this company are shipped to London, to be dressed and prepared for the market, and from thence find their way all over the civilized world where furs are worn and prized.

The age of the animal has a great deal to do with the value of the skin. A well-grown seal in his third year yields the very best grade of pelt; but the skin of a five-year-old is very poor, while that of a seven-year-old is worthless, and never taken.

The price of a seal-skin garment has a considerable range, as most people know, extending from a few pounds to over a hundred; but the reason of these wide variations is not so well known. It depends, of course, to some extent upon the quality of the fur originally, but far more to the amount of skilled labour which has been expended on it. The dyeing is one of the most important operations, and requires considerable patience and such great skill, that the number of men in the world qualified to do the highest class of work is quite limited. If it is conscientiously done, the colour will not rub off, or when subjected to a little moisture, soil the collar or cuffs of the wearer, neither will the skin become faded or ragged-looking, like the cheap articles which have been defectively treated. A great deal depends also on the

care exercised in the initial stages of the preparation of the skins or when they are being "unhaired," that is, having the over or coarse hair combed out and off from the fur. This is done by reducing the thickness of the skin, and by heating it to such a point that the roots of the fur are not loosened, while those of the coarse hirsute growth are. If this operation is not performed with perfect uniformity the skins will never have a smooth or handsome appearance, but will always look ruffled and ruffled, never mind how skilfully they may subsequently be dyed.

CHAPTER XXXI.

EARED-SEALS (*OTARIA*) *Continued.*

THE SEA-LIONS excite more interest in the public mind than the Sea-Bears, although people are so dependent on the latter animals for one of their luxuries. This is no doubt due to the specimens that have been exhibited in various places, and have become popular favourites, also perhaps to the fact that, although they dwell periodically in certain isolated islands of the world, yet they do not confine themselves to these secluded spots, but are to be seen disporting themselves on thickly inhabited coasts, and occasionally take up a permanent abode on rocks contiguous to such places.

STELLER'S SEA-LION (*Otaria Stelleri*) is the Hair Seal of the Pribylov Islands. These animals have a much wider geographical range than the fur-seals which are their fellow-inhabitants of these out-of-the-way rocks, for they are found in many places further south. The sea-lions that sport about on the rocky islets near the entrance to San Francisco Bay are of this species. Their antics constitute one of the sights which attract visitors to the large hotel situated opposite the Seal Rocks, at the mouth of the bay, from where a good view can be obtained of their rookery. One conspicuously large specimen was always easily distinguished; he was known by the name of "Ben Butler," and some people, prone to exaggeration in such matters, used to estimate his weight at 2000 pounds. These sea-lions are, however, much larger in every way than their congeners the sea-bears, for some of them attain a total length of eleven or twelve feet, and a girth around the chest and shoulders of eight or nine feet, and are said to weigh a thousand pounds or more.

The Californian legislature gave protection by law to the

seals and sea-lions along their coast, apparently more because they were objects of interest and curiosity than for any other purpose, but the voracity of the animals was so great that the State fish-commissioners—who found the results of their efforts to stock the waters with food-fishes considerably impaired, if not completely destroyed, by the seals—introduced a bill to repeal the protective act, hoping that this step would soon effect a diminution of the number of these rapacious marine *carnivora*.

These sea-lions can be formidable antagonists. The following account of an onset one of them made upon a boat, was published in a San Francisco newspaper: "As a Mexican Indian named Sacramentus was crossing Tomales Bay at Marshall, the boat was attacked by a large sea-lion. The Indian dealt the beast a heavy blow on the head with a hatchet, but without repulsing the animal, which again attacked the boat with renewed fury. It was finally killed and afterwards towed ashore. The fishermen estimated its weight at 1200 pounds."

These sea-lions are polygamous and gregarious, but do not assemble together in such immense numbers as the fur-seals, neither do they maintain the regular system and method in settling the economy of their breeding-grounds. Although they fight desperately among themselves, if anything with more savageness than the sea-bears, yet they are entirely wanting in the courage exhibited by the latter animals. They are reported to be among the most timid of all the Pinnipedia, for according to Elliott, a boy with a rattle or a pop-gun could stampede 10,000 sea-lion bulls, in the height of the breeding-season, to the water, and keep them there for the rest of the period. In consequence of their being so shy and suspicious, it is difficult work to get anyway near them in order to make observations, for on the slightest warning or alarm they fly to the water in a panic.

There is considerable disparity between the sizes of the male and female animals of this species, more so, perhaps, than between any of the others. It is the leonine appearance of the bulls and the ferocious expression they frequently exhibit which has led to the designation of sea-lions being applied to them.

The skin of the sea-lion has little commercial value, for it is

covered with coarse, hard, stiff hair, varying in length and colour with age and season, and is wholly destitute of the soft and silky under fur; but it is of great value in the domestic service of the Aleutian islanders, as is also the flesh, fat, and sinews. The oil procured from these animals is also of a far higher quality than the offensively odorous blubber of the fur-seal. Some few hundreds, sufficient to supply their wants, are therefore annually killed by these people. The method adopted is, to a great extent, similar to the one before described; but with sea-lions greater care is required, for it is a somewhat more dangerous occupation, not only from their much larger size, but also from their habits. For if, when getting between the sea and their prey, the sleeping animals happen to have their heads pointed to the water, the moment they are alarmed they charge straight in that direction, right over the men themselves. If, however, they are turned inland, they pursue the same direction, which is the one required by their captors. The driving of the captives used to be accomplished by the waving of a small flag attached to a pole, but since the islanders have become Americans, they have adopted that production of the country, a cotton umbrella, and the sudden opening and shutting of this novel implement keeps the herd on the move, and completely overcomes the sluggish tendency of any refractory individual among them. Again, when the actual killing begins, although the sea-lions appear to be natural cowards, yet they will fight when at bay, and prove themselves no mean antagonists. They are not therefore killed, as a rule, with the clubs used for the fur-seals, but are shot with a rifle; the men walking up to within a few feet of the animals and firing at them just between the eye and the ear.

As an illustration of the strength and energy of a sea-lion bull when at bay, Mr. Elliott states that the following curious, though doubtless authentic, story was told him: "Many years ago (1847), on St. Paul Island, a drive of September sea-lions was brought down to the village in the usual style; but when the natives assembled to kill them, on account of the great scarcity, at the time, of powder in the island, it was voted best to lance the old males also, as well as the females, rather than shoot them in



A PATAGONIAN SEA-LION.

(*Otario jubata.*)

the customary style. The people had hardly set to work at the task, when one of their number, a small, elderly, though tough, able-bodied Aleut, while thrusting his lance into the 'life' of a large bull, was suddenly seen to fall on his back, directly under the huge brute's head; instantly the powerful jaws of the 'seevitchie' (native name for sea-lion) closed upon the waistband, apparently, of the native, and lifting the yelling man aloft, as a cat would a kitten, the sea-lion shook and threw him high into the air, away over the heads of his associates, who rushed up to the rescue, and quickly destroyed the animal by a dozen furious spear thrusts; yet death did not loosen its clenched jaws, in which were the tattered fragments of Ivan's clothing."

The moustache bristles procured from these seals, which are tough and elastic, have, strange to say, a commercial value. They are sent to San Francisco, where they are sold to the Chinese, for about a cent apiece, who use them as peckers for cleaning their opium pipes, and also for certain purposes in connection with their joss-house ceremonies.

The Patagonian sea-lion (*Otaria jubata*) is the species best known to the frequenters of the Zoological Gardens, for the popular and sportive animal that can generally be seen plunging about in the spacious pond set apart for the purpose, is a female of this variety.

These sea-lions are found distributed all round the South American continent, from Peru to the River Plate. Magellan, whose name was given to the straits that divide Tierra del Fuego from Patagonia, speaks in the history of his eventful voyage (1579) of the animal which the Spaniards called the sea-wolf. It was probably identical with the animal which attracted the attention of Captain Cook and his naturalist, Forster, for the superficial resemblance to a lion seems to have struck them at once, and they gave it the name of *jubata*, from the Latin word *juba*, a mane. In one of Forster's drawings, preserved in the British Museum, he represents it as possessing such an appendage, but the long hair covering the neck and shoulders to be seen in the adult male is hardly worthy of a designation which invites comparison with the ornamental locks of a lion.

This species derives some exceptional interest from the fact that

it was the first of its kind that was brought alive to England, and materially helped to awake public curiosity in these interesting creatures, and to draw the attention of naturalists to the dearth of accurate information that existed regarding them. Visitors to the gardens when the first specimen of the sea-lion was on exhibition were surprised to find that the animal so often referred to by the early explorers in the history of their voyages, and that had been the occasioner of many thrilling adventures, was possessed of a highly intelligent organization, hardly inferior to that of any quadruped.

Lecompte, who was this animal's keeper and original owner, was quite a noted character in his way. The late Frank Buckland, who knew him well, for he made his first acquaintance with him in 1866, when he was engaged exhibiting his pet at Cremorne Gardens, gives his history and the account of the first sea-lion's capture in one of his articles.¹ "In 1862," he writes, "some French sailors wandering about the desolate and bleak shores near Cape Horn, came across this Sea-bear" (Sea-lion, for it was of the species *Otaria jubata*). "After a great deal of manœuvring, one of the men, named Lecompte, managed to get behind the seal and catch hold of its hind flippers. The beast, of course, tried to turn and bite; but Lecompte, by turning to the right or to the left, kept out of the way of his teeth.

"When the animal was a bit tired, the other sailors managed to get a stick into his mouth, and to tie it tight behind his head, so as to gag him. They then bound him up tightly with ropes, and slinging him between two oars, Lecompte and the sailors carried him to their ship, and then to Buenos Ayres. Lecompte conceived the idea of taming his captive, and for two whole years devoted himself entirely to this object, in which he at last perfectly succeeded, not, however, without great difficulty, for he bore to his grave marks of the seal's teeth on almost every limb, and his right hand was quite crippled by a bite, in which the seal almost severed the muscles of the fore-arm; in fact the wound was so severe that the South American doctors wanted to amputate his hand altogether.

¹ "Notes and Jottings of Animal Life."

“Notwithstanding the ferocity of his pet, Lecompte cultivated his intelligence, and the creature soon performed tricks which Lecompte, with true nationality, worked up into a little military episode. The sea-bear volunteered to go as a soldier to Mexico. He then passed through the forms of enlistment and drill, and finally fired a cannon. The sea-lion was exhibited in Belgium before he went to Cremorne. His dinner consisted of twenty-five pounds’ weight of fish daily. His habit was to sleep all night, and during the day when his master was not with him. He awoke at the slightest noise. He did not object to visitors, but was annoyed with ladies wearing white ribbons.

“Lecompte was next engaged by a travelling menagerie. The affair did not pay, so they turned Lecompte and his sea-lion into a field by the roadside. Here he was discovered by Mr. Bartlett, who purchased his sea-lion for the society, while he himself was made the keeper.”

His abode was in a little house by the zebras, and Buckland used frequently to lunch with him. “He was a splendid cook,” he writes. “He once gave me a portion of a most savoury pie, which he assured me was a *spécialité*. It was very good, and I ate it; but when I came to know what the *spécialité* was, I vowed I never would lunch with Lecompte again without seeing the *menu* first.”

In 1867 the animal died, in consequence of his having swallowed a fish-hook in a fish given him to eat. His death was regretted by every one connected with the Society, and by the regular visitors to the Gardens. Fishermen sometimes break off their lines and leave the hook in the fish they capture. This proceeding is a very dangerous one for animals who live on this kind of food, and the loss of more than one fine specimen has resulted in consequence. Care is now exercised, however, to prevent the recurrence of this form of accident.

