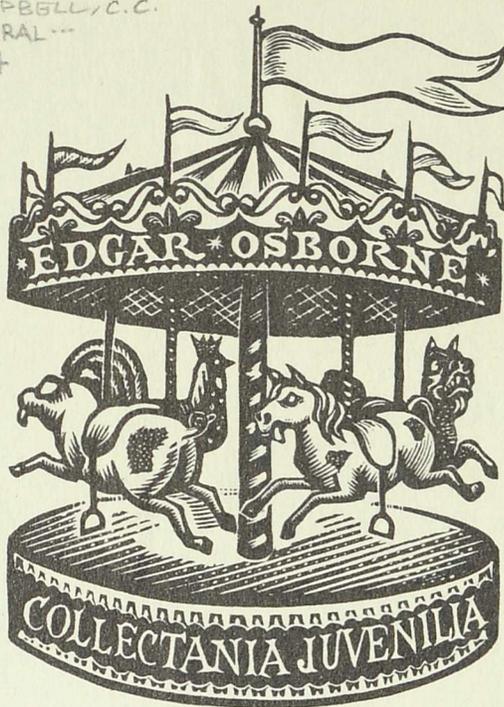


NATURAL HISTORY
FOR YOUNG FOLKS

with NUMEROUS ILLUSTRATIONS
BY GIACOMELLI

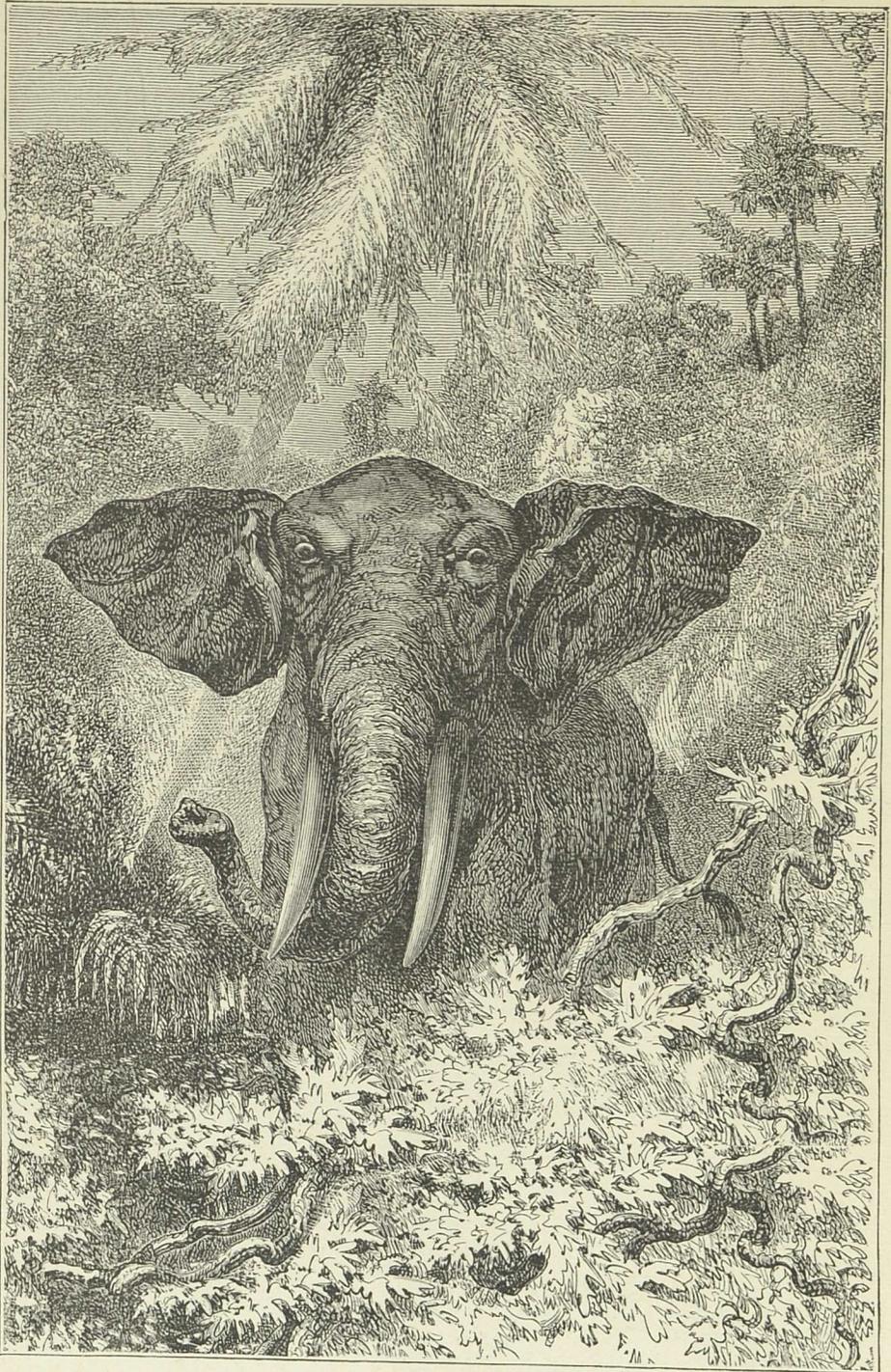
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THE AFRICAN ELEPHANT.

Angelica Shand
with best wishes from Dr Bartholomew
Christmas 1886.

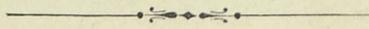
NATURAL HISTORY

FOR YOUNG FOLKS.

WITH NUMEROUS PICTURES BY GIACOMELLI.

BY

Mrs. C. C. Campbell.



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Preface.



IN the present day, when so many charming books containing stories about animals have been written for children, it might seem almost unnecessary to add another to the number. But I hope the parents of my young readers will sympathize with me in my endeavour in these pages to instruct as well as to amuse their little ones. It has been my wish to explain, as simply as possible, how the different animals which surround us in our daily lives, as well as those in distant lands, have been fitted by the almighty Creator for the different countries and climates they inhabit; and how some of them have thus been made of service to man, whether he live in the Tropics or in the frozen regions of the North.

I have also tried a little to explain how the different orders of animals, from man, the highest, down to the duck-billed platypus, resemble one another,—some in one particular, some in others. There are so many different opinions as to how these orders should succeed one another, that after much hesitation I have followed the arrangement adopted in a valuable book on Natural History published by Messrs. Cassells. I should be pleased to think that anything I have written may

induce some of my young readers to pursue the study of Natural History; and in case they may wish to know the names given to these orders in more advanced books on the subject, I subjoin a list of them:—

- Order I.—*BIMANA*, meaning two-handed: contains only Man.
- II.—*QUADRUNANA*, meaning four-handed.
- III.—*CHEIROPTERA*, meaning wing-handed: contains only Bats.
- IV.—*INSECTIVORA*, meaning insect-eaters.
- V.—*CARNIVORA*, meaning flesh-eaters.
- VI.—*CETACEA*, containing the Whale tribe.
- VII.—*PACHYDERMATA*, meaning thick-skinned.
- VIII.—*RUMINANTIA*, meaning ruminating or cud-chewing animals.
- IX.—*RODENTIA*, or gnawing animals.
- X.—*EDENTATA*, or toothless animals.
- XI.—*MARSUPIALIA*, containing the pouched animals.
- XII.—*MONOTREMATA*, containing animals with skeletons somewhat resembling those of birds.

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NATURAL HISTORY FOR LITTLE FOLKS.

I.

TWO-HANDED ANIMALS.



WHY do you look so unhappy, Frank? That cannot be a lesson-book you are sighing over. It seems full of pretty pictures.

Yes, it is, mamma. Dr. Jones gave it to us this morning, and says we are to answer questions out of it twice a week. But I am sure I shall never be able to remember all these long words. The very first page is all about mammals, and mammalia, and orders. How can I understand them?

Patience, Frank, patience! Bring it to me; I think I can help you.

Frank brought the book, and sat down by his mother, and she continued,—

I must first tell you what these two words, mammal and mammalia, mean. What is the difference, Frank, between Frisk and your canary?

Frisk, mamma, is a dog, and has hair and four legs. The canary is a bird, and has feathers, and two wings, and two legs.

Very well. The canary, like the ostrich and the eagle, has feathers, and all three belong to the class of Birds. No mammal has feathers, but every mammal has some part of its skin covered with either hair or scales. Young birds, you know, come out of eggs. Some are at once able to feed themselves; others, their parents feed for a longer or shorter time with worms and seeds. The young of mammals, again, are born alive, and are fed for some time by their mothers' milk, as you know our calf is.

Then is the cow a mammal?

Yes. Every creature that has either hair or scales, and the young of which does not come out of an egg but is fed by its mother's milk, is a mammal, and belongs to the class Mammalia, as the canary belongs to the class of Birds. All quadrupeds are mammals. Do you understand? and do you know what the word quadruped means?

I quite understand, mamma; and I know that a quadruped is an animal with four feet.

Very well; but you must remember that though cows, dogs, and mice are all mammals, they are so unlike each other that they have been divided into

what are called orders. See, in this first page of your book, it tells you that there are twelve orders of mammals, and the first of these orders is called the two-handed order.

But no animal has two hands, mamma; men only have two hands.

But man is an animal. When you are old enough to read about such things, you will learn that the skeleton of a man is very like that of the larger apes. He has flesh and blood as all animals have—can see, and hear, and taste, and feel pain when hurt, as they do. Many things he cannot do so well as they can. Do you remember any?

A man cannot run so fast as a dog or a horse, mamma; and he is not so strong as a lion or an elephant.

Quite right. And he cannot see, or hear, or smell as well as most animals. But though man is the highest of all animals, and next to him comes the ape, man is not, like the ape, a mere animal. Do you remember we read in the first chapter of Genesis this morning that on the sixth day God created the beasts of the earth, and he created man also. But at the same time it is added that man was made in the image of God; and also, in the next chapter, it is said that man was made a living soul.

Of what use are our souls to us, Frank?

I think, mamma, it is only because we have souls that we can know about God.

True, my darling. To have a soul, to be made in the image of God, means that he has given us a power which enables us to know about him, to obey him, and to love him. It is the greatest and best of gifts, and man is the only animal that possesses it. Indeed, it would almost seem as if in studying the habits of these huge apes we were shown how horrible and cruel and wicked men would be if they had no souls, no thought or knowledge of God.

But besides this, a man is superior to all other animals because he can improve. After he has tried several times, he can build a house better than he did at first, and can show his children how to do so. No animal can improve. Look at the picture of the gorilla in your book. You see how like a man it is, only very much stronger. A gorilla will sit down by the burning embers of a fire left by hunters, will stretch out its hands over them and enjoy the warmth, and yet it has not the sense to keep up the fire by putting on a little more wood. It belongs to the second order. Look at your book and tell me what the animals belonging to it are called.

II.

FOUR-HANDED ANIMALS.



THE next order of animals, I see, mamma, are four-handed.

Yes, Frank; and apes, monkeys, baboons, and lemurs, all belong to this order, for they all have four hands, instead of four feet like quadrupeds, or two hands and two feet like man.

But I thought apes and monkeys were the same.

They both belong to this order; but monkeys have tails, apes have none. They both have four hands, and all of them are able, from their possessing very powerful hands and arms, to climb amongst trees. Observe, too, in your picture, that the thumbs of the hinder hands of the gorilla are much larger than those of the front ones; and also, like those of man, can be placed opposite to their fingers, as you put yours now in holding this book. It lives amongst the thick forests of the west coast of Africa. Hiding among the branches, if any poor negro passes within reach,

it stretches down its cruel hind hand and seizes and chokes him.

Then I suppose it eats flesh?

Not at all. It lives upon fruits and vegetables, and seems to kill from mere cruelty. A famous Frenchman called Mr. du Chaillu has told us a good deal about it, and says he never can forget the appearance of the one he first killed. Before seeing it, he knew a gorilla was near from the tremendous barking it made. On observing him, it raised itself on its hind legs, and glared at him out of its ferocious eyes. Then giving a roar which sounded like distant thunder, it advanced towards him, barking and beating on its huge chest with its gigantic paws, when he shot it dead.

Then can gorillas never be tamed?

A young female gorilla was tamed, and lived for a few months. She even allowed herself to be dressed, and went about with her master. Once she accompanied him to breakfast at a friend's house, and behaved very properly. She was gentle with grown-up people, but could not bear children. In its native woods, however, the gorilla is one of the most savage of the animals God has made.

Was Mr. du Chaillu the first person who discovered it?

No. A short time before he went to Africa some missionaries there mentioned it. Long ago, however,

three hundred and fifty years before the birth of our Saviour, a Carthaginian navigator called Hanno was sent to examine the coasts of Africa, and found, as he thought, some hairy people, whom the natives of the country called gorillas. They were so fierce and swift that he could catch only three females. These he killed, and sent their skins, stuffed with straw, to Carthage,* a famous town in Africa, which was destroyed by the Romans.