The Council of the Zoological Society resolved to replace this animal as soon as possible, and for this purpose they sent Lecompte out to the Falkland Islands to procure living specimens of the fauna, and especially of the sea-lions. After experiencing considerable difficulty and trouble, he succeeded in obtaining a

large number of birds of various kinds,² two foxes, and four sea-lions, and with these he started on his return journey. He left Port Stanley in the packet "Fawn," which meets the mail steamer at Monte Video, but the weather was so unfavourable that nearly all his collection died. The four sea-lions, however, remained in good health and condition for some time, but a passenger on board having died of yellow fever, the stock of fish that Lecompte had brought on board to feed his charges with was condemned on account of the smell, and had to be thrown overboard. As a consequence, the poor man was doomed to the disappointment of seeing three out of his four sea-lions die. The survivor was kept alive as far as Lisbon mainly by the flying-fishes which fell on the deck at night, and were purchased from the sailors who picked them up. At Lisbon a fresh supply of food was obtained, and the animal arrived safely in the Zoological Gardens, where, under the skilful training of her captor, she soon became nearly as popular as her predecessor.

Frank Buckland considers that "if ever there was affection between animals and men, it was the mutual love that existed between the seals at the Gardens and Lecompte; nor do I think," he writes, "it was entirely cupboard love, though undoubtedly the basket of fish more or less influenced their ideas. He had names for his seals at the Gardens, and the seals knew their names—at least Kate and Fanny did."

Lecompte died about ten years ago. During his last illness he used frequently to be wheeled in a chair at his own request to see his favourite seals. He was originally a French man-o'-war's man. As a keeper in the service of the Zoological Society his polite conduct, his well-known welcome of "Bon jour, monsieur," and the love he had for his charges, soon earned him the respect of all visitors, and his loss was greatly felt. Buckland, who regretted him, writes, "Peace to the memory of this faithful servant and sincere friend of dumb animals—dumb in the ordinary sense of the word to most people, but possessing a voice and language well understood by their much-lamented master, François Lecompte."

² See "Zoological Society's Proceedings" for 1868, p. 529.



PERFORMING SEA-LION.

(Otaria jubata.)

Sea-lions have never bred in the Gardens of the Zoological Society, but they have done so in captivity, for the animals in the Brighton Aquarium in May, 1877, became the parents of the first young one born in any collection in Europe of which there is any record.

The present occupant of the sea-lions' tank in the Zoological Gardens, whose photograph was taken as she emerged with her mouth open as a protest against the intrusion within her domain, is an animal highly valued by the Society, and one that affords considerable entertainment to the visitors. She goes through certain performances by command of her keeper, which admirably exhibit the peculiarities of her structure. She mounts on a chair and proceeds to catch the fish thrown her; or in her lumbering but expeditious manner she makes her way up the sloping ascent of the raised platform which has been built for her accommodation, and much to the delight of the children looking on proceeds to take a "header" back to the water. It is in this element that her movements become peculiarly fascinating to watch. The ease with which she swims, now slowly, now rapidly, with no evident increase of exertion, is like the circling and swoop of a hawk on the wing, the very poetry of motion. If a fish be again thrown her, it is worth while to mark the lightning-like rapidity with which she darts to the correct spot, and by bringing her head well above the surface succeeds in catching it in her mouth with a precision that must make the Eton cricketer looking on envious of her skill. In this performance a most wonderful power is displayed, for she can, without any perceptible previous diminution of her greatest speed, instantaneously arrest her progress apparently by mere volition.

CHAPTER XXXII.

ANTHROPOID APES (*SIMIADÆ*).

THE terms ape, baboon, and monkey, used frequently to be employed indiscriminately to designate the same animals, and are still given this wide application by many people not conversant with the nature of the distinctions. Ape, however, should only be applied to certain members of the family that are tailless, and have no cheek-pouches; baboon, to those frightfully-ugly, dog-faced animals with only a short tail, and to which the generic name *Cynocephalus* has been given; and the word monkey should be reserved for the numerous varieties that have cheek-pouches and long tails, prehensile or not prehensile. This classification is the one adopted by Ray forty or fifty years ago, and although, doubtless, somewhat vague, for there are many exceptional instances in which it does not hold good, still for general principles it is continued, modern naturalists not having universally adopted any other to supersede it, although several have been suggested, founded either on the geographical division of the animals or the position and construction of their nostrils.

In Natural History, these animals belong to the highest order, *Primates*, which is the one that contains man. It embraces such a large number of different species that it has been split up into many sub-divisions, sub-orders, sub-families, and genera. Although it is not within the scope of this work to particularize all these sub-divisions, yet it is necessary to state that the first is called *Anthropoidea*, and contains three families—*Hominadæ*, that is, man or the human race; *Simiadæ*, or the apes of the old world; and *Cebidæ*, those of the new world.

Cuvier gave the name *Quadrumanæ* to the monkey family, a word signifying four-handed, because they can to some extent

employ the hind-limbs in the same way as they can the fore ones ; but it is hardly a correct definition, for this species of mammal is not four-handed, if we accept the meaning of the word hand as signifying a somewhat similar organ to the one with which human beings are supplied. However it was adopted by many naturalists, and is still employed by nearly all writers on natural history.

The varieties of monkeys, including marmosets and the half-apes or lemurs, are almost endless. Some are beautiful animals. Some are quite the reverse, hideously ugly. Some are intelligent, others stupid, some live in trees, others on rocks. There are silent monkeys and chattering monkeys, laughing monkeys and howling monkeys. Some are affectionate, some savage, and some animals have cheek-pouches, which are receptacles within the mouth where nuts or other food can be stored till required, but all the animals so supplied come from the old world. Some monkeys have prehensile tails, but whenever one is seen it can safely be set down as an American animal. The old-world monkeys have a narrow septum or division separating the nostrils, while the various species found in the new world have a broad division ; and there are other easily recognized physical distinctions between the two races.

The monkeys most generally known are the small, gentle, affectionate little animals to be seen led about by strolling musicians. They are nearly all of the genus *sapajou*, or Capuchin monkeys, and come from the tropical forests of South America, where they live congregated in troops or flocks.

These gigantic forests are the true homes of the monkey family, for therein they can travel hundreds of miles by simply jumping or swinging from tree to tree. The extent of their domain is stated by Mr. Bates¹ to have been, at the time he visited South America, 1260 miles from west to east, and, with grassy intervals, continuing in this latter direction for 700 miles further. "But," he adds, "as there is no complete break of continuity, the statement of Humboldt (who had a glimpse of the immeasurable wilderness only from its western commencement in Peru) still holds good, to the effect that a flock of monkeys might travel amongst the tree-tops, were it not

¹ See "Notes on Animal Life in a Primæval Forest," in *Good Words* for 1864.

for the rivers, for 2000 miles in a straight line, without once touching the ground, namely, from the slopes of the Andes to the shores of the Atlantic."

The apes that are styled anthropoid, so called because of their being the nearest in their resemblance to man, are known by the generic name of *Simiadae*, which is derived from a Greek word, signifying "flat-nosed," are inhabitants of Equatorial Africa and of certain Asiatic Islands. There are several species already known, and probably future explorers may discover a few more. Some modern disciples of Darwin live in hopes of yet welcoming the veritable "missing link," which would be so joyfully hailed by those people who wish to have it proved beyond doubt that they are the lineal descendants of apes. The gorilla, chimpanzee, orang-outang, and gibbon are the species with which the public are most familiar. They have all many points in which they resemble each other, and their habits only differ in certain unimportant features. But there is plenty of room for further information upon their customs when in their natural state.

The gorilla and chimpanzee constitute a genus known as *Troglodytes*, which is a word derived from two Greek ones meaning "dwellers in caves," and conveys no correct guide to the animals' habits, but only exhibits the lack of accurate knowledge possessed by their scientific godfathers respecting them, for, as a matter of fact, the animals make their homes in trees, if a rough nest prepared for a few days' occupation can be called a home.

These apes, like the native negroes, are black. The gorilla has a more limited range than the chimpanzee, for it is confined in its *habitat* to the western part of Equatorial Africa, where in the depths of the dense forests it reigns supreme, for although huge birds of prey, mighty snakes, monstrous lizards, and millions of insects are also to be found therein, and a few jackals and hyænas prowl about, yet there are none of the large animals such as giraffes, zebras, rhinoceroses, lions, or elephants which abound in the interior. The gorillas and the chimpanzees have, therefore, to fear few enemies except the native hunters, who appear to entertain a greater awe of these apes than the apes do of them.

Few, if any, Europeans will ever be able to make systematic

observations of these beasts in their natural home and wild condition, for malarial fevers and consequent risk of death must always deter even the most enthusiastic travellers from such an exploit, allowing it to be otherwise possible. Of these forests some idea can be gleaned from the description given by the traveller Hugo von Koppenfels in a letter to Mr. Haward, of Rochester, United States, who remarks² respecting his explorations in the Gaboon, and its wonders: "No writer can give a just description of a primitive tropical forest; it is too grand and diversified; but with all its exterior splendour and beauty, it is a deceitful and dangerous thing. Woe to the inexperienced man who essays to penetrate into its interior; he soon becomes involved in a chaos of roots, of interlacing lianas, of fallen trunks covered with a tangled growth of thorny underbrush all growing from a dark and swampy soil. Here he breathes a stagnant, musty, greenhouse air, which depresses the spirits and deadens the energies. Added to this there is a deep gloomy silence which broods over this place of most luxuriant growth and rapid decay. Although these mysterious shadows hide an active and varied animal life, the ear is seldom struck by a sound of any kind. Only now and then the falling of a fruit or a dry branch breaks the oppressive stillness. Early in the morning, and in the short evening twilight of the tropics, some birds are heard to herald the advent or departure of the day. Such a forest is a subject of unending study, and only he whom nature has endowed with peculiar tastes and acute senses can, with use and experience, become familiar with its varied constituents, its changing phases, and its silent language. Woe to the novice who, without guide, wanders into its recesses, where death lurks for him. In most cases he is soon hopelessly lost, and when weary and despairing he throws himself on the ground to rest, swarms of ants and other insects soon sting him into movement again. Almost no wholesome food is attainable in these forest depths, and should the traveller not die of starvation, or fall a victim to violent, acute fever, the poisonous atmosphere slowly acting on the system, paralyses the digestion, corrupts the blood, and produces irritating eruptions of the skin, and frequently malignant ulcers. Such is the primitive

² See *American Naturalist* for 1881.

forests on the alluvial bottoms of the rivers of tropical Africa. It has been represented as a paradise, and poetical descriptions, drawn from the imagination, have inspired in many a longing desire to penetrate their mysteries. One must, however, do as I have done, wander lost and alone for days together, enduring terrible suffering and constant fear of death, before he can form for himself a true image of the real tropical primeval forest."

The conclusions arrived at by Professor Huxley on the subject are beyond dispute, for, as he remarks: "Once in a generation, a Wallace may be found physically, mentally, and morally qualified to wander unscathed through the tropical wilds of America and Asia; to form magnificent collections as he wanders; and withal to think out sagaciously the conclusions suggested by his collections; but to the ordinary explorer or collector, the dense forests of Equatorial Asia and Africa, which constitute the favourite habitation of the orang, the chimpanzee, and the gorilla, present difficulties of no ordinary magnitude; and the man who risks his life by even a short visit to the malarious shores of those regions may well be excused if he shrinks from facing the dangers of the interior; if he contents himself with stimulating the industry of the better seasoned natives, and collecting and collating the more or less mythical reports and traditions which they are too ready to supply him.

"In such a manner most of the earlier accounts of the habits of the man-like apes originated; and even now a good deal of what passes current must be admitted to have no very safe foundation."

This was undoubtedly the source of those blood-curdling, terrible descriptions that passed for truth till very lately respecting the anthropoid monsters with women-stealing and elephant-slaying propensities, which were said to hold undisputed possession of certain territories in South Africa.

When Carthage was taken by the Romans and its treasures plundered, two skins were found hanging in the temple of Juno. They belonged to animals called "gorgones," which was a name substituted for the one originally given them of "gorillas," and were the identical skins that had been procured by Hanno.