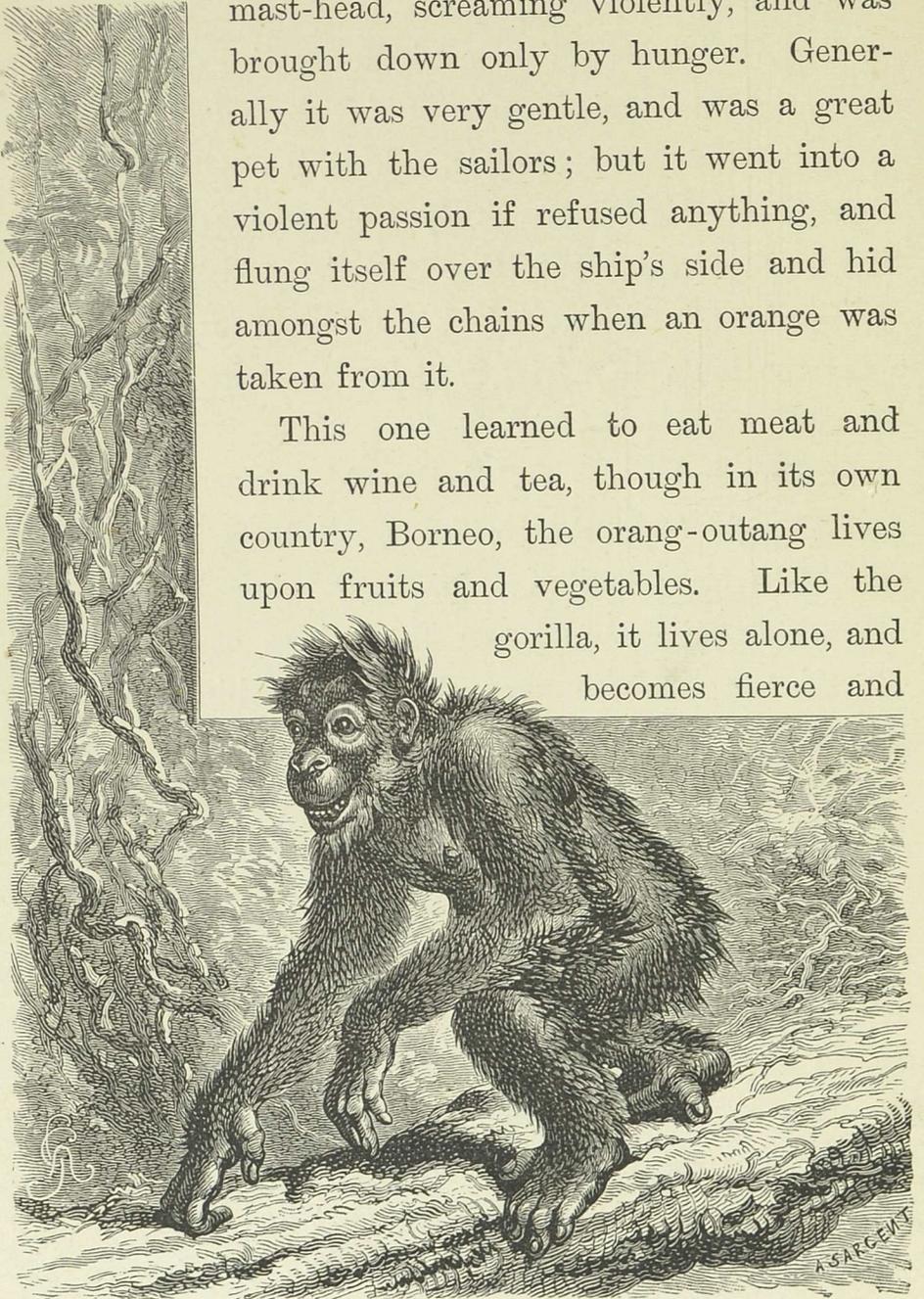
Another large ape called the chimpanzee was at one time thought to be the gorilla; for it lives in the same part of Africa, and, like it, has long hair. But the ears of the chimpanzee are larger than those of the gorilla; and the latter animal lives alone. The chimpanzees, on the contrary, roam through the forests in large troops, and are so formidable that neither the lion nor the immense elephant dares to attack them. A chimpanzee alone would not be dangerous. One was brought home in a ship along with a panther. Although the panther was in a cage, the moment the chimpanzee saw it, it dashed along the deck with a fearful yell, and hid itself for many hours in the folds of a sail.

Another large ape, the orang-outang, was terrified by the sight of a poor harmless turtle that had been brought on board to be made into soup. The ape flew to the

* Some writers think that the baboon was the ape found by Hanno.

mast-head, screaming violently, and was brought down only by hunger. Generally it was very gentle, and was a great pet with the sailors; but it went into a violent passion if refused anything, and flung itself over the ship's side and hid amongst the chains when an orange was taken from it.

This one learned to eat meat and drink wine and tea, though in its own country, Borneo, the orang-outang lives upon fruits and vegetables. Like the gorilla, it lives alone, and becomes fierce and



ORANG-OUTANG.

sullen as it grows old, and spends the greater part of its time in a hut of leaves it weaves amongst the branches. The chimpanzee, too, makes a hut, but puts it on the ground. The hair of the orang-outang is red in colour. Like the gorilla and chimpanzee, it is about the size of a man. These three apes are called knuckle-jointed, because they walk on the knuckles, on the back of their hands, not on their palms, as you do when playing at being a horse.

Another ape, the siamang, a native of Sumatra, is remarkable for the care it takes of its young. They lead their little ones carefully through the woods; and the mothers daily wash and dry their daughters, whilst the fathers do the same for the sons. Night and morning they assemble in troops, making the most hideous noises, under the command of a leader.

There are several kinds of the gibbon ape, all remarkable for the great length of their fore arms, which enable them to leap such immense distances that they look as if flying through the air. One brought to this country leaped with the greatest ease a distance of eighteen feet. In its own country, Borneo, it can go twice as far. The thumbs of this ape are not opposable to its fingers, and in consequence it is better able to take hold of branches. Though able to move so swiftly amongst trees, its pace on the ground is, from the weight of its arms, very

awkward, and it scarcely ever walks upright. But indeed no ape does so for more than a short distance. Man alone, from the way his head is put upon his neck, is the only animal that can. Even the gorilla, the most like him in shape, only occasionally raises itself up.

There are so many different kinds of monkeys that you could not remember their names. They are of all sizes, and their colour varies from the darkest black-brown to yellow, and are to be found in Africa, America, and the warm parts of Asia. They all have tails, and most of them have little pouches or bags inside their cheeks, in which, when hunger is satisfied, they stow away nuts or any other kind of food, so as to have a meal ready when they need it. Not all but most of them have thumbs like the large apes.

The magot or Barbary ape is the only monkey found in Europe. It is a native of Gibraltar, and instead of fruit lives upon beetles and other insects. Its favourite dainty is the scorpion. It twitches off the deadly tail of this creature before the scorpion has time to give a blow, and eats it with the greatest relish.

In the same way an Indian monkey, the hoonuman, kills snakes. It will creep softly up to one of these reptiles when asleep, and, seizing it by the neck, hurries to a stone, on which it grinds the head of its enemy until it has rubbed away the poisonous fangs, and then

tosses it to its young to kill. Both it and the rhesus or bhunder monkey are worshipped by the natives of India. Temples are dedicated to them; hospitals are built for the sick; and not only are they allowed to steal what they please from the shops, but a tenth part of the crops is laid aside for them, which the monkeys have the sense to store away so carefully that no mice or other vermin can destroy it.

The kuhau lives in Sumatra, and is so called because numbers of them meet and make a noise which sounds like "kuhau." The proboscis monkey is another name it gets, from its long nose. The face is hideous; but the fur is thick and soft, of a beautiful reddish colour.

The bruh or pig-tailed macaque, so called from its curly tail, like a pig's, is a native of Borneo. It is trained by the natives to climb to the top of the lofty cocoa-nut palm trees and bring down the ripe fruit and leave the rest untouched. But though useful in this way, they can be mischievous too. A young lady with a pretty white feather in her hat was feeding two of them in a cage. One of them in a moment seized her feather, its companion chased it, and after they had had a good game of romps, snatching it from each other, they sat gravely down and sucked it.

Sucked it, mamma?

Yes; monkeys are very fond of sucking the juice

of feathers. It is most amusing to watch parrots and monkeys in their native woods. The monkeys chase the birds, and try to pull out the tail feathers; and the parrots, instead of flying away, turn round and defend themselves with their beaks and claws. The noise they make between them, chattering and screaming, is deafening.

I should like to have a monkey, mamma; it is so amusing.

Yes, Frank; and cruel too. I have read of a monkey that flung a poor little kitten it disliked into a pot of boiling soup, and closed on the lid. The cook happened to be out of the kitchen at the time, and so the mischief was not found out till she dished the soup and saw the kitten's body. Another African monkey, called Jack, that belonged to a ship's steward, was equally cruel. It was enraged because one of the lady passengers petted another monkey; but dissembling its anger, enticed its rival to come and play. When within reach, Jack suddenly seized it and flung it into the sea. It was impossible to stop the ship, and so the poor thing was drowned. Jack also persuaded another little monkey of which he was jealous to come to him. The sailors were all at dinner, but had left a pot of white paint on deck, with which Jack daubed it all over.

The dog-headed monkey, as the baboon is sometimes

called from the shape of its head, forms another class of the *Quadrumanæ*, and is the ugliest and most like a quadruped of them all. They have short tails; and the male baboons are distinguished by their long, thick, shaggy manes. All are natives of Africa. One species, called the *chacma*, is sometimes employed by the inhabitants to discover water, the want of which in that hot dry country causes great suffering. At such a time, the *chacma*, after having been deprived of water for some days, is set free with a long rope tied round its neck. The natives follow where it leads, one of them taking care to hold the other end of the rope. The creature runs forward, examining every little blade of grass, occasionally standing upright to sniff the air with its wide, roomy nostrils; and when water is found, it digs up the stones and sand with its large powerful hands. As roots and bulbs are the favourite food of this monkey, the natives employ it to procure these vegetables for their own consumption.

All baboons live together in large numbers, and keep very strict order among themselves. When moving from place to place the young males go first, then come the mothers and babies, and last of all the savage old males. They are skilful thieves too. Having posted some of their number as sentinels, the leaders silently enter the orchard or plantation they are to rob, not all

at once, but one after another in a long line. Then the first hands an apple, or whatever the booty may be, to his neighbour, and he to his, and so it is passed from one hand to another until the last gets it, and thus they go on until they have as much plunder as they require.

They do immense mischief to the farms in South Africa, as they not only steal fruit and all kinds of grain, but even kill the poor little lambs to suck the milk contained in their bodies.*

How horribly cruel as well as clever they must be, mamma!

Yes; even the leopard, which is the enemy they dread most, does not dare to attack the old baboons, but watches for an opportunity to steal the young. The African bloodhound is not so prudent. Nothing can prevent it from chasing them; but it generally pays for its boldness with its life. These dogs hunt in packs; but the baboon in flying from his pursuers watches, and if one dog has outstripped its companions, he turns round and flies at the throat of the hound, into which he fixes his sharp teeth, and then throws the dog with great violence from him; and by so doing bites out the piece and kills the dog.