Of these skins we learn that somewhere about the sixth century before Christ, Hanno, a Carthaginian, set out on an exploring and colonizing expedition round Africa, and on his return he inscribed a narrative of his voyage in the temple of Saturn, according to the *Periplus*, which is the only work containing the details of the expedition now extant. The explorer sailed with sixty ships or galleys of fifty oars each, and many thousand men and women, together with provisions and other necessaries. In the course of his voyage south he founded one city and settled certain colonies. The terminus of the voyage was a bay called the Horn of the South. Here, the narrative states, "there was an island, like the first, having a lake, and in this there was another island full of wild men. But much the greater part of them were women with hairy bodies, whom the interpreter called 'gorillas.' But pursuing them we were not able to take the men; they all escaped, being able to climb the precipices, and defend themselves with pieces of rock. But three women (females), who bit and scratched those who led them, were not willing to follow. However, having killed them, we flayed them, and conveyed the skins to Carthage; for we did not sail any further, as provisions began to fail."

Twenty-five hundred years later an American missionary found the skull of an ape, which attracted the eye of a fellow-worker, Dr. Thomas Savage, for being possessed of considerable anatomical knowledge, he at once recognized the fact that it belonged to a species unknown to science. On his return to Boston he brought the skull with him, and showed it to Professor Jeffries Wyman, who corroborated his opinion respecting it. The animal that originally owned it being still nameless, they proceeded to christen it, and without advancing any hypothesis as to its identity with Hanno's wild women or animals, but probably conjecturing that although incapable of proof, yet there was a slight possibility of their being the same, they gave it the name gorilla.

This led to a considerable discussion, and authorities on the subject would not allow that Hanno sailed as far as the Equator, the home of the species to be henceforth known as gorillas, and they pointed out that his description did not in any way apply to the animal, consequently the name was a misnomer. Mr. W.

Winwood Reade, who spent five months in the gorilla country, trying to find out personally something about the habits of the animals, after pronouncing the name to be a blunder, says,³ "The gorillas of Hanno were found, it is supposed, on Sherbro' Island; they scaled rocks, and they defended themselves with stones. These could neither have been gorillas nor chimpanzees, but a species of *Cynocephalus*, or kind of Baboon, commonly called the dog-faced monkey. These animals, which I have seen often enough in Senegambia, go in troops, which gorillas do not, and actually defend themselves with stones—a fact which I assert not only on the evidence of the natives, but on the evidence of white men who have kept them in a state of captivity. They are also very ferocious, and will always defend themselves when attacked either by man or by beast."

Accepting this statement as proved, it becomes probable that an English sailor, Andrew Battell, was the first to see and describe the gorilla. For some unexplained reason this man was kept a prisoner by the Portuguese in Angola, which is situated 10 degrees south of the line, and near the home of these anthropoid apes. His travels constitute one of the "Pilgrimes," published by Purchas in 1623. Battell met with two species of ape, which he describes in the following manner:—

"The greatest of these two monsters is called (by the Portuguese) *pongo* in their language, and the lesser is called *engeco*. The pongo is in all proportions like a man, for he is very tall, and hath a man's face, hollow-eyed, with long haire upon his brows. His body is full of haire, but not very thicke, and it is of dunnish color. He differeth not from man, but in his legs, for they have no calfe. He goeth alwaies upon his legs, and carrieth his hands clasped on the nape of his necke when he goeth upon the ground. They sleepe in trees, and build shelter for the raine. They feed upon the fruit that they find in the woods, and upon ants, for they eate no kind of flesh. They cannot speake, and have no understanding more than a beast. The people of the countrie, when they travaile in the woods, make fires where they sleepe in the night, and in the morning when they are gone, the

³ See "Proceedings of the Zoological Society," 1863, p. 171.

pongos will come and seat about the fire till it goeth out, for they have no understanding to lay the wood together. They goe many together, and kill many negroes that travaile in the woods. Many times they fall upon elephants which come to feed where they be, and so beat them with their clubbed fists and pieces of wood that they will runne roaring away from them. The pongos are never taken alive, because they are so strong ten men cannot hold one of them; but they take many of their young ones with poisoned arrows. The young pongo hangeth on his mother's belly with his hands fast clasped about her, so that, when the country people kill any of the females, they take the young which hangs fast upon the mother. When they die among themselves, they cover the dead with great heapes of boughs and wood, which is commonly found in the forests."

Selecting the parts that may be considered as truthful from those which are evidently fiction, and comparing them with the subsequent information that has been obtained, it is probable that the *pongo* is the gorilla and the *engeco* the chimpanzee. To some extent this is corroborated by the fact that the natives of the Gaboon still call the latter animal the *enche-eko*.

Various other travellers, of a much later date, have made sundry references to the fearful hairy monsters in man's shape that they had heard about while in Africa. These animals were, according to these narrations, possessed of powers that enabled them to slay not only elephants and lions, but all men with whom they came in contact. These accounts have not died out yet, although they have been shown to be perfectly devoid of truth, and some writers, generally those that provide the works advertised as having been "written for the instruction of the young" (?) still inform their youthful readers that the poor natives when wandering in company through the shades of their beautiful forests will suddenly observe one of their number to be missing, and discover that before he could utter a sound he had been caught at the throat by the long arms of a terrible man-slaying ape which had lain in wait for its prey, and in its vice-like grip the victim had been quickly carried to the topmost branches of a tree, from whence a few seconds later would descend a strangled and a mangled corpse

as a warning to the rest to abstain from trespassing within the gorilla's territory.

THE GORILLA (*Troglodytes Gorilla*) is the largest of all existing apes. The average height of this beast is a few inches over five feet, and its muscular strength is prodigious. Comparing it with the proportions of a man, it is excessively broad across the shoulders, the arms are of much greater length, for they reach when the animal stands erect half way down the shin, while the legs are relatively short. The body is covered with coarse black hair, which becomes grey with age. The face is wide and elongated, and is thrust forward so prominently that it imparts a singularly hideous aspect to the animal. The skin on it is nude, much wrinkled, and of a deep lead colour. The greenish eyes are small but bright, and the nose, which is a somewhat prominent one, is broad and flat, slightly elevated towards the root. The mouth is astonishingly large and brutish-looking, in consequence of the lips being thick, projecting, and so highly mobile that when the animal is enraged they are elongated until the brute's face looks more than half mouth. The chin is receding. The face is destitute of eyebrows, but the eyes have well-developed eyelashes. The ears are small. Both sexes of the animal are well furnished with teeth, those of the males being especially noticeable, owing to the huge size of the canine ones. The hands are broad and thick, long in the palm, and have the appearance of being semi-webbed, for the fingers are not separated so far down as in a man. This peculiarity is still more conspicuous in the foot. The neck is remarkably short, so much so that in a front view of the animal it seems altogether absent, for the chin appears to rest on or be sunk into the upper part of the huge and capacious chest.

The indescribably ferocious aspect of these apes is due chiefly to the hairy ridge or crest of long hair on the top of the scalp which runs from ear to ear, and is the most remarkable feature of the head. The animal, having the power of moving the scalp freely, when enraged contracts it strongly over the brow, which brings down this hairy ridge and produces the singularly fierce appearance for which this ape is noted.

In reality the whole aspect of the gorilla is at all times a repul-

sive one, for it is an exaggeration of the lowest and most forbidding type of human physiognomy.

“Their gait is shuffling,” writes Dr. Savage,⁴ “the motion of the body, which is never upright as in man, but bent forward, is somewhat rolling, or from side to side. The arms being longer than those of the chimpanzee, it does not stoop as much in walking; like that animal, it makes progression by thrusting its arms forward, resting the hands on the ground, and then giving the body a half-jumping, half-swinging motion between them. In this act it is said not to flex the fingers, as does the chimpanzee, resting on the knuckles, but to extend them, thus making a fulcrum of the hand. When it assumes the walking posture, to which it is said to be much inclined, it balances its huge body by flexing the arms upward. They live in bands, but are not so numerous as the chimpanzees; the females generally exceed the other sex in number. My informants all agree in the assertion that but one adult male is seen in a band; that when the young males grow up, a contest takes place for mastery, and the strongest, by killing and driving out the others, establishes himself as the head of the community.”

Dr. Savage characterizes the stories about their carrying off women and vanquishing elephants as silly and preposterous.

“They are exceedingly ferocious,” he remarks, “and always offensive in their habits, never running from man as does the chimpanzee. They are objects of terror to the natives, and are never encountered by them except on the defensive. . . .

“It is said that when the male is first seen he gives a terrific yell that resounds far and wide through the forest, something like kh—ah! kh—ah! prolonged and shrill. His enormous jaws are widely opened at each expiration, his underlip hangs over the chin, and the hairy ridge and scalp is contracted upon the brow, presenting an aspect of indescribable ferocity. The females and young at the first cry quickly disappear; he then approaches the enemy in great fury, pouring out his horrid cries in quick succession. The hunter awaits his approach with his gun extended; if his aim is not sure, he permits the animal to grasp

⁴ See “Boston Journal of Natural History,” 1847.

the barrel, and as he carries it to his mouth (which is his habit) he fires; should the gun fail to go off, the barrel (that of an ordinary musket, which is thin) is crushed between his teeth, and the encounter soon proves fatal to the hunter.

“In the wild state their habits are in general like those of the *Troglodytes niger*, building their nests loosely in trees, living on similar fruits, and changing their place of resort from force of circumstances.”

The descriptions given by certain noted travellers and the mystery that seemed to shroud the gorilla greatly excited the curiosity of the hunter Paul B. Du Chaillu, and he determined to penetrate to its haunts, and see it with his own eyes. The result of this resolution is given in his book, “Explorations and Adventures in Equatorial Africa,” published in 1861, which excited considerable curiosity and some hostile criticism.

The first interview he had with a gorilla in his native woods is described in the following manner: “Suddenly, as we were yet creeping along in a silence which made even a heavy breath seem loud and distinct, the woods were at once filled with a tremendous barking roar; then the underbush swayed rapidly just ahead, and presently stood before us an immense gorilla. He had gone through the jungle on all fours, but when he saw our party he erected himself and looked us boldly in the face. He stood about a dozen yards from us, and was a sight I think I shall never forget. Nearly six feet high (he proved four inches shorter), with immense body, huge chest, and great muscular arms, with fiercely-glaring, large, deep grey eyes, and a hellish expression of face, which seemed to me some nightmare vision;—there stood before us the king of the African forest. He was not afraid of us; he stood there and beat his breast with his large fists till it resounded like an immense bass drum (which is the mode of bidding defiance), meantime giving vent to roar after roar.

“His eyes began to flash fiercer fire as we stood motionless on the defensive, and the crest of short hair which stands on his forehead began to twitch rapidly up and down, while his powerful fangs were shown as he again sent forth a thunderous roar, and now truly he reminded me of nothing but some hellish dream-

creature—a being of that hideous order, half man, half beast, which we find pictured by old artists in some representations of the infernal regions. He advanced a few steps, then stopped to utter that hideous roar again, advanced again, and finally stopped when at a distance of about six yards from us. And here, as he began another of his roars and beating his breast in rage, we fired and killed him.

“With a groan which had something terribly human in it, and yet was full of brutishness, it fell forward on its face. The body shook convulsively for a few minutes, the limbs moved about in a struggling way, and then all was quiet—death had done its work, and I had leisure to examine the huge body. It proved to be five feet eight inches high, and the muscular development of the arms and breast showed the immense strength it had possessed.”

To kill a full-grown male gorilla is regarded as a great achievement by the native hunters of even the bravest of the negro tribes. It gives them a life-long reputation for courage and enterprise. These hunters are their most valued men, and Du Chaillu states, “A brave and fortunate one is admired by all the women; loved—almost worshipped—by his wives, and enjoys many privileges among his fellow-villagers. But his proudest time is when he has killed an elephant or a gorilla, and filled the village with meat. Then he may do almost what he pleases.”

Mr. Joseph H. Reading, in a letter written in 1884, from the Kángwe Mission Station, Ogowé river, West Africa, to a friend in Philadelphia, accompanying a specimen of the gorilla he was sending, observes:⁵ “The great Ogowé delta, following the windings of the river, is 165 miles in length, and perhaps ninety miles wide at the widest part. The upper part contains many red clay hills, one at least being 600 feet in height. Excepting these, the land is low, most of it being just below the flood-line. The lowest land is covered either with coarse grass—the food of the hippopotami and manati—or papavers. The higher lands and hills are covered with a dense forest, or jungle of palm and other trees. The gorilla seems to be attracted to this region by two particular

⁵ See “American Naturalist” for 1884.

kinds of wild fruit of which he is very fond. He is always found in the wildest, darkest, and most secluded parts of the forest, and greatly dislikes the presence of man. When aroused he is brave, and fights with great fury. He is so feared that but very few men have the nerve to hunt him, especially as it is necessary to let him come within a few (twelve is the rule) feet before firing, owing to the darkness of the jungle. The man who shot this one was looked upon with wonder and admiration by all the people, every one of whom believed he was powerful fetich, or he could not have killed him. The entrails were given to some Pangwes (cannibals, the Fans of Du Chaillu, and the Niam Niam of Schweinfurth), who esteemed them a great delicacy, and the universal opinion here is that I sent him to America for the white man to eat. They were greatly disgusted with my wasting so much good rum on him, when they would have liked to have poured it down their throats so well. The gorilla is a rare animal even in that part of the country where he makes his home, and opportunities to obtain specimens occur but seldom. Old males, as this one, live alone, while as many as two families are seldom at least seen together. Many wonderful stories of them are told by the natives, but as one never knows how much to believe of native stories, I will not repeat them here. . . . It may be interesting to note that the people here look upon them as entirely distinct from themselves, yet they call them men, 'wild men,' and 'furrent men.'

"The gorilla cannot make a fire, does not build a house or shelter, and does not fight with weapons except such as nature gives him in his own body. He will seize the gun or spear of his adversary and break it, but will not attempt to use it in his own defence. It is almost practically impossible to keep the gorilla for any length of time in captivity. He becomes dejected and morose, and either starves himself or else dies, apparently of a broken heart. Traders and others occasionally get young ones—I had one myself—but they do not seem happy as do chimpanzees and other apes, and they all die in the course of a few weeks."

Again referring to Du Chaillu's description, the gorilla is a

restless, nomadic beast, wandering from place to place, and rarely staying for two days together in the same neighbourhood. This restlessness, it is surmised, is partly due to the scarcity of its favourite food, for being a huge feeder it soon eats up the supply to be procured within a limited area. He found gorillas always on the ground, and states that it is not true that they live much or at all on trees, for although they often climb trees to pick berries or nuts, they return to the ground when this has been accomplished. Among other articles upon which they feed, a kind of nut with a very hard shell is a favourite food. The shell is so hard that it requires a strong blow with a heavy hammer to break it, and here is probably one purpose of that enormous strength of the jaw which had long seemed to him to be thrown away on a non-carnivorous animal.

“Only the young gorillas sleep on trees, for protection from wild beasts. I have myself,” he writes, “come upon fresh traces of a gorilla’s bed on several occasions, and could see that the male had seated himself with his back against a tree-trunk. In fact, on the back of the male gorilla there is generally a patch on which the hair is worn thin from this position.”

Du Chaillu pronounced gorillas to be utterly untamable, which theory was formed through the intractable disposition of two young ones he tried to tame. “The gorilla,” he remarks, “is entirely and constantly an enemy to men—resenting its captivity, young as my specimens were—refusing all food except the berries of its native woods, and attacking with teeth and claws even me, who was in most constant attendance upon them; and finally dying without previous sickness, and without other ascertainable cause than the restless chafing of a spirit which could not suffer captivity nor the presence of man.”

Mr. Winwood Reade, in his paper already referred to, states that he spent five months in the gorilla country, and did not leave that part of Africa till he had completely satisfied himself respecting the habits of the animal. “The evidence which I now lay before you,” he said, addressing the Zoological Society, “is composed of statements made to me by men who had killed gorillas. It is collected from three distinct parts of Equatorial Africa, viz., from

the Balengi of the Muni river, from the Shekani and Faus of the Gaboon, and from the Commi, Bakeli, &c., of the Fernand Vaz. But from the last river, where gorillas are most plentiful, I obtained most information.

“The gorilla is found in those thick and solitary places of the forest where animal life is scarce. His food is strictly vegetable. He moves along the ground on all fours; sometimes he goes up into the trees to feed on fruit, and at night he sleeps in a large tree. When the female is pregnant the male builds a nest, where she is confined, and which she abandons as soon as her young one is born.

“The gorilla does not beat its breast like a drum. It utters a kind of short, sharp bark when enraged, and its ordinary cry is of a plaintive nature.

“With respect to its ferocity, the hunters have a proverb, ‘Leave the *Ngnia* alone, and it will leave you alone.’ When it is at bay and wounded, it will attack man, like the stag, the elephant, and other animals naturally timid. But it makes this attack on all fours; the hunters, who are themselves as nimble as apes, often escape from it as men escape from the charge of an elephant. I have seen a man who had been wounded by a gorilla; his wrist was crippled and the marks of the teeth were visible. He told me that the gorilla seized his wrist and dragged it into his mouth; it was contented with having done this, and went off. The nearest approach to an erect posture which the gorilla attains to is by supporting itself by holding on to the branches. When I asked the people of Ngumbi whether a man had ever been killed by a gorilla, they said their fathers had spoken of such a thing, but that nothing of the kind had happened within the memory of anybody living.

“I can make one or two positive assertions from my own experience. Although I never succeeded in seeing a gorilla in its wild state, I can assert that it travels on all fours; for I have seen the tracks of its four feet, over and over again. I can assert that it runs away from man, for I have been near enough to hear one running away from me; and I can assert that the young gorilla is as docile as the young chimpanzee in a state of captivity, for I have seen both of them in a state of captivity.”

Du Chaillu's declaration that the gorilla is untamable has

been proved to be incorrect, or at least as far as the young animal is concerned, by tame ones having been exhibited in Europe, and by the accounts given of several tame specimens by their owners. Soon after Du Chaillu's book was published, a letter appeared in the *Athenæum*, from Mr. R. B. Walker, who was the proprietor of a mercantile agency, situated near the Gaboon, in Western Africa, from which the following is an extract: "The statement of the untamability of the young of the gorilla is untrue. In proof whereof, let me ask Mr. Du Chaillu, whose memory, usually so very good, seems to have failed him signally in this particular instance, if he has forgotten the young female gorilla, of from two to three years of age, called Seraphine, which lived at my factory for four months in 1859, and which he repeatedly saw there? I assert, without fear of contradiction by Mr. Du Chaillu or any other person (and I could name scores of Europeans who saw it), that this animal was perfectly tame, docile, and tractable—far more so, indeed, than many negro children of the same age. Not only was she on perfectly good terms with all grown-up people in and about the factory, but was exceedingly attached to her keeper, Curtis, whom she could not bear to be out of her sight, but regularly accompanied him about the factory and in his walks in the town and neighbourhood. She was familiar and quiet with myself and clerks, and was only displeased when children approached her; and for these she seemed to have, in common with most large apes and monkeys, a very great dislike. She was seldom tied up, and even then only by a very small cord, which she could easily have broken or cut with her teeth had she felt so inclined. She allowed herself to be clothed, seeming to like it; and actually went to breakfast with a friend of mine, Mr. Barbotin, commandant of the steam transport, *Le Rénaudin*; upon which occasion she conducted herself to the admiration of everybody. When at times put on the table, or amongst vessels of glass or earthenware, she was most careful not to break anything. She finally died from dysentery and chagrin,—the latter caused by her keeper being prevented by his other occupations from paying her so much attention as she had been in the habit of receiving."

Unfortunately all efforts to obtain a specimen of a live adult gorilla for exhibition in Europe have so far failed. Some years

ago a showman had a young ape he called a chimpanzee, but it was in reality a gorilla, although the fact was not recognized until after the animal's death and it had been stuffed, so scientific men lost the opportunity of studying it.

In 1876 a gorilla arrived in Liverpool and was visited by Mr. Moore, curator of the Free Public Museum of Liverpool, who sent the following letter to the *Times* newspaper:—

“ Sir,—A veritable young living gorilla was yesterday brought into Liverpool by the German African Society's Expedition, which arrived by the steamship *Loanda*, from the West Coast. The animal is a young male, in the most perfect health and condition, and measures three feet in height. Its beetling brows, flattened, podgy nose, black muzzle, small ears, and thick fingers, cleft only to the second joint, distinguish it unmistakably from the chimpanzee. Only one other specimen has been brought alive to England. In the winter of 1855-56 a young female gorilla, of much smaller size was exhibited by the late Mrs. Wombwell in Liverpool and other places. It died in March, 1856, and was sent to Mr. Waterton, of Walton Hall, who preserved the skin for his own collection, and sent the skeleton to the Leeds Museum. This specimen I saw living in Liverpool and dead in Walton Hall. All subsequent attempts to import the gorilla alive have failed; and unfortunately the British public will have no opportunity of profiting by the present success, as the members of the expedition, with commendable patriotism, are taking the animal on Saturday *viâ* Hull to Berlin. Could it have graced our own Zoological Gardens it would have been the lion of the day; for in addition to the great scientific interest of the species, the abounding life, energy, and joyous spirits of the example would have made it a universal favourite. Courteously received at Eberle's Alexandra Hotel by the members of the expedition, I found the creature romping and rolling in full liberty about the private drawing-room, now looking out of the window with all the becoming gravity and sedateness, as though interested, but not disconcerted by the busy multitude and novelty without; then bounding rapidly along on knuckles and feet to examine and poke fun at some newcomer; playfully mumbling at his calves, pulling at his beard (a special delight), clinging to his arms, examining his hat (not at all

to its improvement), curiously inquisitive as to his umbrella, and so on with visitor after visitor. If he becomes over-excited by the fun, a gentle box on the ear will bring him to order like a child—like a child, only to be on the romp again immediately. He points with the index finger, claps with his hands, pouts out his tongue, feeds on a mixed diet, decidedly prefers roast meat to boiled, eats strawberries—as I saw—with delicate appreciativeness, is exquisitely clean and mannerly. The palms of his hands are beautifully plump, soft, and black as jet. He has been eight months and a half in the possession of the expedition, has grown some six inches in that time, and is supposed to be between two and three years of age.”

This little animal, which Dr. Falkenstein had received from a Portuguese, who procured it from the negro that shot the mother and then captured the young one, was sold to the Berlin Aquarium for 20,000 marks (1000*l.*), which large sum went to the benefit of the expedition funds.