Savage and horrible-looking as the baboon is, strange to say, those wise old people the Egyptians worshipped

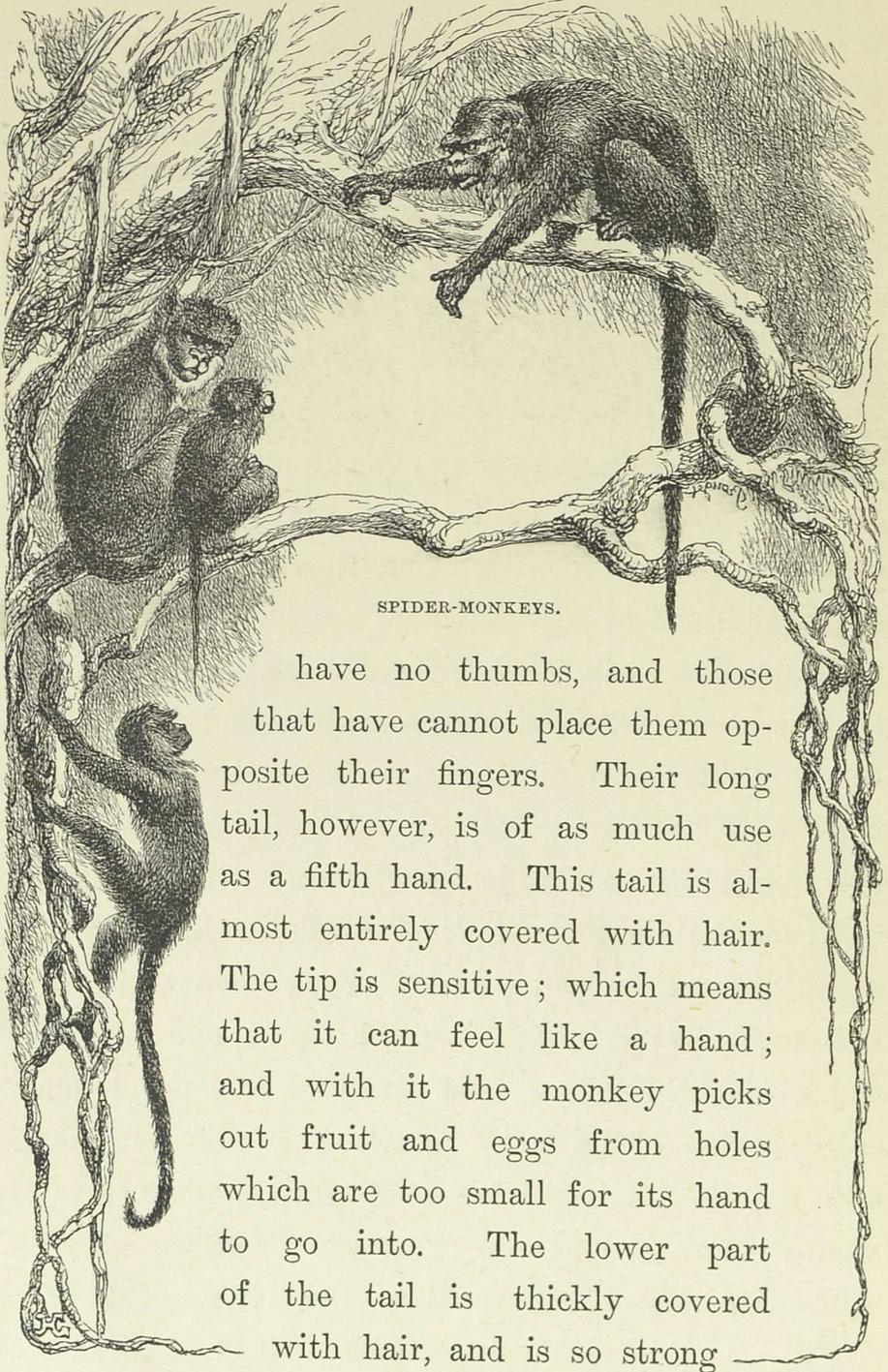
* "Seven Years in South Africa." By Dr. Emil Holuh.

it. A few of these animals were carefully kept and fed by them; and on their death their bodies were wrapped up in cloths and spiced and embalmed, just in the same way as was done to those of human beings.

Many mummies of them have been found in the temple-caves of Egypt. The Egyptians imagined that the baboon represented their god Thoth. Thoth was the same as Mercury amongst the Romans; and he, you know, was the god of thieves. It must have been difficult for the Israelites, when they were brought up out of the land of Egypt, where a thieving monkey was worshipped, to believe that their God could be a God of truth, and could be entirely trusted to and believed in. But you know, Frank, that is our great comfort. We know that we can absolutely trust in our God, in all he does, and in all that he has promised.

Of all the different kinds of baboons, the mandrill is the most ferocious and the most curious in appearance. It has a large patch, striped scarlet, blue, and purple, on each side of its crimson nose, as well as a purple patch on each side of its tail; but these colours are in the skin, not in the hair, of the mandrill, and fade away when the animal dies.

The American monkeys differ from those of the Old World in having no cheek-pouches. Many of them, too,



SPIDER-MONKEYS.

have no thumbs, and those that have cannot place them opposite their fingers. Their long tail, however, is of as much use as a fifth hand. This tail is almost entirely covered with hair. The tip is sensitive; which means that it can feel like a hand; and with it the monkey picks out fruit and eggs from holes which are too small for its hand to go into. The lower part of the tail is thickly covered with hair, and is so strong

that by twisting it round and round the branch of a tree the monkey can hang in the air and swing backwards and forwards.

All the American monkeys live in the vast forests of Brazil. One kind, from the enormous length of its arms and legs, is called the spider-monkey. Another, rather larger, is called the howler, because troops of them assemble together and utter the most dismal sounds. Then there is the tee-tee,—a very pretty little creature, more like a squirrel than a monkey. The douroucoulis is also very pretty. It is called the night-monkey, because it sleeps during the day, and comes out at night in search of insects and other food.

The marmoset is another American monkey. The fur is long and soft, of a reddish-brown colour, with black stripes. The tail is white, with dark, almost black, rings round it; and on each side of their black little faces they have a tuft of white hair. They were often brought to this country at one time as pets, but the climate is too cold for them.

Last and prettiest of them all is the marikina, or silky or lion monkey. Its long smooth hair is as soft and of much the same colour as the cocoon of the silkworm. It is very timid and gentle, and is merely called a lion-monkey from its mane.

The lemurs, Frank, are the last set of animals that

belong to the order. You must try to remember that though in some ways the animals of different orders are unlike each other, yet again in other ways all animals resemble each other; those, however, that are most like



LEMUR AND ITS YOUNG ONE.

are placed in orders next each other. The large apes are most like men; next to them come the African and Indian monkeys; and next to them, again, are the American monkeys.

The different kinds of lemurs are in many ways like

cats and foxes and bats. They have the rough tongue of a cat, and also its round eyes, so that they are able to see at night; they have a sharp nose like a fox; and in their native woods, when asleep, they hang by their hind hands from the branch of a tree as bats do. But they have hands with a thumb like men and monkeys. There is, however, this difference, that always on the first, and sometimes on the first two fingers of the hind hands, they have a long, sharp, curved claw, instead of a nail, as on the other fingers; and it is with these claws that they hang from trees head downwards. They all have tails; and their head is placed at the end of their neck, as a dog's is, not above it, like a man's or an ape's. They sleep during the day, and prowl about at night in search of young birds and eggs as well as fruit and vegetables. The lemur is found only in Madagascar, where there are no monkeys.

There is another creature like them in many ways, but having no tail, called the slow loris, from the slow way in which it moves about. It is found, not in Madagascar, but in the islands of the Indian Archipelago. Its food is the same as that of the lemurs; and it is, like them, a nocturnal animal. There are several kinds of them. One called the potto has no forefinger, though it has a distinct thumb; another, called the Madagascar rat from its size and colour, has long

ears like a bat, which like a bat it doubles down when asleep.

But the most curious of them all is one with a very long name, called the galeopithecus, or coluga, or flying lemur. It is a native of the Philippine and Molucca Islands, and is remarkable for having a skin that stretches between the front and hind legs, and also between the hind legs and tail. This skin, when spread out, enables the creature to take very long leaps downwards. When it wishes to go up a tree it requires to crawl. It has long, sharp, curved claws instead of nails on the fingers of its hind hands, and with these it hangs from the branch of a tree. You see, therefore, Frank, that as in some ways the coluga is like a bat, and in others like a monkey, it is said to *connect* the order of animals with four hands with the Bats.

The aye-aye is a curious creature, found nowhere but in Madagascar. It belongs to the lemur tribe, and has four long slender fingers and a thumb; but the first toe of the hind foot is armed with a sharp claw. It does not, however, suspend itself from trees, but curls itself up to sleep in the hollow of a tree. It has a long bushy tail, and teeth like those of a squirrel. Like all lemurs, it is a nocturnal animal. Do you know what nocturnal means?

Yes, mamma ; it means that it sleeps during the day and wakens up at night.

Quite right. To-morrow we will look again at your lesson-book ; and I hope you will be able to answer your master's questions.

III.

ANIMALS WITH WINGED HANDS.



EXPLAINED to you yesterday, Frank, that apes and monkeys resemble men in having a thumb and four fingers; and that the lemurs are so far like monkeys that though they have a sharp claw on the hind feet they have hands like a monkey.

One of them, the coluga, you remember, has a skin stretched out between the legs, which enables the animal to take very long leaps downwards, though it cannot fly upwards. They therefore *connect*, as it is called, the monkeys with the animals I see mentioned in this third chapter of your book.

They are called animals with winged hands; and when I have described them to you, you will acknowledge that this is a very good name for them.

Bats are the only animals that belong to this order. They are mammals, for their young are born alive, and are fed by their mother's milk; and their bodies are

covered with fur, not with feathers. You have never seen one, for they come out in the evening and sleep during the day. They are very like a mouse in size and shape and colour; but they have wings, real, true wings, with which they can fly through the air like a bird. But their wings are not like those of a bird, for they are made of two fine skins, as thin as the finest paper, which stretch out on either side of the bat's body, from the front to the hind leg and round to the tail. You know how a parasol is kept stretched out by its wires; so in the same way these skins are kept stretched out by the five bones of the front foot, or rather, I should say, of the hand, which are longer than the animal's body. And just as I fold up my parasol, so the bat can fold up its wings. In order that they may be very light, there is no fur on them. But remember, it is only the bones of the front feet that are stretched out in this way, with the skin between. The hind feet are much shorter, and have five sharp claws, with which the animal hangs fast asleep with its head downwards from the branches of trees or in old buildings.

That must be very uncomfortable, mamma.

The bats don't think so. With the claws of their hind feet, too, the creature draws itself up a wall or tree backwards, by hooking them into any rough surface.

And are there no claws on the wings ?

Only one sharp claw on what is the thumb bone ; and with this, when on the ground, they move very slowly, by hooking it into the ground and, rolling first to one side and then to the other, dragging themselves along.

One kind of bat, the roussette or flying-fox, as it is called, from the shape of its head and colour of its hair being like a fox's, lives in Java. It is the largest of all bats, and measures nearly five feet from the tip of one wing to the other. It is the only kind that eats fruit, and does much harm to gardens and orchards.

But, mamma, I thought there was a very dangerous kind of bat, that killed people by sucking their blood.

Foolish stories of that kind have been told about a South American bat, called the vampire. It is dangerous to poultry, which often die from its bites, as it always attacks their combs. Horses too are tormented by them, but very rarely die. When they do attack a man they fasten upon his toe, give a bite with their sharp little teeth, and suck the blood. Many persons they will not touch, others cannot escape from them. The little creature that does this mischief is not more than six or seven inches long, including its tail. The skin of the nose is drawn out and folded back upon it, so as to look like a leaf, which gives it a very strange appearance.

Two of our English bats have this curious skin upon the nose, in shape like a horse-shoe, and therefore one is called the greater, the other the lesser, horse-shoe bat. Another of our English kinds has remarkably long, beautiful ears, and is called the long-eared bat. These ears fall into the most beautiful shapes; and when asleep, the little creature folds them down, and then a smaller ear called the tragus is seen. All the bats in this country hibernate.

Hibernate. What does that mean?

When an animal is said to hibernate, it means that it goes to sleep during the winter. And as the bats of this country live upon insects, they would starve during the cold months if God did not preserve them by giving them this power of falling asleep during the winter.

But don't they need food? Don't they starve?

No, they don't starve. It is very wonderful, but it is the case that they sleep and live for months in this state, choosing some very dark, warm place for their long rest. Some begin to hibernate in October, and waken up in March; others sleep for a much longer time. Two very curious stories are told of bats that were found inside trees, one in Selkirkshire, the other in Cheshire. They were both bright scarlet, but unfortunately were allowed to escape when the trees were

cut down. A space was found inside each tree just large enough to contain the bat; but as there was no hole or crack in them, it never could be explained how the bats got in. They sleep also in old buildings, and even deep down in mines.

The young are born blind, and remain so for more than a week. When old enough, the mother carries them about through the air. It is a very strange sight to see a bat skimming through the air with its young one hanging from it, head downwards, the claws fastened to its mother's body.

They are gentle little creatures, and easily tamed. A young lady in Ireland saved one from a boy who was ill-treating it. On reaching home she found that one of its feet was broken. This she carefully cut off, and placed the little thing in a basket lined with wadding. It at once hooked itself on to the side of the basket with its one foot. The first day it would eat nothing, but after that took greedily milk, flies, and even raw meat. It became very tame, and by-and-by a little baby bat appeared, of which the mother was so jealous that for many days she kept it hidden in her wings, which she used as a cradle. But at the end of a month the poor little baby bat died, for it was too much looked at and touched. And then the mother became tamer than ever, and would hook itself on to its mistress's dress; and

though allowed to go out at night, always came back at the end of two hours. But at last the poor bat disappeared. Some white owls that lived in the neighbourhood were supposed to have killed it.

Then are there many bats in England, mamma?

About twenty different kinds.

IV.

INSECT-EATING ANIMALS.



WE were talking about bats yesterday, Frank. Do you remember of what their food consists?

Some of them, you told me, mamma, that live in Java, eat fruit, but the bats of this country live upon insects.

Quite right. We will to-day talk about moles, shrews, and hedgehogs; for they are likewise insect-eaters. The teeth of these animals are all shaped alike, and are fitted to crush the wings of beetles and other insects. They are also alike in the shape of their heads, and their long noses, and their strong, powerful front feet, which enable them to dig long passages under ground. We see little of them, as it is chiefly in the evening and at night that they appear above the surface of the earth; but we have much reason to be grateful to them.