In Berlin this little gorilla created a great sensation, which is evident from the following account written by the correspondent of the *British Medical Journal*, in April, 1877:—

“I understand that the London season will be enlivened by a distinguished visitor from this city whom the good people of Berlin will sorely miss, for he is, perhaps, the most popular, as he is certainly the most unique, inhabitant of the city, and the one who has received now for many months the most numerous and affectionately admiring visitors. I have been spending the morning with him, and have been infinitely diverted by his amusing and lively ways, his frolicsome and friendly games, his grave courtesy on occasions, and his childlike goodnature and docility. If I add that he has been alternately drinking claret and water out of a glass with excellent grace and propriety; then turning over head and heels, shaking hands at frequent intervals, then drumming on his breast and on the floor; chasing a little boy and a dog (his two favourite companions) round the room; handing wine to his cousin; and swinging on a trapeze seated by the side of his boy friend; it becomes necessary to explain that I have been received in private audience by the gorilla, the much-prized possession of the Berlin Aquarium. He is the only living gorilla

ever seen in Europe, and much coveted by the Zoological Society of London, who offered, I believe, as much as 2000*l.* for him. He is as like a little negro boy in the face as a being not absolutely human can be; his hands are most startlingly human; and in many of his childish ways and solemn courtesies he is almost more than 'anthropomorphic.' He was brought to Europe by Dr. Falkenstein as one of the spoils of the Prussian expedition to Africa, and the motives of patriotism determined the people of Berlin to retain him there. Dr. Von Hermes, the director of the Aquarium, is about, however, to bring him to London 'for the



"PONGO," THE YOUNG GORILLA.

season,' and I do not doubt that he will have a reception as enthusiastic as he has received here, and as is due to his distinguished character as an unique individual and an ape of the most gentle disposition and agreeable manners. His cousin, a very lively chimpanzee, who is on the best possible terms with 'Pongo' will probably accompany him; for the semi-human tricks of the two, and the extreme politeness with which they share a friendly glass of wine and water, add a good deal to the zest of Pongo's audiences. To see the gorilla 'Pongo' gravely and politely tilting

over a glass half full of wine and water to enable his cousin 'Tochego,' the chimpanzee, to share his draught, while he gravely watches his enjoyment of it, is really a startling spectacle. It is not a trick which he has been taught, but the effect of his politeness. 'Pongo' has presented me with his photograph; but it is by no means so delightfully ugly or so gravely intelligent as he is, and really does not do him justice. He is the most delightful beast of my acquaintance, and if he were allowed to go into society would be, I think, the lion of fashionable *salons* during the season."

In July, 1877, the young gorilla arrived, and was taken to the Westminster Aquarium. The *Times* described the little animal in the following manner: "He is about three years and ten months old, and is believed to have about eighteen months before him before the dangerous period of teething will begin. He is $3\frac{3}{4}$ feet in height, of great girth round the chest and stomach, is covered with black or iron-grey hair, and has coal-black face, feet, and hands. The hands are the most strikingly human part of the animal, but as he usually walks on all fours, bending the fingers in to do so, as a child does, there is a flat, callous mass on the back of the fingers near the middle phalanx. When he is pleased at being noticed, or wants to be noticed, Pongo claps his hands with a loud report, squatting on the floor and dropping his hands afterwards in his lap. Sometimes he wraps himself in a cloak he has, or swings about the room by the ropes of a trapeze, but does not climb them. He has for companions a little chimpanzee and a dog, and is much the least active although far the strongest of the party. His foot is more like the foot of a man than that of any other ape, but the toes are longer than a man's, and better used for grasping: of course he has no tail. He very seldom stands up like a human being, but his favourite position is to sit on the floor and hug a stick or an umbrella, and he is very pleased to be trusted with an umbrella, although he does not always deserve the confidence, because he has a tendency to open it in a new and expeditious way, and no umbrella frame can resist his very great muscular strength of arm and jaw. At a private reception which Pongo held on Saturday, Mr. Frank Buckland tried to teach him to write; but, although he did make some marks on the paper,

he preferred to carry the pencil to his mouth, and swallowed about an inch of the best Cumberland lead. Professor Owen, who described the gorilla in 1848, Professor Mivart, and other gentlemen and ladies were among his visitors on Saturday. When he obtained a hat, which he acquired by the easy process of putting out his hand and taking the first one he found, he drummed upon it with great apparent satisfaction, but then began to crush it in from the crown. At this stage the owner intervened, and with the assistance of the German keeper got his property out of the young gorilla's powerful grasp. Pongo drank half a glass of beer in the presence of the audience, and also ate some roast beef and potatoes, but ordinarily he lives chiefly on vegetables, and makes enormous meals of them. In the morning they give him milk and fruits, cherries, currants, raspberries, etc. At mid-day he has a basin of boiled rice, and anything else that he can get. In the course of the afternoon he has more fruit, and perhaps some *eau sucrée* or wine and water. In the evening more milk is brought, and this, with bread and butter and eggs, completes his supper. He goes to bed at eight, and sleeps as late as eight the next morning. It must be remembered he is very young. But he has learnt to smoke—at least, when the cigarette has an amber mouthpiece, for he does not like the taste of tobacco. He puffs out the clouds of blue smoke from his wide nostrils. Two hundred thousand people are said to have visited him in Berlin since June 28th, 1876, and he has grown in that period taller by more than three inches, and heavier by eleven pounds. As he has so early learnt both to smoke and drink, it is hoped that he may soon acquire the other accomplishments which distinguish civilization."

This attractive little beast, however, did not live long enough to enable his owners to study the change in its disposition and habits that undoubtedly takes place on the gorilla's arrival at maturity, for on being taken back to Berlin he died suddenly. A post-mortem examination disclosed the fact that he had succumbed to an attack of acute inflammation of the bowels, the same disease which carries off so many young children. A reproduction of the photograph of the little animal, which was courteously supplied by the director of the Berlin Aquarium, will be found on page 536.

CHAPTER XXXIII.

ANTHROPOID APES (Continued).

THE CHIMPANZEE (*Troglodytes niger*) is an ape bearing some similarity in its appearance to the gorilla, and still more so in its habits, but it is not nearly so large an animal, for a good-sized specimen will not measure much over five feet in height.

It inhabits the same equatorial forests as the gorilla, but it has a much wider range, for it is found all over tropical Africa. There are many varieties of this ape. Von Koppenfels stated that he had positive proof that there are crosses between the gorilla and chimpanzee, but he gives no special name to this mongrel progeny, for, as he remarks, it is found but in individual cases, and as such deserves no distinct classification. "The chimpanzee of northern Guinea differs essentially from that of the southern portion of the same country, and, according to Livingstone, the 'Soko' differs from both, but is still a chimpanzee. Du Chaillu's Koolo Kamba, N'schigo, and M'bouvé are not distinct species, and this traveller, who is certainly a man of merit, but is too credulous, has been imposed upon by the mendacity of the natives, which beggars description. The names N'schigo, M'bouvé, Koola, Baboo, Soko, Ognia, and Kooloo Kamba are only different designations of the chimpanzee by different tribes."

We are also indebted to Dr. Savage¹ for the first trustworthy description of the chimpanzee in its native woods, and although since the publication of his paper on the subject other writers have described the animal, yet they have only amplified his original account and confirmed its general accuracy.

¹ See "Boston Journal of Natural History," vol. iv., p. 382.

“The strong development of the canine teeth in the adult would seem to indicate a carnivorous propensity; but in no state save that of domestication do they manifest it. At first they reject flesh, but easily acquire a fondness for it. The canines are early developed, and evidently designed to act the important part of weapons of defence. When in contact with man, almost the first efforts of the animal is—to *bite*.

“They avoid the abodes of men, and build their habitations in trees. Their construction is more that of *nests* than of *huts*, as they have been erroneously termed by some naturalists. They generally build not far above the ground. Branches or twigs are bent or partly broken and crossed, and the whole supported by the body of a limb or a crotch.

“Their dwelling-place is not permanent, but changed in pursuit of food and solitude, according to the force of circumstances.

“When at rest, the sitting posture is that generally assumed. They are sometimes seen standing and walking, but when thus detected they immediately ‘take to all fours,’ and flee from the presence of the observer. Such is their organization, that they cannot stand erect, but lean forward. Hence, they are seen when standing, with the hands clasped over the occiput or the lumbar region, which would seem necessary to balance, or ease of posture.

“The toes of the adult are strongly flexed, and turned inwards, and cannot be perfectly straightened. In the attempt the skin gathers into thick folds on the back, showing that the full expansion of the foot, as is necessary in walking, is unnatural. The natural position is upon ‘*all fours*,’ the body anteriorly resting upon the knuckles. These are greatly enlarged, with the skin protuberant and thickened like the sole of the foot. They are expert climbers, as one would suppose, from their organization. In their gambols they swing from limb to limb, to a great distance, and leap with astonishing agility. It is not unusual to see ‘the old folks’ (in the language of an observer) sitting under a tree regaling themselves with fruit and friendly chat, while ‘their children’ are leaping around them and swinging from branch to branch in boisterous merriment.

“As seen here they cannot be called *gregarious*, seldom more than five or ten at most being found together. It has been said on good authority that they occasionally assemble in large numbers in gambols. My informant asserts that he saw once not less than fifty so engaged; hooting, screaming, and drumming with sticks upon old logs, which is done in the latter case with equal facility by the four extremities.

“They do not appear ever to act on the offensive, and seldom, if ever really, on the defensive. When about to be captured, they resist by throwing their arms about their opponent, and attempting to draw him into contact with the teeth. *Biting* is their principal act of defence. I have seen one man who had been thus severely wounded in the feet.

“They are filthy in their habits. . . . It is a tradition with the natives generally here (Cape Palmas) that they were once members of their own tribe; that for their depraved habits they were expelled from all human society; and, that through an obstinate indulgence of their vile propensities they have degenerated into their present state and organization. They are, however, eaten by them, and, when cooked with the oil and pulp of the palm nut, considered a highly palatable morsel.

“They exhibit a remarkable degree of intelligence in their habits, and, on the part of the mother, much affection for their young. The second female described, was upon a tree when first discovered, with her mate and two young ones (a male and female). Her first impulse was to descend with great rapidity and ‘make off’ into the thicket with her mate and female offspring. The young male remaining behind, she soon returned alone to his rescue. She ascended and took him in her arms, at which moment she was shot, the ball passing through the fore-arm of the young one in its course to the heart of the mother. Other instances have been known in which the mother, otherwise timid and fleeing from the presence of man, forsaken by her mate, has fallen a sacrifice to the force of natural affection. In a recent case, the mother when discovered, remained upon a tree with her offspring, watching intently the movements of the hunter. As he took aim, she motioned with her hand, precisely in the manner of a human

being, to have him desist and go away. When the wound has not proved instantly fatal, they have been known to stop the flow of blood by pressing with the hand upon the part, and when this did not succeed to apply leaves and grass.

“When shot they give a sort of screech not very unlike that of a human being in sudden and acute distress. In their gambols their cry is like the whoop of a native, varied as to volume and strength, which, with the drumming upon logs and other discordant noises and various uncouth movements, make up a scene perfectly unique, defying all description.”

The chimpanzee is the best known of all the anthropoid apes, for specimens have frequently been exhibited in Europe. One which was pronounced to be a satyr, and was in consequence considered a great curiosity, was presented about the year 1640 to the Prince of Orange. The animals that have at various periods belonged to the London Zoological Society have attracted thousands of visitors to the gardens, all anxious to observe the human-like actions some of their tricks display.

In November, 1864, Mr. Bartlett purchased a chimpanzee in Liverpool, and on its arrival at the Zoological Gardens it was placed in the same cage as the ourang-outang, and the comparison between the two anthropoid apes was an easy matter. It was seen at once that the long outstretched ears and projecting muzzle of the chimpanzee gave it a more animal physique than was apparent in the ourang. This was the first time that specimens of these two creatures had ever been alive in any European collection *at the same time*. Frank Buckland, as usual with him, was one of Sarah's (the chimpanzee) first visitors. An account of the interview is taken from *The Field*.

“A quiet, docile-looking creature is Sarah. She is covered with jet-black hair, and is about as big as a good-sized terrier dog when in begging attitude, and barring a slight cold and cough, is apparently in excellent health. Her face is exceedingly human, very much more so than that of her companion, Susan, the ourang-outang. When I gave her my watch she immediately applied it to her huge, projecting under-lip; I then put it to her ear, and she listened to the ticking with the wondering face of a child; she

then dragged my hand down to examine it again, and evinced a strong desire to examine its internal anatomy by means of her long, probe-like finger. . . . Susan is excessively jealous of the attention shown by visitors to Sarah ; and Mr. Bartlett tells me that when these two anthropoid ladies were first introduced to each other the scene was comical in the extreme. Susan betook herself into the middle of her cage, and set up all her hideous red hair, evidently trying to make herself as big and as formidable-looking as possible, like a cat when a dog comes suddenly round a corner. An immense deal of monkey palaver and conversation then took place, which might have been mistaken for the new arrival giving the latest news from the west of Africa, but which really meant a challenge of defiance. Like boys newly arrived at school, the object of these creatures was evidently to see who was to be master, and the result of the last few hours has evidently proved that ourang is to be commandant of the cage. A lady who had come to visit the new arrival brought her some grapes, etc. Susan immediately came forward to claim her share of the grapes ; but on Chimp also coming forward, she retired at once, looking as disagreeable as a jilted young lady. Greediness is a characteristic of Chimp, for when a grape was given to her rival, she ran backward like a jibbing horse, nearly the whole length of her cage, and danced up and down in the most excited manner, all the time uttering cries which reminded one strongly of a child some five or six years old undergoing corporal punishment with a bit of birch rod. This performance, Mr. Bartlett tells me, takes place every time this 'naughty child'-like animal cannot immediately get what it wants. These creatures are, in fact, continually playing with each other the whole day ; and I saw a most interesting piece of manœuvring on the part of Susan to obtain, under false pretences, an apple which lay within the range of Chimp's long arms. Susan evidently had not pluck enough to come and claim the apple, which was her rightful property, but endeavoured to steal it, which she did by gradually rolling and playing with the chair up to the place where the apple lay ; she then dropped off the chair and wriggled herself towards it like a deer-stalker in a mountain gully ; she

ultimately stretched out her arm, seized it, and instantly bolted. Chimp in a moment was after her, and seizing her by her long hair, pulled her backwards, and apparently tried to jump up and down on her procumbent person, till she let go the coveted dainty. Anyhow, both Susan and Sarah are amazingly human in their looks, and I am sorry to say in their actions also, though Chimp evidently has most brains of the two."

That chimpanzees are capable of feeling some emotions that are similar to those experienced by human beings was almost established by the behaviour of an animal that was kept in the Philadelphia Zoological Gardens some years ago, which on the death of a companion gave evidences of a certain degree of genuine grief. Two specimens occupied the same cage for some months, and were much attached to one another, exhibiting their affection in much the same way that children do, being seldom seen apart, and generally with their arms about each other's neck. "They never quarrelled," writes Mr. Arthur E. Brown,² who appears to have studiously watched these animals, "even over a pretended display of partiality by their keeper in feeding them, and if occasion required one to be handled with any degree of force, the other was always prepared to do battle in its behalf on the first cry of fright. After the death of the female, which took place early in the morning, the remaining one made many attempts to rouse her, and when he found this to be impossible his rage and grief were painful to witness. Tearing the hair, or rather scratching at the short hair on his head, was always one of his common expressions of extreme anger, and was now largely indulged in, but the ordinary yell of rage which he set up at first finally changed to a cry which the keeper of the animals assures me he had never heard before, and which would be most nearly represented by *hah-ah-ah-ah-ah* uttered somewhat under the breath, and with a plaintive sound like a moan. With this he made repeated efforts to arouse her, lifting up her head and hands, pushing her violently and rolling her over. After her body was removed from the cage—a proceeding which he violently opposed—he became more quiet, and remained so as long as his keeper was with him,

² See "American Naturalist" for 1879.

but catching sight of the body once when the door was opened, and again when it was carried past the front of the cage, he became violent, and cried for the rest of the day. The day following he sat still most of the time and moaned continuously. This gradually passed away, however, and from that time he has only manifested a sense of a change in his surroundings by a more devoted attachment to his keeper, and a longer fit of anger when he leaves him.

“Notwithstanding the intensity of his sorrow at first, it seems sufficiently evident that now a vivid recollection of the nature of the past association is not present. To test this a mirror was placed before him, with the expectation that on seeing a figure so exactly like his lost mate, some of the customary signs of recognition would take place: but even by caressing and pretending to feed the figure in the glass, not a trace of the expected feeling could be excited. In fact, the only visible indication of a change of circumstances is that, while the two of them were accustomed to sleep at night in each other’s arms on a blanket on the floor, which they moved from place to place to suit their convenience, since the death of the one, the other has invariably slept on a cross-beam at the top of the cage, returning to inherited habit, and showing probably that the apprehension of unseen dangers has been heightened by his sense of loneliness.”

While agreeing with Mr. Brown in the conclusion he arrives at, namely, that among the animal emotions it is evident that any high degree of permanence in grief of this nature belongs to man, and that in most animals the feeling appears to be excited only by the failure of the inanimate body while present to the sight to perform the accustomed actions, yet in this instance his looking-glass experiment was hardly conclusive of the fact. It is well known that animals with any high degree of mental organization are rarely deceived in this way. A dog shown his reflection in a mirror does not behave as he would had he met a live animal. Some individuals will bark, but nearly all, when they see it for the first time, show a puzzled sort of expression, and after going round the glass examining it, seem to give it up as something no dog

can understand, and ever afterwards will probably ignore the reflection altogether. That there is no reality about it they appear to be perfectly aware. The sense of smell being one of their principal guides, almost more so than that of vision, they readily discover the cheat, and so it may be with the chimpanzee, and the reflection through being only visible and not detected by the other senses may not conjure up any suggestion of another animal. This fact was to some extent demonstrated by Mr. Brown himself, for in a previous article on the intelligence of this species of ape, he stated that he had placed a looking-glass in the cage with the two animals. They at first took no notice of it, but, one of them, finding the reflected image engaged evidently in the same occupation as himself began to watch it carefully "until he seemingly became satisfied that what he saw was in some manner to him incomprehensible." If this were not so, the memory of the dead companion, even if there were no actual grief at her loss, would have elicited some recognition, for if sorrow is only very transient, their memory is certainly of a more permanent character. This, it may be said, has been proved on many occasions by their recognizing with signs of extreme pleasure certain keepers who have been long absent from them.

These apes also express their pleasure in a very human-like manner. A few years ago, the Zoological Society owned a female chimpanzee, and some time after she had been in their possession, they procured a male companion for her. Their introduction to each other was described at the time as a most amusing incident. The two creatures rushed into each other's arms after the approved method of stage lovers under similar circumstances. They rubbed their heads together, and kissed one another. Then the gentleman affectionately patted the maiden's face, danced round her, caught her about the waist with the fervour of his delight, exactly as if he were going to waltz with her, and then they both proceeded to express their mutual satisfaction at their chance encounter so far from home by dancing round the cage and howling in ludicrous concert.

"Sally," which is the name that has been given to the well-known chimpanzee now in the Zoological Society's collection, and

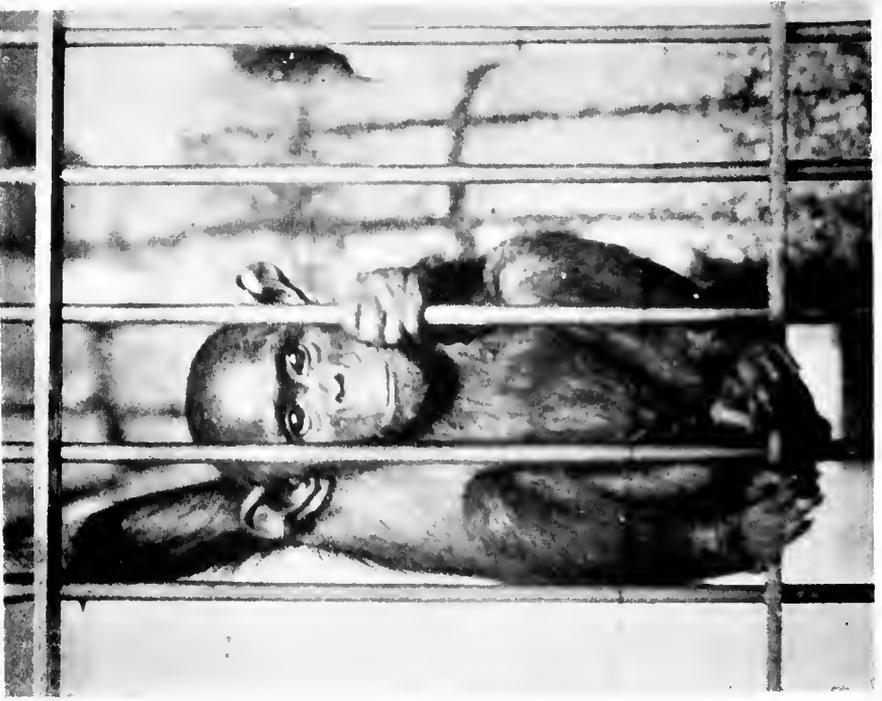
whose portrait, taken by Messrs. Briggs and Son, of St. John's Wood, is given herewith, differs in some particulars from the ordinary chimpanzee. The most noticeable distinction being that she has the head and face nearly naked. As Du Chaillu appears to have procured the skins of similar animals to which he gave the name *Troglodytes calvus*, the latter word implying bald-headed, Sally has been classified with the same zoological name.

This animal was purchased in Liverpool, October, 1883, and was then very young and immature. She, at this early age, exhibited well-marked differences between the varieties that had been her predecessors, and as she advanced towards the adult state, the peculiarities became more fully developed.

Mr. A. D. Bartlett, the superintendent of the Society's Gardens, drew the attention of the members to this fact in an interesting paper read before them at a meeting in June, 1885. "In the first place," he states, "I may remark the colour of the face, hands and feet in the chimpanzee are *white* or *pale-flesh colour*; the same parts of the animal under consideration are *black* or *brownish-black*. Another well-marked difference is to be observed in the hair upon the head and face. In the chimpanzee, the hair on the top of the head, and passing down from the centre (where it divides) to the sides of the face or cheeks, is tolerably long and full, forming what may be considered rather bushy whiskers, whereas the figure (Sally's) before you clearly shows the front, top, and sides of the head and face to be nearly naked, having only a few short hairs on the head, quite destitute of any signs of the parting so very conspicuous in the chimpanzee. Another striking difference may be noticed in the size and form of the head and ears. Out of the number of chimpanzees I have seen and examined, both old and young, none have possessed the large flat ears so conspicuous in this individual. The form of the head, the expression of the face, the expanded nostrils, the thicker lips, especially the lower lip, together with the more elevated skull, cannot fail to distinguish this animal from the chimpanzee. There are other external characters that I pass over, as they require to be described anatomically. Again, the habits of this animal differ entirely from those of the well-known or common chimpanzee. She has always shown a disposition to live

upon animal food. Soon after her arrival, I found she would kill and eat small birds; seizing them by the neck, she would bite off the head and eat the bird—skin, feathers, and all. For some months she killed and ate a small pigeon every night. After a time we supplied her with cooked mutton and beef-tea; upon this food she has done well. I have never found any ordinary chimpanzee that would eat any kind of flesh.

“Another singular habit was the producing pellets or ‘quids,’ resembling the castings thrown up by raptorial birds. . . . They are composed of feathers and other indigestible substances, that had been taken with her food. Moreover she is an expert rat-catcher, and has caught and killed many rats that had entered her cage during the night. Her intelligence is far above that of the ordinary chimpanzee. With but little trouble she can be taught to do many things that require the exercise of considerable thought and understanding. She recognizes those who have made her acquaintance, and pays marked attention to men of colour, by uttering a loud cry of *bon, bun, bun*. She is never tired of romping and playing, and is generally in a good temper.”



A CHIMPANZEE.

(*Troglodytes calvus.*)

This is a photograph of the well-known "Sally" belonging to the Zoological Society.

ANTHROPOID APES.

From photographs taken by Messrs. Briggs and Son, High Street, St. John's Wood.

AN OURANG-OUTANG.

(*Simia satyrus.*)

CHAPTER XXXIV.