Of what use are they to us, mamma?

I told you that they eat insects. They also feed upon worms, and slugs, and other creatures that if

left alone would soon devour all our corn and grass, as well as our fruit and vegetables. Have you ever seen a mole ?

You showed me a dead one last summer ; and I remember that its thick, black fur was as soft as velvet.

Yes ; and the hairs of this fur are so placed in the skin that they can be rubbed any way ; which must be a great comfort to the animal when running through its long passages under ground. As it lives so much in the dark, the eyes are small and feeble ; but it can both smell and hear very acutely. It builds a very curious round castle for itself under the ground, with long passages leading to it, so that if any enemy comes in by one opening the mole can escape by another. Besides this castle, it has a house, where it makes a nest of leaves and moss for its young. If by any chance we find another mole, I must show you how well the shape of the creature fits it for digging ; and that though its hind legs are weak and feeble, the front ones are very short and strong, with a broad, solid foot and five toes, each of which has a strong, flat nail, with which it digs up the earth and forms the hillocks you have seen. It has the power of closing its ears, so that no earth can get in when it is working busily.

And does it hibernate, like the bat ?

No ; as winter comes on, it digs deeper down into the ground in search of the worms, which have gone lower into the earth to escape the frost. It requires a great deal of food, and devours almost any animal substance it can get—even birds, frogs, and lizards. Sometimes in the course of its burrowings it gets far away from any pond or stream, and makes wells, digging deep holes, of which it smooths the sides, so that they will hold water. It is a very savage creature, and if two of them meet they will fight until one is killed, and then the conqueror eats his dead rival.

Small birds are also a favourite prey, and to get at one the mole uses many stratagems, approaching at first very slowly and cautiously ; but the moment the hapless bird is within reach, its enemy makes a sudden rush, and seizing it, tears open its stomach, and proceeds to drink the blood of its victim. After a meal it takes a sleep of several hours. Its busiest time is in the evening and at night. The mole, in spite of its awkward figure, is able to run with great swiftness. Scarcity of food sometimes obliges it to change its home ; and during its travels, the creature, being an excellent swimmer, fearlessly crosses brooks, and even rivers. It is thus also able to save itself when the spring and autumn floods cover the fields. It is said that at such times the parents, both male and female, expose themselves to the utmost danger to save

their young, to which they are both, in spite of their ferocious temper, much attached.

A very curious mole, called the star-nosed mole, from its having at the end of its long nose a number of soft, fleshy rays of a bright rose colour, is found in North America. But the most beautiful of them all is the changeable mole. It has had this name given to it because its lovely fur sometimes looks golden green, and sometimes golden red, as the light shines on it. It is a native of the Cape of Good Hope.

The sondeli, or musk-rat, is a native of India, and is in size and colour like a brown rat. It has such a strong scent of musk that it makes any food it ever comes near quite uneatable.

Two pretty little creatures, called the tupaiatana and the press, that live in Borneo and Sumatra, are placed among the moles from the shape of their head and teeth. But they have long bushy tails like the squirrel; and like it, instead of living under ground, spend their time in climbing trees, and this they do during the day.

The elephant shrew is a native of South Africa, and is so called from the length of its nose, which is really a proboscis. It is a graceful little thing, and, owing to the length of its hind legs, can jump a great distance. You have seen a shrew mouse, I think.

Oh yes, mamma, often. It is brown in colour, and

very like a common mouse, except that the nose is much longer.

Yes; and the stomach is white. But did you notice that the tail was square instead of round? The tails and feet of the water shrews are edged with stiff white hairs, which help them in swimming.

Can such little creatures swim?

The water shrews can, very fast. It is very pretty to see a number of them diving and swimming in the evening. Their beautiful black fur has the power of throwing off the water, so that their skin is never wet; and they can also close their ears, and thus no water can get into them.

Though so tiny, it is a fierce little creature; and like moles, if two shrews meet, they fight with the greatest fury, rolling each other over on the ground, till one is killed; and then I am sorry to say that the conqueror sucks the blood of his dead enemy.

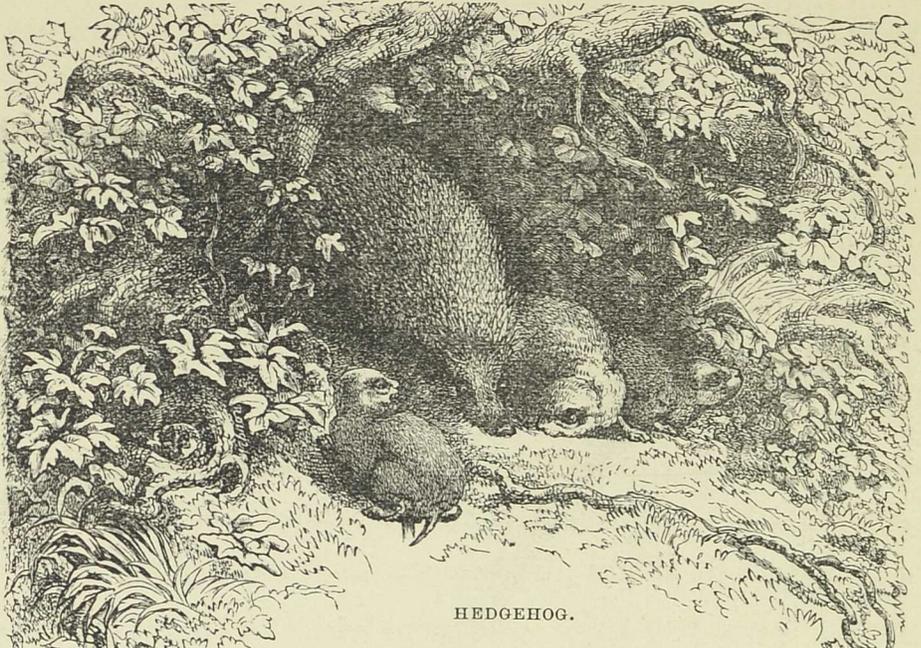
What cruel little things!

And they are treated as cruelly. In all parts of England at one time, and even now in some places, many people believe that the bite of a shrew is poisonous; and that if one merely runs over the foot of a man or an animal, sickness or even death would follow. The only remedy against the harm they did was to push a living shrew into a hole made in an ash tree, and close the

creature up in it, and then touch the sick person or animal with the branches of the tree. The old Egyptians were as foolish the other way, for they worshipped it. Many mummies of this little creature have been found in their temples. It is sometimes in Scotland called the ranny, and also the fetid mouse, on account of its strong musky smell, so that cats won't eat it, though they kill numbers. Like the mole, it makes long tunnels under the earth in search of food; but it makes its nest above the ground, in any little hole it can find.

Are shrews found all over the world, mamma?

Yes, except in very cold countries. The desman, an animal of the same order, though much larger—for it is about seventeen inches long—is a native of Russia. Like the shrew, it has a strong musky odour; but its beautiful soft brown fur is much valued. It lives almost entirely in the water, scarcely ever coming out on the land. Its legs are very short, and the feet webbed like those of a duck. But the most curious part of the desman is its very long nose. Not only does this creature make its house under ground, but the entrance to it is under the surface of the water. During the long and severe winters in Russia the water is always frozen. At this season, though the desman can procure food, it cannot always get fresh air, and to obtain it swims about under the ice in search of any crack or hole through which it



HEDGEHOG.

may thrust its snout in search of the much-needed air. A smaller species of this animal is found in the Pyrenees. The hedgehog, which also belongs to this order, is found all over the world. Have you ever seen one?

I don't think so, mamma.

If you had, you would not have forgotten it. It is about ten inches in length, with a long, sharp nose, and such short little legs that the body looks as if it were resting on the ground. The feet and stomach are covered with coarse fur, but the back and

head have black and white bristles, about an inch and a half long, and as sharp as a needle. The hedgehog has the power of folding in its head, and tail, and feet, and rolling itself into a ball so tight that no enemy dare touch it. It climbs up a wall easily, but to come down is more difficult; and when it has to do so, it rolls itself into a ball and throws itself down, for the prickles break the fall.

It is gentle and easily tamed, and is most useful in destroying cockroaches, as well as snakes and vipers. It has been found that no poison of any kind injures the hedgehog, so that even if the snake could get at it through the prickles, it would not hurt it. As it is, the hedgehog generally swallows the poor snake alive, beginning with its tail. It is, however, as great an enemy as the fox to cocks and hens; and even has been caught killing pheasants, hares, and rabbits.

The mother hedgehog prepares a cosy nest of moss and leaves for her young, and weaves the roof so securely that though it is above ground not a drop of rain can get through. The young are born blind. During the winter it hibernates. A kind of hedgehog, called the tenrec, is found in Madagascar.

V.

FLESH-EATING ANIMALS.



THINK you went to a menagerie last month with your cousins, Frank, did you not? said his mother to him when he brought his book to her next day.

Yes, mamma.

And did you see a lion there?

Yes, mamma; there were two. There was a lioness also, and two young ones; and a tiger, and a white bear.

I hope you looked at them carefully, as they all belong to the order we are to talk about to-day. It is the fifth order in your lesson-book; and all the animals of this order eat flesh, though some of them, like the bear, are also fond of fruit and vegetables.

As many of these animals, though alike in eating flesh, differ in other ways, they are divided into families. Put pussy on the table, and we will examine her for a few minutes.

Pussy, mamma! she is not like lions and tigers.

But indeed she is. Lions, tigers, leopards, ounces, belong to what is called the Cat family; for they have the same kind of teeth and feet as a cat, and their bodies are shaped in the same way. You see that her back teeth do not shut upon each other to crush food as yours do, but the teeth in the upper and lower jaws fit into each other like the blades of a pair of scissors, and thus they cut the flesh in pieces. Now, what can you tell me about her feet?

She has five sharp curved claws, mamma, on the front feet, and four on those behind.

Yes; and do you see these soft pads or cushions on the sole of her foot? When walking about the room, or creeping after a mouse or a bird, she is able to draw in her claws so that they are quite hidden by these pads. Why are they made so, Frank?

I don't know, mamma; but it is very good for your carpet, for pussy scratches it terribly when she puts them out. And does she walk as fast—or rather does she walk at all, when she puts them out?

No, she can't, for her claws catch in the ground and prevent her.

Now, you understand why the claws of these animals are made able to be drawn in. Otherwise not only would they catch in the ground, but they would soon wear out. Claws that can be drawn in are said to be

retractile. And as you have seen pussy creep silently through the garden, and then spring upon a bird, so these larger cats creep through the thick bushes and forests in Africa or India and spring upon their prey. And at such a time their whiskers are of use. They not only help them to feel in the dark, but prevent the leaves from rustling. They never, when about to attack, walk or run as you see a dog do, but they spring upon their victim; and as you have seen pussy strike a fly with her paw, so the lion uses his against an enemy, but one blow from him is sufficient to kill a man or an ox.

Most extraordinary stories are told of the strength of the lion. To carry off a man is a work of great ease for this powerful brute. I have read of one in South Africa that seized a heifer in its mouth, and bore her away with as much ease as a cat does a rat, and even leaped a broad dike without the least difficulty.

Another peculiarity of the animals of the Cat family is that they have all very rough tongues. Feel how rough even gentle little pussy's is: that of the lion is so much so that by merely licking its prey it can strip the skin off it. A gentleman in India had a pet lion cub—

What is a lion cub, mamma?