ANTHROPOID APES (Continued).

THE OURANG-OUTANG (*Simia satyrus*) is another man-like ape, and therefore a near relative of the gorilla and chimpanzee, but it is not a resident of the same country, for its habitation is confined to the limited region of thick forests that cover the swampy lowlands of Borneo and Sumatra. Even there it is a rare animal, but larger numbers are to be found in the former island than in the latter.

The name ourang-outang is of Malay origin, and means "wild man of the woods."

This ape has such long arms that the tips of the fingers can touch the ground when it is standing upright. The hair of the body is coarse and reddish coloured, and is much thicker on the head, shoulders, and back than on the fore part of the body. The neck is short and thick; the face, which is of a somewhat bluish tint, has a particularly flat nose, thin and protuberant lips. The ears are small. The head of the young animal exhibits in outward appearance signs of some intellectual powers, for it is round and the forehead high, but as it advances in age it degenerates in this way and the expression of intelligence disappears.

The habits of the Asiatic apes in their natural condition are better known than those of their African congeners, for there are not the same physical dangers and difficulties attending the exploration of the forests in which they have their abode, consequently travellers can verify to a great extent the information they get from native sources.

The noted authority on the ourang-outang in its wild state is Mr. A. R. Wallace, who spent some time in the islands of Borneo and

¹ "The Malay Archipelago, the Land of the Orang-Utan and the Bird of Paradise."

Sumatra. His principal object in visiting the first place was to see the great man-like ape, or "mias," as it is called by the natives, in its native haunts, to study its habits, and obtain good specimens of the different varieties. In all these objects he succeeded beyond his expectation.

The incidents connected with his shooting the first full-grown animal he saw is thus described:—"I heard a very slight rustling sound overhead, but on gazing up could see nothing. I moved about in every direction to get a full view into every part of the tree under which I had been standing, when I again heard the same noise but louder, and saw the leaves shaking as if caused by the motion of some heavy animal, which moved off to an adjoining tree. I immediately shouted for all of them (a companion, named Charley, and two Dyaks) to come up and try and get a view, so as to allow me to have a shot. This was no easy matter, as the mias had a knack of selecting places with dense foliage beneath. Very soon, however, one of the Dyaks called me and pointed upwards, and, on looking, I saw a great red, hairy body, and a huge black face gazing down from a great height, as if wanting to know what was making such a disturbance below. I instantly fired, and he made off at once, so that I could not then tell whether I had hit him.

"He now moved very rapidly and very noiselessly for so large an animal, so I told the Dyaks to follow and keep him in sight while I loaded. The jungle was here full of large angular fragments of rock from the mountain above, and thick with hanging and twisted creepers. Running, climbing, and creeping among these, we came up with the creature on the top of a high tree near the road, where the Chinamen had discovered him, and were shouting their astonishment with open mouth, 'Ya-Ya, Tuan; orang-utan, Tuan.' Seeing that he could not pass here without descending, he turned up again towards the hill, and I got two shots, and, following quickly, had two more by the time he had again reached the path; but he was always more or less concealed by foliage, and protected by the large branch on which he was walking. Once, while loading, I had a splendid view of him, moving along a large limb of a tree in a semi-erect posture, and showing him to be an animal of the largest size. At the path he

got on to one of the loftiest trees in the forest, and we could see one leg hanging down useless, having been broken by a ball. He now fixed himself in a fork, where he was hidden by thick foliage, and seemed disinclined to move. I was afraid he would remain and die in this position, and, as it was nearly evening, I could not have got the tree cut down that day. I therefore fired again, and he then moved off, and, going up the hill, was obliged to get on to some lower trees, on the branches of one of which he fixed himself in such a position that he could not fall, and lay all in a heap as if dead, or dying.

“I now wanted the Dyaks to go up and cut off the branch he was resting on, but they were afraid, saying he was not dead, and would come and attack them. We then shook the adjoining tree, pulled the hanging creepers, and did all we could to disturb him, but without effect, so I thought it best to send for two Chinamen with axes to cut down the tree. While the messenger was gone, however, one of the Dyaks took courage and climbed towards him, but the mias did not wait for him to get near, moving off to another tree, where he got on to a dense mass of branches and creepers, which almost immediately hid him from our view. The tree was luckily a small one, so when the axes came we soon had it cut through; but it was so held up by jungle-ropes and climbers to adjoining trees that it only fell into a sloping position. The mias did not move, and I began to fear that after all we should not get him, as it was near evening, and half-a-dozen more trees would have to be cut down before the one he was on would fall. As a last resource we all began pulling at the creepers, which shook the tree very much, and after a few minutes, when we had almost given up all hopes, down he came with a crash and a thud, like the fall of a giant. And he was a giant, his head and body being full as large as a man's. He was of the kind called by the Dyaks, ‘mias chappen,’ or ‘mias pappan,’ which has the skin of the face broadened out to a ridge or fold at each side. His outstretched arms measured seven feet three inches across, and his height, measuring fairly from the top of the head to the heel, was four feet two inches. The body just below the arms was three feet two inches round, and was quite as long as a man's, the legs being

exceedingly short in proportion. On examination we found he had been dreadfully wounded. Both legs were broken, one hip-joint, and the root of the spine completely shattered, and two bullets were found flattened in his neck and jaws! Yet he was still alive when he fell. The two Chinamen carried him home tied to a pole, and I was occupied with Charley the whole of the next day preparing the skin and boiling the bones to make a perfect skeleton, which are now preserved in the museum at Derby."

When hard pressed the mias will attack his antagonist with considerable ferocity, and prove himself a dangerous adversary. Upon this subject Mr. Wallace tells the following story:—"On June 4th, some Dyaks came to tell us that the day before a mias had nearly killed one of their companions. A few miles down the river there is a Dyak house, and the inhabitants saw a large Orang feeding on the young shoots of a palm by the river-side. On being alarmed he retreated towards the jungle, which was close by, and a number of the men, armed with spears and choppers, ran out to intercept him. The man who was in front tried to run his spear through the animal's body, but the mias seized it in his hands, and in an instant got hold of the man's arm, which he seized in his mouth, making his teeth meet in the flesh above the elbow, which he tore and lacerated in a dreadful manner. Had not the others been close behind, the man would have been more seriously injured, if not killed, as he was quite powerless; but they soon destroyed the creature with their spears and choppers. The man remained ill for a long time, and never fully recovered the use of his arm."

On one occasion Mr. Wallace shot a female which, with several young ones, he saw feeding on a durcan-tree with unripe fruit. "As soon as she saw us," he writes, "she began breaking off branches and the great spiny fruits with every appearance of rage, causing such a shower of missiles as effectually kept us from approaching too near the tree. This habit of throwing down branches when irritated has been doubted, but I have, as here narrated, observed it myself on at least three separate occasions. It was, however, always the female mias who behaved in this way, and it may be that the male, trusting more

to his great strength and his powerful canine teeth, is not afraid of any other animal, and does not want to drive them away, while the parental instinct of the female leads her to adopt this mode of defending herself and her young ones."

Some peculiarities in the habits of these animals, especially with regard to those frequenting one district of Borneo, and being quite unknown in another, is commented on by Mr. Wallace, who states that when the mode of life and habits of these creatures are known, a sufficient reason is apparent for the anomaly in that the physical features of the different districts varies considerably, some being suitable, and others unsuitable for their mode of life, for "it seems to me probable," continues this traveller, "that a wide extent of unbroken and equally lofty virgin forest is necessary to the comfortable existence of these animals. Such forests form their open country, where they can roam in every direction with as much facility as the Indian on the prairie, or the Arab on the desert; passing from tree-top to tree-top without ever being obliged to descend upon the earth. The elevated and the drier districts are more frequented by man, more cut up by clearings and low, second-growth jungle, not adapted to its peculiar mode of progression, and where it would therefore be more exposed to danger, and more frequently obliged to descend upon the earth."

"It is a singular and very interesting sight to watch a mias making his way leisurely through the forest. He walks deliberately along some of the larger branches in the semi-erect attitude which the great length of his arms and the shortness of his legs cause him naturally to assume; and the disproportion between these limbs is increased by his walking on his knuckles, not on the palm of the hand, as we should do. He seems always to choose those branches which intermingle with an adjoining tree, on approaching which he stretches out his long arms, and seizing the opposing boughs, grasps them together with both hands, seems to try their strength, and then deliberately swings himself across to the next branch, on which he walks along as before. He never jumps or springs, or even appears to hurry himself, and yet manages to get along almost as quickly as a

person can run through the forest beneath. The long and powerful arms are of the greatest use to the animal, enabling it to climb easily up the loftiest trees, to seize fruits and young leaves from slender boughs, which will not bear its weight, and to gather leaves and branches with which to form its nest."

An animal wounded by a shot began at once to form a nest, upon which it lay down and died. The nest, generally built to sleep on at night, is placed low down on a small tree, not more than twenty to fifty feet from the ground, probably because such a situation is warmer than in a more exalted position, where it would be exposed to the wind.

Each mias is said to make a fresh nest for himself every night, but this is considered to be hardly probable, for if it were so, the deserted nests would be much more numerous than they are.

"The orang does not leave his bed till the sun has well risen and has dried up the dew upon the leaves. He feeds all through the middle of the day, but seldom returns to the same tree two days running. They do not seem much alarmed at men, as they often stared down upon me for several minutes, and then only moved away slowly to an adjacent tree. After seeing one I have often had to go half a mile or more to fetch my gun, and in nearly every case have found it on the same tree, or within a hundred yards, when I returned. I never saw two full-grown animals together, but both males and females are sometimes accompanied by half-grown young ones, while at other times, three or four young ones were seen in company. Their food consists almost exclusively of fruit, with occasionally leaves, buds, and young shoots. They seem to prefer unripe fruits, some of which were very sour, others intensely bitter, particularly the large, red, fleshy arillus of one which seemed an especial favourite. In other cases they eat only the small seed of a large fruit, and they almost always waste and destroy more than they eat, so that there is a continual rain of rejected portions below the tree they are feeding on. The durian is an especial favourite, and quantities of this delicious fruit are destroyed wherever it grows surrounded by forest, but they will not cross clearings to get at them. It seems wonderful how the animal can tear open

this fruit, the outer covering of which is so thick and tough, and closely covered with strong conical spines. It probably bites off a few of these first, and then, making a small hole, tears open the fruit with its powerful fingers.

“The mias rarely descends to the ground, except when, pressed by hunger, it seeks for succulent shoots by the river side, or in very dry weather has to search after water, of which it generally finds sufficient in the hollows of leaves. Once only I saw two half-grown oranges on the ground in a dry hollow at the foot of the Simūnjon hill. They were playing together, standing erect, and grasping each other by the arms. It may be safely stated, however, that the orang never walks erect, unless when using its hands to support itself by branches overhead, or when attacked. Representations of its walking with a stick are entirely imaginary.

“The Dyaks all declare that the mias is never attacked by any animal in the forest, with two rare exceptions; and the accounts I received of these are so curious that I give them nearly in the words of my informants, old Dyak chiefs, who had lived all their lives in the places where the animal is most abundant. The first of whom I inquired said: ‘No animal is strong enough to hurt the mias, and the only creature he ever fights with is the crocodile. When there is no fruit in the jungle, he goes to seek food on the banks of the river, where there are plenty of young shoots that he likes, and fruits that grow close to the water. Then the crocodile sometimes tries to seize him, but the mias gets upon him and beats him with his hands and feet, and tears him and kills him.’ He added that he had once seen such a fight, and that he believes that the mias is always the victor.

“My next informant was the Orang Kaya, or Chief of the Balow Dyaks, on the Simūnjon river. He said: ‘The mias has no enemies; no animal dare attack it but the crocodile and the python. He always kills the crocodile by main strength, standing upon it, pulling open its jaws, and ripping up its throat. If a python attacks a mias, he seizes it with his hands, and then bites it, and soon kills it. The mias is very strong; there is no animal in the jungle so strong as he.’”