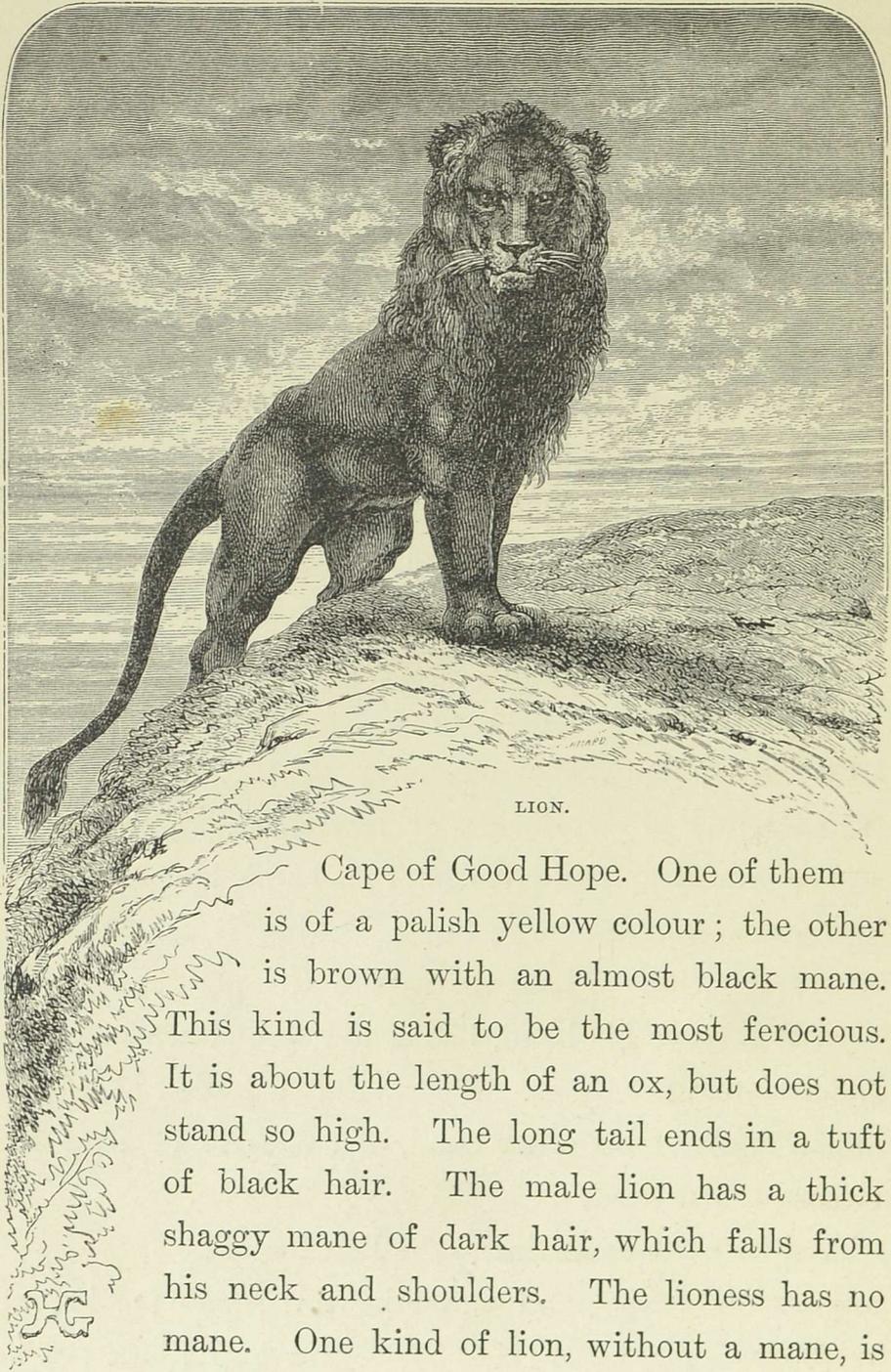
I thought you knew that the young of lions and

tigers are called cubs. They are, like kittens, blind at their birth, and for many months make a noise like mewling, and are covered when first born with wool rather than hair. This wool is of a mixed colour, between gray and red, with several little brown stripes on the upper part of the back. These gradually disappear as the cub increases in size, and the hair becomes the colour of that of the old lions. The mane and the tuft at the end of the tail do not appear till they are more than a year old. Lions live to a great age: one called Pompey was kept in the Tower of London for upwards of seventy years, and another was there for sixty-three years.

But to return to my story of the lion cub. This one I am telling you about was very gentle; it had never been allowed to taste blood or raw meat. One day its master fell asleep, and left one of his hands hanging down. The lion, out of affection, began licking it, and by-and-by drew blood. The pain awoke the gentleman, who tried to remove his hand, but a low growl warned him that he must not do so. Fortunately a loaded pistol lay within reach of his other hand, and with it he shot his dangerous pet dead.

And in what countries is the lion found?

All over Africa, and throughout a great portion of India, Persia, and Arabia. There are two kinds at the



LION.

Cape of Good Hope. One of them is of a palish yellow colour ; the other is brown with an almost black mane. This kind is said to be the most ferocious. It is about the length of an ox, but does not stand so high. The long tail ends in a tuft of black hair. The male lion has a thick shaggy mane of dark hair, which falls from his neck and shoulders. The lioness has no mane. One kind of lion, without a mane, is

found in Gujerat, in the north-west of India. The common lion is, as you may remember from the Bible, found in Arabia and Persia and Syria.

At one time, I believe, they were to be found in the mountains of Greece, but that is not the case now; indeed they are not nearly so numerous anywhere as they used to be.

Why is that, mamma?

Because, dear, every opportunity is taken to destroy them in South Africa, and other places where Europeans have settled themselves as farmers. Immense numbers were in former times captured by the Romans.

What did they do with them?

In almost all their large towns they had a building called an amphitheatre, where public games took place. To these amphitheatres they brought wild beasts—lions, tigers, and others—and enjoyed seeing them fight with and kill each other.

How dreadful!

It was indeed; and often, to add to the horror of the sight, men, either slaves or prisoners taken in war, were obliged to fight in the amphitheatre with these wild beasts. Numbers of Christians perished in this way.

You have often heard the lion called the king of the forest. But this is a wrong name, for he does not live in forests, but in burning desert plains covered with

thick bushes. During the day he sleeps, but as night sets in he rouses up to search for prey. In Southern Africa terrible tempests of lightning and rain are very common. The lion seems to enjoy the confusion, and adds his voice to the noise of the thunder. If unsuccessful in obtaining food, he places his mouth close to the earth and utters a terrific roar, which rolls along the ground on all sides. The terrified animals he is in search of, not knowing from what direction the fearful sound has come, rush wildly about, and some of them are sure to pass within his reach. When the lion is too old and feeble to chase wild animals, it prowls about the kraals, as the native villages are called, and carries off the people; and this it does night after night. It is said that when once a lion has tasted human flesh, it will eat nothing else. A story is told of a negro who was driving some cattle to drink, and saw that he was pursued by a lion. He ran to a tree, up which he climbed, and there he was obliged to remain for a whole day and night, for the lion placed itself at the foot of the tree watching him. At last the creature went away in search of water, and the man took advantage of this to fly to his home, which was a mile off. The lion returned to the tree, and finding his prey had escaped, followed the man nearly to the door.

Here is another story that I have found for you,

Frank, in Burchell's "Travels in South Africa." You may read it aloud. And Frank read as follows:—

"The day was exceedingly pleasant, and not a cloud was to be seen. For a mile or two we travelled along the banks of the river, which in this part abounded in tall mat-rushes. The dogs seemed much to enjoy prowling about and examining every bushy place. They at last met with some object among the bushes which caused them to set up a most vehement and determined barking. We explored the spot with caution, as we suspected, from the peculiar tone of their bark, that it was what it proved to be—lions. Having encouraged the dogs to drive them out, a task which they performed with great willingness, we had a full view of an enormous black-maned lion and lioness. The latter was seen only for a minute, as she made her escape up the river under concealment of the rushes; but the lion came steadily forward, and stood still to look at us. At this moment we felt our situation not free from danger, as the animal seemed preparing to spring upon us, and we were standing on the bank at the distance of only a few yards from him, most of us being on foot and unarmed. I had given up my horse to the hunters, and was on foot myself; but there was no time for fear, and it was useless to attempt avoiding him. I stood well upon my guard, holding my pistol in my hand, with

my finger on the trigger ; and those who had muskets kept themselves prepared in the same manner. But at this instant the dogs boldly flew in between us and the lion, and surrounding him, kept him at bay by their violent and resolute barking. The courage of these faithful animals was most admirable : they advanced up to the side of the huge beast, and stood making the greatest clamour in his face without the least appearance of fear. The lion, conscious of his strength, remained unmoved at their noisy attempts, and kept his head turned towards us. At one moment the dogs, perceiving his eyes thus engaged, had advanced close to his feet, and seemed as if they would actually seize hold of him. But they paid dearly for their imprudence ; for without discomposing the majestic and steady attitude in which he stood fixed, he merely moved his paw, and at the next instant I perceived two dogs lying dead. In doing this, he made so little exertion that it was scarcely perceptible by what means they had been killed. Of the time which we had gained by the interference of the dogs not a moment was lost : we fired upon him, and one of the balls went through his side, just between the short ribs, and the blood immediately began to flow. But the animal still remained standing in the same position. We had now no doubt but that he would spring upon us. Every gun was instantly reloaded. But happily we

were mistaken, and were not sorry to see him quietly move away."

What a wonderful thing it was that he did not attack them!

It was indeed.

How do the natives ever kill a lion?

They watch to see if the herds of antelopes are disturbed, for they know that if restless they have been attacked by a lion; so they mark the spot, and at noon, when he is sure to be asleep, they shoot him with poisoned arrows. The lioness, though a most affectionate mother, is even more savage than the lion. A Mr. Gordon Cumming, a great traveller in South Africa, once met both a lion and a lioness. He fired, but missed. The lion hastily went away, but the lioness came towards him with an angry growl, lashing her tail. Upon this Mr. Cumming, who was a very tall man, drew himself up to his full height, holding his rifle and his arms high above his head. She stopped for a minute or two, and then advanced, growling more terribly than before. But Mr. Cumming did not lose his presence of mind. He stood perfectly still, and fixing his eyes steadily on her, spoke to her several times in a commanding tone of voice. This perplexed her so much that she stood and looked at him, whilst he walked slowly backwards, and talked to her until she was out of sight.

And can lions never be tamed ?

Oh yes, many of them have been, and have become exceedingly attached to the person who had charge of them ; but at the same time they remained savage towards every one else. Here are two pretty stories you can read :—

“ An instance of recollection and attachment occurred not many years since in a lion belonging to the Duchess of Hamilton. One day, after dinner, the duchess and some friends went to see a lion that she had in a court getting its food. The company began teasing the animal with sticks, to make him give up his prey. Whilst they were thus engaged, the porter came and informed the duchess that a sergeant with some recruits at the gate begged to see the lion. Permission was at once given, and they were admitted at the moment the lion was growling over his prey. The sergeant, advancing to the cage, called, ‘ Nero ! Nero ! poor Nero ! don’t you know me ? ’ The animal instantly turned his head to look at him, then rose up, left his prey, and came wagging his tail to the side of the cage. The man put his hand upon him, and patting him, told us it was three years since they had seen each other, and that the care of the lion had been committed to him on his passage from Gibraltar, and he was happy to see the poor beast show so much gratitude. The lion indeed seemed perfectly pleased,

and rubbed himself against the place where the sergeant stood. The man wanted to go into the cage to him, but the company assembled would not allow him."

This next story, mamma, I see, is about a lion and lioness. Shall I read it?

Yes, you may.

And Frank continued:—"Mr. Felix, the keeper of the menagerie in Paris, brought a male and female lion to it a few years ago. A few months afterwards he was taken ill, and could no longer attend to them. Another person undertook this duty. The male, sad and solitary, remained from that moment constantly seated at the end of the cage, and refused to take food from the stranger, whose presence was hateful to him, and whom he often menaced by roaring at him. The condition of the animal was such that his keepers feared he was ill, but no one dared to approach him. At length Felix recovered, and intending to surprise the lion, he crawled softly to the cage, and showed his face between the bars. The lion in a moment made a bound, leaped against the bars, patted him with its paws, and showed every mark of affection. The female also ran to him; but the lion drove her back, and seemed jealous of her receiving any favours from Felix. Fearing lest they should quarrel, the man entered the cage and caressed them by turns. He had so great a command over these animals that at

his bidding they would retire to their inner cage, or throw themselves on their backs, and exhibit their paws and throats to strangers.

“Another lioness, some years ago, in the Jardin des Plantes in Paris, allowed a little dog to live with her in her cage. She was so fond of it that she became quite unhappy when it was taken from her.”

The tiger is like the lion, Frank, in all its habits, except that it roams about by day as well as by night. It is, upon the whole, the stronger. Some years ago the division between the cages of a lion and a tiger, both belonging to a menagerie, gave way. There was a terrible fight between the two animals, and the lion was killed. Do you know what a tiger is like? What is its colour?