The forests where the ourangs abound being easier of access,

man is a more formidable enemy to them than he is to the gorilla or chimpanzee. Next to him probably the boa-constrictor is the most dreaded, for these snakes seem to have a partiality for eating the young animals. In confirmation of this fact a large tooth of one of these snakes was found buried in the skin of the back of a young ourang-outang which was sent over to this country some years ago.

In common with the other anthropoid apes, when captured young, the ourang-outang soon becomes domesticated, and exhibits a partiality for human society; but it has none of the liveliness characteristic of the chimpanzee and common monkey, for it moves about sluggishly and appears to have a melancholy disposition.

Dr. Müller, an accomplished Dutch naturalist, who lived for many years in the Eastern Archipelago, and who is an authority quoted by Professor Huxley in his book, "Man's Place in Nature," had a large male, four feet high, living in a state of captivity under his observations for a month. He gives the animal a very bad character, for he states: "He was a very wild beast, of prodigious strength, and false and wicked to the last degree. If any one approached he rose up slowly with a low growl, fixed his eyes in the direction in which he meant to make his attack, slowly passed his hand between the bars of his cage, and then extending his long arm, gave a sudden grip—usually at the face."

Professor Huxley writes: "This animal's intelligence was very great, and Müller remarks that though the faculties of the orang have been estimated too highly, yet Cuvier, had he seen this specimen, would not have considered his intelligence to be only a little higher than that of the dog.

"His hearing was very acute, but the sense of vision seemed to be less perfect. The under-lip was the great organ of touch, and played a very important part in drinking, being thrust out like a trough, so as either to catch the falling rain, or to receive the contents of the half cocoa-nut shell full of water, with which the orang was supplied, and which, in drinking, he poured into the trough thus formed."

The few young ourangs that have from time to time been

exhibited have all shown patient and docile dispositions; but it is surmised, no doubt correctly, that if they had lived to maturity their characters would have undergone a considerable alteration for the worse, for when their muscular power is fully developed, their great strength makes them formidable, and they become dangerously mischievous.

In 1864 two young ourangs were dwellers in the Regent's Park menagerie. Frank Buckland, who took great interest in them, often refers to these little apes in the articles he contributed to the journals he was connected with. In the *Field* for 1864, he writes: "These orangs were captured in Borneo, taken thence to Calcutta, and from thence shipped to London, where they were purchased at a heavy sum by the Zoological Society. They are lady and gentleman. The former rejoices in the name of 'Susan' and the latter in that of 'George.' When they first arrived at the gardens they wore a costume—simplicity itself—composed of coarse flannel, of decided Borneo manufacture, and in this garment they really looked the very picture of ragged rascals. Mr. Bartlett has, however, given each a handsome red-flannel garibaldi jacket, of which they seem not a little proud, especially the lady, who, in her new costume, is almost

‘As beautiful as a butterfly
And as proud as a queen.’

George, the male, is much the smaller of the two, and is covered with ragged red hair, worn off in patches, so that he looks uncommonly like an animated door-mat. The features of both these creatures are a strange combination of beauty and ugliness. Susan's head is as bald and as smooth as a baby's, and her features are like those of a decrepit child, with the sharp, piercing, jet-black eyes of a hideous and savage Bushwoman. When they walk, these apes use their very long fore-arms as supports to their weight, and in this attitude remind one of a bandy-legged old man, walking round the workhouse yard on crutches."

The young ourang-outang displays considerable intelligence when it is brought into contact with men. An account of a pet

of this species, named Tuan, belonging to Dr. Yvan, the physician to the scientific mission sent by France to China many years ago, caused some surprise by the sense many of his actions indicated. "When Tuan was entrusted to me," writes Dr. Yvan in his book "Voyages et Récits,"² "he was about three years old. His height was that of a child of three. Had it not been for his prominent abdomen he would have resembled a young Malay, dressed in some brown material, like our little sweeps. When I freed him from the bamboo basket in which he was brought to me, he seized hold of my hand, and tried to drag me away, as a little boy who wanted to escape from some disagreeable object might have done. I took him into my room, in which M. Dutroncoy had a sort of cell prepared for him. On seeing this new cage, which resembled a Malay house, Tuan understood that it was in future to be his lodging. He let go my hand and set about collecting all the linen he could find; he then carried his booty into his lodging, and covered its walls carefully. These arrangements made, he seized on a napkin, and having draped himself in this rag as majestically as an Arab in his *burnous*, lay down on the bed he had prepared.

"Tuan was of a very mild disposition; to raise one's voice to him was sufficient. Yet he now and then had very diverting fits of anger. One day I took from him a mango he had stolen; at first he tried to get it back; but being unable to do so he uttered plaintive cries, thrusting out his lips like a pouting child. Finding that this pettishness had not the success he anticipated, he threw himself flat on his face, struck the ground with his fist, screamed, cried, howled for more than half an hour. At last I felt that I was acting contrary to my duty in refusing the fruit he desired. For, in opposition to God's will, I was seeking to bend to the exigencies of our civilization the independent nature which He had sent into the world amid virgin forests, in order that it should obey all its instincts, and satisfy all its passions. I approached my ward, calling him by the most endearing names, and offered him the mango. As soon as it was within

² This work has been translated, and is entitled "Six Months among the Malays," but the quotation given herewith is from an article in the *Westminster Review*.

his reach he clutched it with violence, and threw it at my head !

“ There was something so human in this action, something so evil in the expression of his rage, that I had no hesitation that day in classing Tuan amongst our own species, he reminded me so much of certain children of my acquaintance. But since then I have learned better ; he was only on rare occasions peevish and naughty.

“ The first day that I let Tuan dine at table with me, he adopted a somewhat incorrect mode of pointing out the objects which were pleasing to him. He stretched out his brown hand and tried to put upon his plate all that he could lay hold of. I gave him a box on the ear to make him understand politeness. He then made use of a stratagem ; he covered his face with one hand, whilst he stretched the other towards the dish. This scheme answered no better, for I hit the guilty hand with the handle of my knife. From that moment my intelligent pupil understood that he was to wait to be helped.

“ He very quickly learned to eat his soup with a spoon, in this way : a thin soup was placed before him, he got upon the table, like a dog lapping, and tried to suck it up slowly. This method appearing inconvenient to him, he sat down again on his chair, and took his plate in both hands ; but as he raised it to his lips he spilled a portion of it over his breast. I then took a spoon and showed him how to use it. He immediately imitated me, and ever after made use of that culinary implement.

“ When I brought Tuan on board the *Cleopatra*, he was domiciled at the foot of the mainmast, and left completely free ; he went in and out of his habitation when he pleased. The sailors received him as a friend, and undertook to initiate him in the customs of a seafaring life. A little tin basin and spoon were given him, which he shut carefully up in his house, and at meal times he went to the distribution of provisions with the crew. It was very funny to see him, especially in the morning, getting his basin filled with coffee, and then sitting comfortably down to take his first meal in company with his friends the cabin-boys.

“ Tuan spent part of his days in swinging among the ropes ;

sometimes he came on to the deck, either to enter into conversation with the persons of the embassy, whom he knew very well, or to tease a young Manillase negrito, who had been given to M. de Lagrené: this negrito was his dearest friend. Some people pretended that the sympathetic ties which united these two beings were based on consanguinity. However that may be, Tuan had a profound contempt for monkeys; he never condescended to notice one, and preferred the society of a dog or a sheep to that of one of these quadrumana.

“Tuan acquired the habits of a *gourmet* whilst on board; he drank wine, and had even become deeply learned in the art of appreciating that liquid. One day two glasses were offered him, one half full of champagne, the other half full of claret. When he had a glass in each hand, some one tried to deprive him of that containing the champagne. To defend himself, he hastily brought his disengaged hand up to the one which had been seized hold of, and having, by a dexterous effort, succeeded in freeing it, he poured the sparkling liquid into the glass of which he had undisturbed possession. He then held out the empty glass to the person who had tried to deprive him of it.

“This act, so well conceived, and so difficult to execute, was followed by one no less remarkable. Tuan was among the ropes, and would not come down in spite of my reiterated orders. I showed him a glass of beer to persuade him to come to me. He looked a long while at what I offered him, then, not trusting perfectly to what he saw, he took a rope, and with admirable precision directed its end into the glass, he then drew up the rope, put the end he had dipped into the liquid into his mouth, and having made sure of the flavour, hastened down to share the beverage with me.

“It is false that ourang-outangs have ever been taught to smoke; Tuan, and all those I have seen, were unable to execute that act. The pictures representing these quadrumana smoking hookas with their masters are stereotyped lies.

“When I arrived at Manilla, Tuan and I took up our abode in a Tagal house, and we lived in common with the family inhabiting it, consisting of the father, mother, two girls of fourteen and

sixteen, and of some little children. Tuan was charmed with our residence. He spent his days in play with the little Tagal girls, and robbing the mango women who were imprudent enough to put their merchandise within his reach. . . .

“The custom of wearing clothing is generally considered the result of climate; some moralists pretend that it is connected with the innate sentiment of modesty. Whilst observing in the ourang-outang a manifest fondness for wearing clothes, I was able to convince myself that he obeyed neither of these impressions. Tuan took possession of all the pieces of stuff he found, and either threw them over his shoulders or covered his head with them. Handkerchiefs, napkins, shirts, or carpets which came in his way were indiscriminately used for this purpose. In those burning countries, with thirty-two degrees of heat, it was most certainly not the temperature which led him to wrap himself up; it was not a feeling of decency either, for he only protected the upper portions of his body with these varied draperies.”

Many people have taken a singular prejudice to the anthropoid apes because of their approximate resemblance to man in construction, and in some of their actions when seen in a captive state. For the benefit of those sensitive people who see something humiliating in being classed with these brutal creatures, even in the remote manner implied by the liberal interpretation of Professor Darwin's hypothesis, a remark made by Professor Mivart³ may be quoted. While stating that although fully recognizing the truth of Mr. Darwin's appreciation of man's zoological position, which, he writes, “I have ever maintained, and indeed laboured to support, I none the less completely differ from him when I include the totality of man's being. So considered, science convinces me that a monkey and a mushroom differ less from each other than do a monkey and a man.”

The anthropoid apes are ranked in their relation to man according to the degree of the similarity their skeleton bears to his. By this criterion the gorilla holds the highest position, and although some scientists place the chimpanzee first, yet others, and among them Professor Owen, pronounce this classification as incorrect.

³ See *Nature*, vol. for 1874.

It is as well to point out, however, that the number of osteological features in which a resemblance can be traced between the gorilla and man are more than counterbalanced by the number of most important ones in which it exhibits a very marked divergence.

Accepting, however, this ferocious, scowling, long-armed ape, with its brutish mouth, noseless, chinless, deep-ridged face as the nearest structural type of a human being in the animal world, yet what an immense gulf has to be surmounted in the intellectual organization and capacity to connect the gorilla even with the lowest savage. The one communicating his ideas by language, using fire, cooking food, exhibiting ingenuity in the fashioning of his-requisite weapons, or in the designing of other articles necessary for his well-being, and possessing an intellect capable of receiving and applying instruction, and above all of worshipping a deity. The other, with great hands that have no skill but to clutch and strangle, with brain power dwindling instead of increasing from birth to maturity, and living without displaying any other attribute but the power of satisfying its own appetite to support life amid the unwholesome luxuriance of a dark, dense, tropical forest. As this ape was in the beginning so it is now, and so probably it will be to the end, living in sullen isolation, without improving physically or mentally, it propagates its species and dies. There is nothing approaching anything human in it, except in the gross caricature which its appearance presents of some hideous deformity in our race, and many "missing links" will have to be found before a chain can be fashioned that will directly connect man, made to stand erect in the image of his Maker, intellectually or physically, with any of the known wild animals.

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