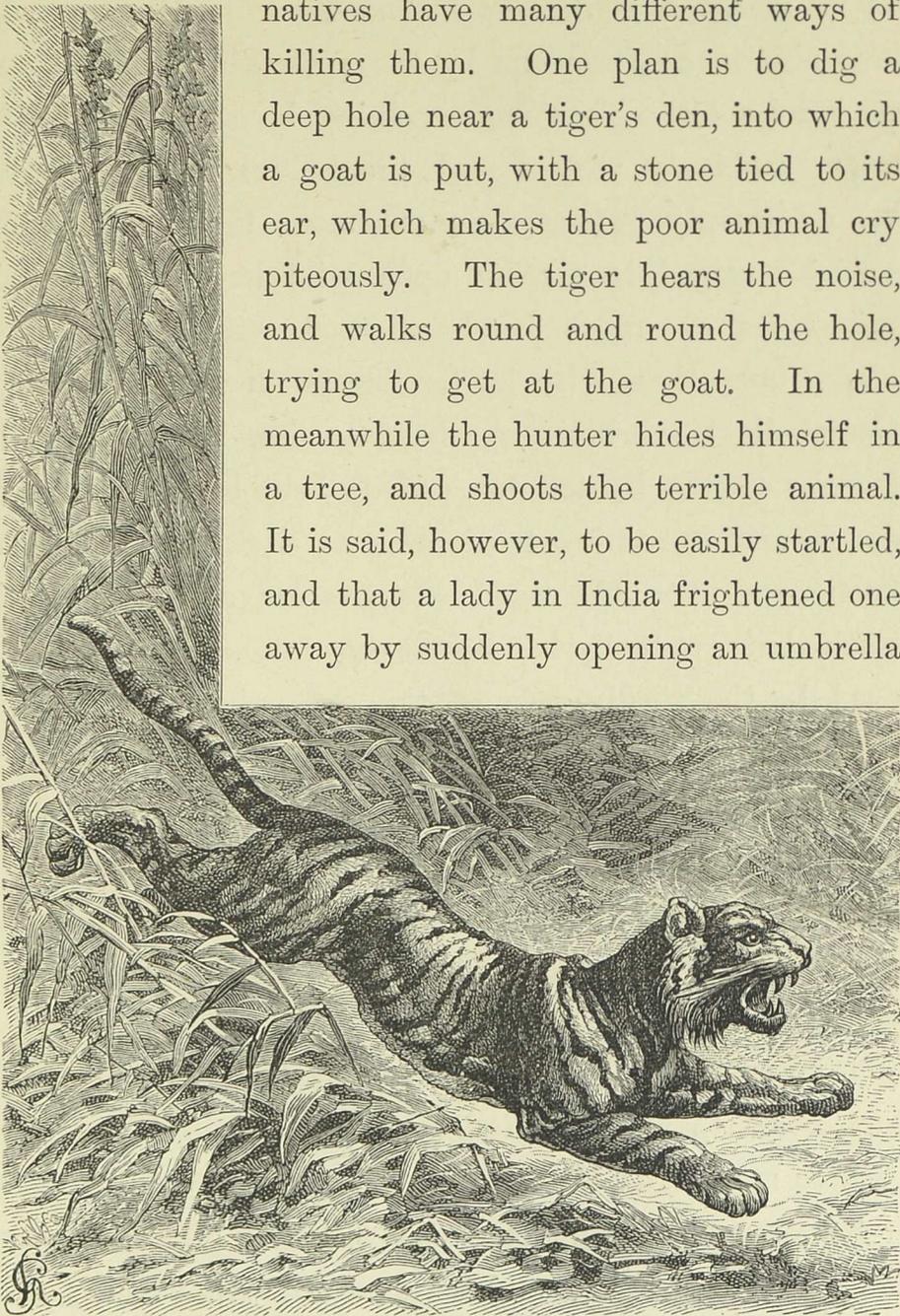
It is yellow, with black stripes across the body, and it has no mane.

Quite right. The body is longer than the lion's, and shaped more like pussy's. The under part of it, as well as the chest and throat, are white, and so are the long hairs on each side of its face. The tail is like a cat's in shape, and has no tuft at the end.

Does it live in Africa too?

No; it is found chiefly in India and in the neighbouring islands. The princes there, or rajahs, as they are called, hunt them with elephants. The poorer

natives have many different ways of killing them. One plan is to dig a deep hole near a tiger's den, into which a goat is put, with a stone tied to its ear, which makes the poor animal cry piteously. The tiger hears the noise, and walks round and round the hole, trying to get at the goat. In the meanwhile the hunter hides himself in a tree, and shoots the terrible animal. It is said, however, to be easily startled, and that a lady in India frightened one away by suddenly opening an umbrella



TIGER.

in its face. A gentleman in India, a Colonel Campbell, was also saved from one by the presence of mind of a native hunter. They were walking home one evening, when suddenly they found themselves face to face, within twenty yards, of an enormous tiger, which was busily engaged in tearing up a wild hog. The brute raised its enormous head, smeared with blood, and glared upon them with its terrible green eyes. Colonel Campbell raised his arm about to fire, but Mohaden (so the native hunter was called) held his arm firmly down, and remaining motionless as a statue, fixed his keen eyes upon the tiger. It growled and showed its teeth, but gradually let go its prey; then, as if frightened by the steady gaze of the native, turned slowly round, and giving a sulky growl, slunk away into the long grass. No sooner was its back turned than Mohaden, putting his hands to his mouth, uttered a peculiar wild yell, which terrifies even the most savage animal, and in a moment the tiger fled in dismay from that strange noise.

I have also found an account of a tiger-hunt, Frank, in Colonel Campbell's "Indian Journal," which you can read to me. And Frank read:—

"News was brought to us this morning of a notorious old man-eating tigress and her four cubs, that have been the terror of the neighbourhood for some months back,

and almost all the population of the village turned out to assist in her destruction. The tigress was soon driven out of her hiding-place by volleys of blank cartridge; and one of the natives who had been sent to watch for her in a tree, shook with terror as he saw her and her cubs pass. On reaching the edge of the cover where we were posted, the tigress left her cubs behind, walked out into the plain, and boldly looked the elephant on which we were seated in the face, laying her ears back, growling savagely, and curling up her whiskered lips with a look of indescribable ferocity. Every hair on her back stood erect; her long tail switched from side to side like that of an enraged cat, and her glowing eyes were fixed upon us with a terrible expression. Every tree and rock was crowded with spectators, watching with anxious looks and beating hearts the end of our contest with their deadly foe. No sound was heard, save an occasional low, deep growl from the terrible brute. The tigress in the attitude I have described, and our noble elephant with his trunk carefully coiled up between his tusks, stood face to face for a few seconds.

“The elephant took one step forward; and the tigress, uttering a hoarse growl, drew herself together, as if about to spring. We now fired, and hit her on the shoulder. She rolled over, tearing up the earth with

her claws, and slunk back into her cover. We now warned all the spectators to keep safely up amongst the trees, whilst we urged the elephant into the thicket. We had not gone twenty yards, when that harsh, grating roar that makes the blood curdle, followed by a despairing shriek, told us that one of the natives had not attended to our warning, and had been killed. A wild cry of rage and execration rose from the assembled multitude, many of whom had seen the tragedy, and it was with some difficulty we prevented them from rushing sword in hand into the thicket, though they well knew some of them would have been killed. Every exertion was made to hurry the elephant to the spot, and the sagacious brute crashed his way through the tangled brushwood.

“But when the tigress rushed out upon him, he turned round with a scream of alarm, and shuffled off as fast as he could, jolting us to such a degree that we found it impossible to fire, although the tigress was close behind us. But at last the mahout was able to check his pace. We fired at her when in the act of springing at the elephant’s trunk. A lucky shot hit her between the eyes, and she rolled over dead. The death of this well-known tigress was hailed with shouts of triumph by the spectators. A poor little herd-boy, whose brother had been devoured a few days before by the

tigress and her cubs, was the first to descend and exult over the prostrate man-eater. He himself had been twice attacked by this same tigress; but a herd of fine large buffaloes which he tended, headed by a sagacious old bull, came at his call and drove her off. He was close to his brother when she seized him. Unfortunately on this occasion the buffaloes were grazing at some distance. Had they heard the boy's cries, or seen the tigress, they would probably have charged and beaten her back, for they had been seen to attack her several times when she ventured into the open plain; and the boy said he never feared a tiger as long as his cattle were near him."

What a horrible story!

Yes, Frank, it is horrible. It is a horrible account of the death of the tiger; and yet they must be killed.

Tell me, mamma, can tigers not climb trees?

No, fortunately, they cannot. This is not the case with the leopard. It is called the tree-tiger by the natives of India from the ease with which it can ascend trees. It is like the tiger in shape, but smaller, with the same yellow skin, but has black spots instead of stripes upon the body. It is, for its size, a very powerful animal. One crept by night into the midst of a caravan, and seizing two wolf-dogs that were strongly fastened to a tent peg, though they were large, fierce

animals themselves, dragged them to a distance of nearly three hundred yards. It was pursued, and one of the dogs rescued, but the other was killed by a single blow of the leopard's paw. If taken young, however, it is easily tamed. One belonging to the Governor of Cape Coast Castle was as docile as any dog could be. Not only was he allowed to roam about the fort, but even when there was company at dinner he could be trusted to enter the room. Once, after a long absence, his master was sitting in his study. The door opened, and Sai (for so the leopard was called) entered, and with one bound sprang to his master, who feared he was to be killed; but no, Sai only wanted to show his affection, and nestled his great cheek against him. Like all cats, he was very fond of anything with a sweet smell. One day his master at Cape Coast Castle was pouring some lavender-water over a handkerchief. Sai seized it from him, and rolled over it with the greatest delight. But other leopards are not so tame as Sai; and the same lady who brought him home to this country tells many sad stories of the mischief they do on the west coast of Africa. And in spite of this they are not allowed by the priests to be killed. The natives are taught by the priests that the leopard is a sacred animal, and a sum of money has to be paid for every one that is killed.

This is not the case in the south of Africa. There the Hottentots and Kafirs look upon any one who has killed a leopard as a great hero. Any native who has done so makes a necklace for himself of the claws and teeth of the animal. The skin is made into a cloak, and the tail into a band for his waist. The leopard is a native both of Africa and of Asia.—The ounce is another very beautiful creature of the same kind, having the same dark spots, though a little different in size and shape. It is found near the shores of the Persian Gulf.

Then do none of these animals live in America, mamma?

None exactly the same. The jaguar and puma are natives of America, and both belong to the Cat family. The jaguar is like the leopard, but larger, and the black spots are a little different in shape. Like the leopard, too, it can climb trees, from whence it springs down on any creature that may be passing. It is naturally a very ferocious animal; but I have read of one that was taken as a cub, and became very tame towards its own master.

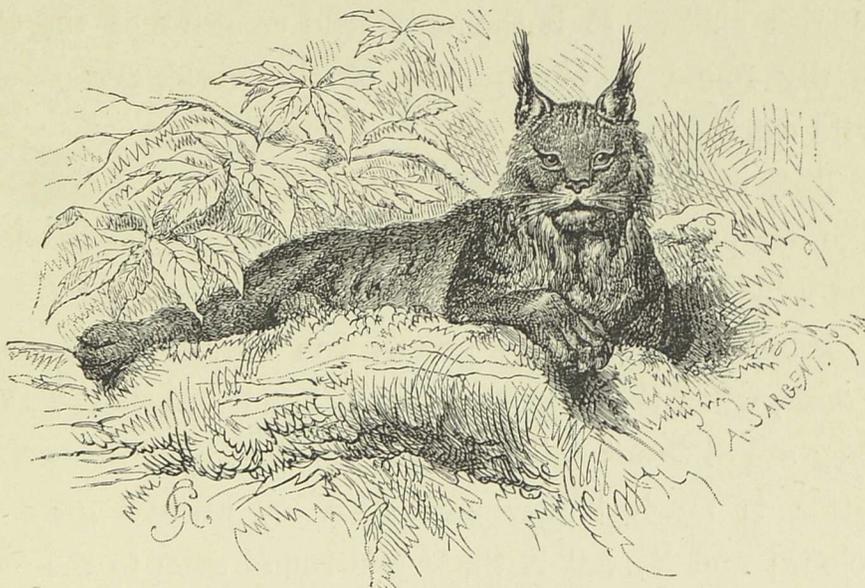
The puma has no mane, but from being like the lion in colour is sometimes called the American lion. It is a smaller animal, and able to climb trees. It is cowardly as well as ferocious, and can generally be made to go away, if looked at steadily. Here is a story about one I found for you in this book, called Sir Francis Head's

“Journey Across the Pampas.” The man who met with the adventure told the story to Sir Francis.

He was trying to shoot some wild ducks, and, in order to approach them unperceived, he put the corner of his poncho (which is a sort of long narrow blanket) over his head, and crawling along the ground upon his hands and knees, the poncho not only covered his body but trailed along the ground behind him. As he was thus creeping by a large bush of reeds, he heard a loud, sudden noise, between a bark and a roar; he felt something heavy strike his feet, and instantly jumping up, he saw, to his astonishment, a large puma actually standing on his poncho; and perhaps the animal was equally astonished to find himself in the immediate presence of a man. The hunter was unwilling to fire, as his gun was loaded with very small shot; and he therefore remained motionless, the puma standing on his poncho for many seconds. At last the creature turned his head and walked slowly away. About ten yards off, he stopped and turned again. The man remained in the same spot, upon which the puma slowly walked away.

A great many smaller animals in America belong to the same family. They are either gray or yellow in colour, with black spots or stripes. I explained to you that they were cats; they have different names, but they all belong to the ocelot or tiger-cat tribe. Most

of them are larger than pussy, and are easily tamed. They all live in the tropical parts of America. There are tiger-cats too in Asia and Africa, but they are not quite the same as the American ones. One of them, the rimau-dahan, is exceedingly handsome. This animal is a native of Sumatra, but not very common even there. It is easily tamed, and as playful as a kitten.



LYNX.

Another one, the Nepaul tiger-cat, comes of course from India, and is very savage and fierce.

The serval, another animal of the wild cat species, is a native of Southern Africa. It is about twice the size of pussy, and can be tamed without difficulty.

The lynx is another of the cats, of which there are different kinds; but all lynxes are distinguished by

having tufts of hair on the tips of their ears. They are savage, surly animals, about the size of a bull terrier. The handsomest of them, the caracal, is found both in Asia and in Africa, and, in spite of its ferocity, is tamed and used in hunting by the natives.

Different kinds of lynxes are found in America. We have also one in Europe. The fur is gray, with dark reddish spots. It is the only wild creature of the Cat family found in our quarter of the world, except the wild cat itself.

But, mamma, I thought the wild cat was a poor cat like our pussy, that had no home, and therefore lived in the woods.

Many house cats do go, as you say, to the woods, Frank, when they have no home; but it is believed that they are different animals from the true wild cat. The latter is much bigger and stronger, always gray in colour; and its tail is thick and round even to the end, whilst pussy's, you see, tapers away to a point. It is supposed that the house cat came from Egypt long ago, and passed from that country into Greece and Italy, and thence on to Britain. It was held in peculiar veneration by the ancient Egyptians. Those strange people paid it divine honours, and inflicted the punishment of death upon any one who either accidentally or intentionally killed a cat. Even after death their care



of it continued, for numbers of mummies of cats have been found in the burial caves near Thebes in Egypt. In England, before the Norman Conquest, it was taken great care of, and large sums of money were given for the kittens, whilst at the same time the real wild cat was always killed. Of these latter, a few are still to be found in the mountainous parts of Great Britain and Ireland, where they do much harm to game and poultry. They generally haunt the shores of lakes and rivers, but sometimes take up their abode near a farm-house, and carry off not merely the poultry but also lambs in the most audacious manner. They are, moreover,

exceedingly savage animals, and will without hesitation fly at any one who comes across their path.

I am sorry to add that even our own pussy, when she takes to hunting in the woods, is quite as mischievous. I have heard of a shepherd in the north of Scotland who mourned very much when a favourite cat was killed, as he said that every day of the year she brought him home a grouse or a hare or some other kind of game.

And now, Frank, we have mentioned all the animals of the Cat family except the cheetah. It is the only cat, besides pussy, that can be tamed by man so as to be useful to him.

And where does the cheetah live, mamma?

In Africa, India, and Persia. It is sometimes called the hunting-leopard, from its being like that animal in colour, and having the same black spots. But it is larger, and its legs are differently shaped, so that it cannot climb trees; and it cannot draw in its claws, as other cats do. In many ways it is like a dog.

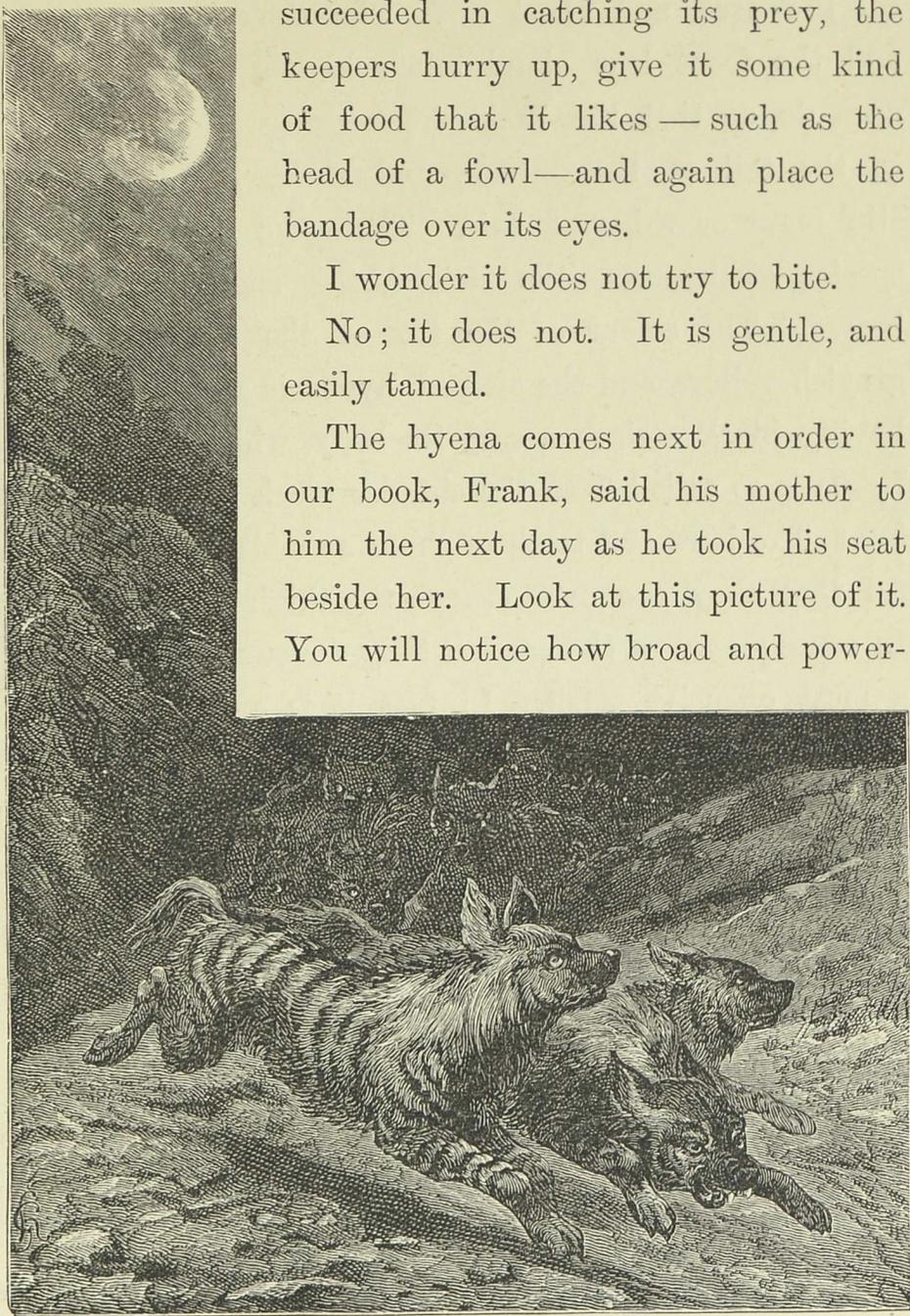
The natives of India use it for hunting antelopes. When taken out for this purpose, a bandage is put over its eyes, and it is brought to the hunting-ground in a native carriage. The keepers take off the bandage when a herd of antelopes comes in sight, and the cheetah is allowed to slip gently away; but as soon as it has

succeeded in catching its prey, the keepers hurry up, give it some kind of food that it likes — such as the head of a fowl—and again place the bandage over its eyes.

I wonder it does not try to bite.

No; it does not. It is gentle, and easily tamed.

The hyena comes next in order in our book, Frank, said his mother to him the next day as he took his seat beside her. Look at this picture of it. You will notice how broad and power-



HYENAS.

ful the neck and chest are. The shoulders, you see, and the front legs stand much higher than the hind ones do, so that the back slopes down from the head to the tail of the animal, and along the neck is a stiff mane or ridge of hair. There are three different species of hyena — the striped, the spotted, and the brown. The colour of the fur of the first two is a grayish yellow, and the striped hyena is so named from having black stripes across its body, while the spotted hyena is so called from the circular black marks on the fur. The jaws and teeth of these animals are so powerful that they can even crunch the thigh-bone of an ox. In consequence of the carrion they devour they have all a most offensive smell. In fact it is a most hideous, loathsome animal, without anything attractive or beautiful about it. Even the eyes are of a dull ugly gray colour.

What is carrion, mamma ?

Dead flesh. The different species of hyenas are to be found in many parts of Asia and all over Africa; and in the latter continent especially, in which all kinds of game abound, and also where the natives carry on perpetual war with each other, you can understand that the surface of the ground is constantly covered with dead bodies. These the hyena devours, and thus prevents the air from becoming corrupt, which it otherwise

would do. Corrupt, bad air, you know, invariably produces sickness; and thus the very loathsomeness of the hyena's habits makes it of use. See what strong, broad claws it has, for digging up the ground when it is in search of bodies buried in the earth. Can you remember how many toes the animals of the Cat tribe have on their feet?

Yes; I think they have five toes on the front feet, and four on the back.

Quite right. The hyena has only four toes on all the feet.

Then does it not belong to the Cat tribe, mamma?

No; it is a curious mixture of many species of animals. It has the rough tongue of the cats; but its claws are not retractile like theirs, and are in shape like those of the dog; and like dogs, too, it hunts in packs, whereas the animals of the Cat tribe always go alone or in pairs.

I think I have heard of it, mamma. Does it not laugh like a human being instead of barking?

Yes; it makes a noise very like a human laugh. A gentleman—the Governor of Cape Coast Castle, indeed, to whom the leopard Sai belonged—was disturbed one night by some negresses, as he supposed, laughing at his door. He spoke to them about it, but the next night the same noise was heard again. Once more he com-

plained, and was assured they were not to blame. Again the third night the noise was repeated, and on opening his door he found three hyenas outside! It is the spotted or tiger wolf that laughs in this way. This animal is chiefly found in the southern part of Africa, where it does much mischief to the farmers by killing or injuring their sheep and cattle. It seldom comes out during the day; but as night approaches its dismal howlings are heard, warning the terrified animals that night is its time for committing its ravages. It is of such a cowardly nature that it will only attack those that offer no resistance, and thus the weak and sickly among the flocks and herds often escape; for as they cannot avoid it, they turn round and face the monster, which immediately retreats to chase those that are able to fly. Their favourite food is, however, human flesh; and nothing seems to deter them in their quest for it. Most wild animals are afraid of fires, but not so this creature. I have read of it that it will even enter the huts of the natives in the dead of night, and passing by the calves that are tethered at the door, will steal away the children from below their sleeping mothers' cloaks. And this they do so gently and quietly that the poor parent does not know of her loss till she is awakened by the cries of her baby outside.

What a horrible animal, mamma!

It is, indeed. The striped hyena is found chiefly in Asia and the northern parts of Africa.

Mr. Bruce, a very famous African traveller, writes that in Abyssinia they were more numerous than the sheep. From evening till dawn of day the town of Gondar was full of them searching for scraps of meat. Many a time when kept late in the palace, going across the square from the king's house, he was followed by them. They grunted in great numbers around him, although he was surrounded by several armed men, who seldom passed a night without wounding and killing some. One night Mr. Bruce went out of his tent for a few minutes, and on returning saw two blue eyes glaring at him in the dark. He called his servant to bring a light, and they found a hyena standing near the head of the bed, with two or three large bunches of candles in its mouth. It did not seem to wish for any other prey. Mr. Bruce pierced the creature with a pike, and then shot it with a pistol, and with the help of his servant succeeded in killing it. He adds, "The hyenas are the plague of our lives, the terror of our midnight walks, and the destruction of our mules and asses."

Major Denham, who also travelled through the same country, described the hyenas as being everywhere in legions. They were so ravenous that a good large village where he sometimes got a few provisions was

attacked by these creatures, and two donkeys, whose flesh hyenas are particularly fond of, were carried off in spite of the efforts of the people.

But, mamma, I thought you said that hyenas were very cowardly animals.

As far as I can understand the books I have read on the subject, I should imagine that they are only courageous when assembled together in great numbers, or when they find it impossible to escape from their enemy. In some parts of South Africa it is domesticated and used for the chase. Colonel Sykes brought a young one home from India, which had become as tame and playful as a puppy. He gave it to the Zoological Gardens in London, and whenever he went to see it the creature seemed much delighted. On one occasion it was asleep when he approached the bars. He called it by name. It looked up, and distinguished him in the crowd. It then rushed towards him, threw itself against the bars, rubbed itself against his hand, and bounded about the cage, uttering short cries; and when he went away it looked wistfully after him.

Then, mamma, I suppose all animals can be tamed?

Most of them can be, if treated kindly; at least, as I explained to you before when we were speaking about lions, they become attached to the person who has had charge of them, but that is all.

The aard-wolf or protetes is an animal in many respects like the hyena. It is not so large, and the head is not of the same shape, but the colour of the fur is the same yellowish gray, with black stripes.

It is a native of South Africa. It makes a deep burrow, at the bottom of which it sleeps during the day, and comes out at night. Several aard-wolves live together in one burrow, which has three or four different entrances. This animal, in many respects like the hyena, also closely resembles the civets, which is the next order we come to.

Civet! I never heard that name before, mamma.

I daresay not. There are a great many different animals all like each other in the shape of their long bodies, almost like worms, with short little feet. These creatures are either civets, genets, or ichneumons. They are ferocious and savage: they all eat flesh, and creep about at night in search of their prey. They have most of them very beautiful fur, with tails very like those of the cat, only much greater in length. The civet itself is a native of North Africa; but other animals that belong to the same tribe, such as the tangalung and the delundung, are found in Java and other Asiatic islands. Their claws are sharp and curved like those of the cat; but, unlike hers, they are only slightly retractile.

The genets are another class of animals in many

respects very like the civets, but more beautiful and graceful. They have the same long body and long head and pointed nose, but their claws are thoroughly retractile; and when angry they make the same hissing noise that a cat does, and are, like her, very agile climbers. They are found in most of the warmer parts of the world. The common or blotched genet (so called from the markings on its fur) is often seen in the south of France.

There are many animals whose names you could not remember that belong to the ichneumon tribe. They are found all over Asia and Africa, and many of them are of great use in destroying snakes, as well as rats, frogs, and lizards.

I do not understand, mamma, how they can escape from the bite of the snake, unless they are very large animals.

Indeed they are not. The civet is about the size of a fox terrier, and the mongoos or Indian ichneumon is not much bigger than a rat. It is, however, so quick in its movements that it is able to avoid the snake and spring upon its back. It is a remarkably cleanly animal, and is kept in many Indian houses, just as we keep cats, on account of its usefulness in destroying vermin.

It is not so large as the common or Egyptian ichneu-

mon. This latter is of great use, as it devours vast numbers of the eggs of the crocodile. It was one of the many animals to whom the ancient Egyptians paid divine honours on account of its services in destroying all kinds of reptiles and vermin.

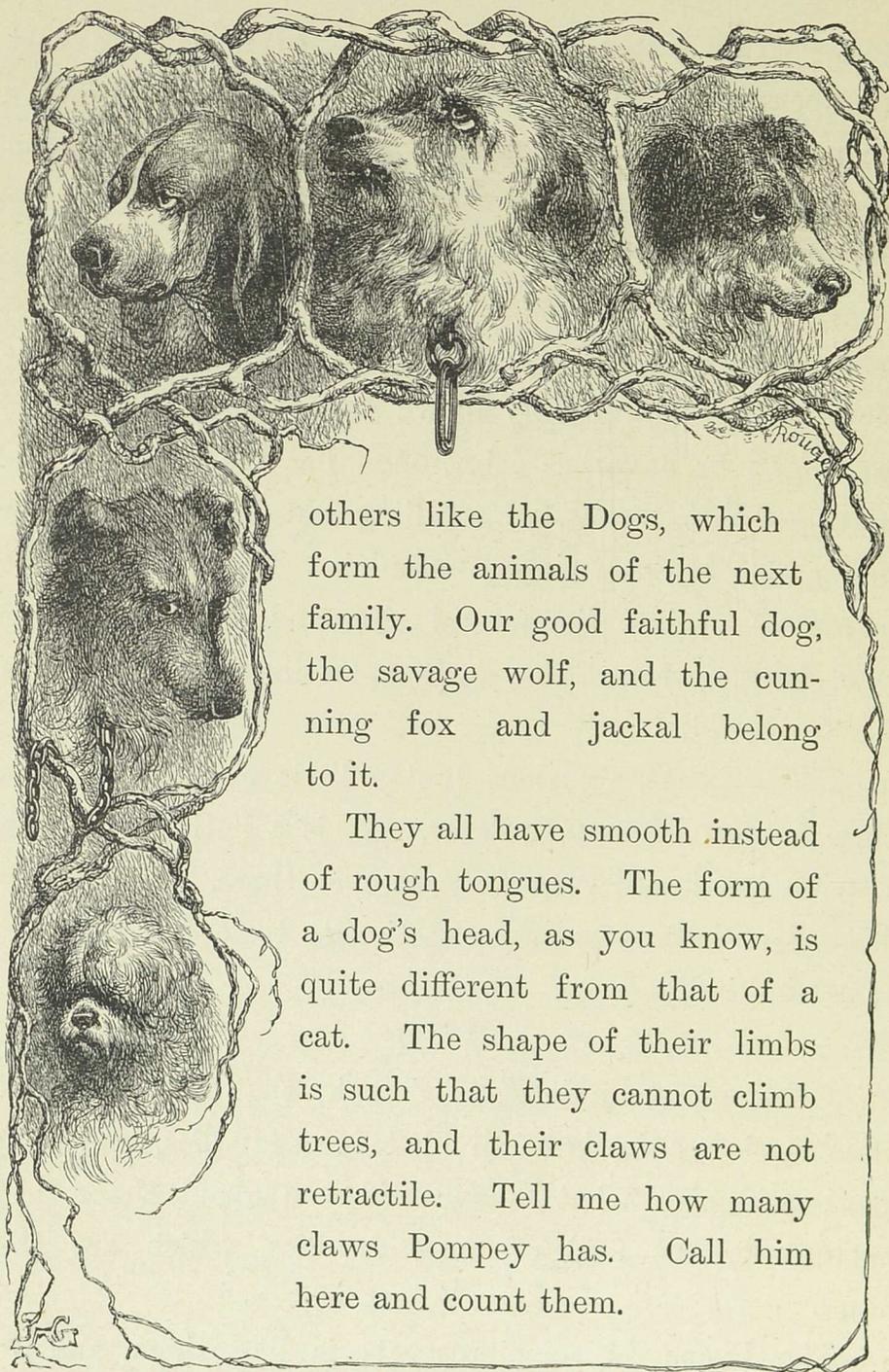
You know that snakes generally twist themselves round the body of any animal they have attacked before giving their deadly blow; and it is said that the *garangau* or Javanese *ichneumon* has the power of inflating—that means, of swelling out—its body when the snake begins twisting round it. Then suddenly it draws itself into its natural size, and slipping out of the folds of the snake, darts upon its back and gives its deadly bite.

The suricate, a curious pretty little creature, belongs also to the *ichneumon* tribe. It is a native of South Africa, but is not very common even there. It is easily tamed, and becomes very affectionate towards those that treat it kindly.

DOGS.

I hope you understand, Frank, that the order of flesh-eating animals is divided into families, and that you remember what I have told you about those that belong to the first of these families, which are the cats.

The hyena in some respects is like them, and in



others like the Dogs, which form the animals of the next family. Our good faithful dog, the savage wolf, and the cunning fox and jackal belong to it.

They all have smooth instead of rough tongues. The form of a dog's head, as you know, is quite different from that of a cat. The shape of their limbs is such that they cannot climb trees, and their claws are not retractile. Tell me how many claws Pompey has. Call him here and count them.

He has five, mamma, but one is behind. And they are not so sharp and curved as pussy's.

Quite right; but though there are these differences, all dogs are flesh-eating animals.

How many different kinds of dogs are there, mamma?

I believe more than forty animals that you would call dogs. But, besides these, there are the wolf and the fox. Some persons who know about these things say that every different kind of dog is descended from the wolf. Others, again, say they are descended from the fox.

I do not understand you, mamma.

I must try to explain myself. A large mastiff or bloodhound may seem to you as unlike a Blenheim spaniel as a tiger is unlike pussy. You know that the tiger never becomes small, nor does pussy ever become large. They are quite different animals, although in her shape and habits, and in almost every way, pussy is a small tiger. But it has been found that if dogs of different kinds are allowed to become wild, and mix with each other, they gradually become more and more like. All that is different in them disappears. The spaniel or terrier becomes large, and the Newfoundland and mastiff grow small. Then, again, none of the animals of the Cat family, except pussy herself, can live anywhere except in very hot countries. Lions and

tigers would be killed by the cold of a winter in Scotland; but the dog can go everywhere. It is this that makes him of so much use; for wherever a man can go, there his dog can follow him. The animal's hair becomes thick and shaggy in cold countries, and thin and fine in hot ones, so as to enable it to live with its master. The Eskimo, who lives near the North Pole, has his own particular kind of dog; and though he treats it cruelly, the faithful beast draws his sledge over ice and snow for him. It is a wolfish, savage creature, and the stronger ones often kill and eat those that are weaker. The hair is long and coarse, beneath which in winter other thick woolly hair grows, and protects the animal from the intense cold. In summer this under hair falls off.

Are there any wild dogs, mamma?

There is one in Australia, called the dingo. Though the puppies can be tamed, it is quite a wild animal, and does much harm to the sheep there. It is very like a wolf, and has a most wonderful power of bearing pain. A farmer thought he had killed one, and began skinning it. He left the hut to sharpen his knife, and on returning found the poor animal sitting up, with the loose skin hanging about its face. We do not know when or how the dingo was taken to Australia, but it is now believed that that country was not its first home.

Then there are two kinds of wild dogs in India. One of them, the dhole, is very handsome, of a rich brown colour, with the sharp nose and ears that all wild dogs have. It hunts in packs, and is so courageous that it even chases and kills the tiger. Unlike other dogs, it generally makes no noise when hunting.

The other wild Indian dog is the buansah, or wild dog of Nepaul. It too hunts in packs, and like the dhole tries to escape from man, and hides itself in the thick forests of that country. It can be tamed if taken as a puppy, and made useful in hunting.

There is a very curious animal in South Africa, called sometimes the hunting-dog, and sometimes the hyena-dog. It has not the strange sloping back or mane of the hyena, but, like it, has only four toes. It has very large open ears, which are lined with long white hair. It is very savage, and, like all dogs, hunts in packs.

Numbers of fierce dogs are to be found in Constantinople and the large towns of Asia; but they are dogs which have no master or home, and are most useful in devouring the refuse in the streets. They keep to their own streets, and if by chance one strays away from his own particular part of the town, he is at once attacked and eaten by the dogs whose quarter he has invaded. They are dangerous for men too. If a person

angers them, he can save himself only by walking backwards and throwing stones, and as soon as possible getting into a house. But these are what are called curs. They are not any distinct species of dog.

Some of the greyhounds are quite as savage. Indeed it is said that the Persian greyhounds, when out hunting, will turn round and eat their master if they have not been successful in getting a stag.

The bloodhound is another very formidable animal. It is large and powerful, of a blackish tan or deep fawn colour, and is now very rare. Not long ago it was used in this country to catch sheep-stealers. It has a wonderful power of scent, as it is called, and can always track the same man's footsteps among many others. You remember Robert the Bruce was pursued by one. How did he escape ?

By wading up a river for a long distance.

True ; by doing this he threw the dog off its scent.

The bull-dog is another of the savage kinds of dog ; but you have so often seen one that I need not describe it. Very different from these creatures are the noble St. Bernard dogs.

I have heard of them, mamma. They save people in snow-storms.

Yes ; when a storm comes on, their masters, who live in a place called the Monastery of Mount St. Bernard,

send them out to search for any poor traveller who may have been overtaken by it. If a dog finds any such unfortunate person, it gives a deep loud bay, and tries to clear away the snow. When the monks hear the voice of their dog they set off to help him, and often succeed in saving the life of the poor wayfarer.

Which of all the different kinds of dogs do you think is the cleverest and most useful, mamma?

That is a difficult question to answer, but I think, upon the whole, the sheep-dog is. I mean both the English sheep-dog and the Scotch collie. The help they give the shepherds in managing their flocks is wonderful. One of them, called "Sirrah," has become quite famous for his sagacity. Seven hundred lambs belonging to his master strayed away one dark night in three different directions. Sirrah's master and another man searched for them everywhere, but in vain, and they were returning sadly home about daybreak. On their way they came to a glen, and in it they found the clever Sirrah, and all the seven hundred lambs! How he had collected them all in the dark his master never could understand; but there they were, and Sirrah watching them.

In a very charming book by Mr. St. John, called "Wild Sports," I have read a story about another very clever shepherd's dog. I have not the book, but think I can remember it.

It was the duty of this dog to watch his master's fields, and prevent cattle of any kind from straying upon them. One evening his master, who was a shepherd, wished to prove to a gentleman who was with him that his dog could understand what he said, even when he was not giving it any order. So he remarked, "I'm thinking, sir, the cow is in the potatoes." Though he said this quite quietly, the dog, which was sleeping in front of the kitchen fire, immediately jumped up and went off to the byre to see that the cow was safely there, and finding all was right, came and lay down again. A second time the shepherd said the same words, and again the dog jumped up and looked for the cow, and again came back to his old place by the fire. But when the shepherd said it the third time he merely wagged his tail, and looked up in his master's face, as if to remonstrate with him for saying what was not true.

I have also read in a great many books a story of another dog. Its master, wishing to find out how far it could follow him by the sense of smell, walked a considerable distance along a straight road, at the end of which were three other roads. Along one of these he walked. Some little time after the man had set off, a friend to whom he had given his dog in charge set free the animal. Immediately it followed the footsteps of

its master, snuffing the ground as it went. When the animal came to the three roads, it was noticed that after snuffing at two of them it ran swiftly along the third without snuffing at it, as if satisfied that as his master had not gone by the two others he must have gone by the third; which shows that it was able to reason.

Is that story true, mamma?

I do not know. I have read it, however, in many different accounts of dogs. But the story I am going to tell you is perfectly true. When I lived in the north of Scotland, many years ago, I had a small gray Skye terrier. One of her puppies I gave to a Mr. G——, a neighbouring farmer. The puppy was a very ugly little thing, but grew up to be a very affectionate, sagacious animal, and was a great pet with the children of the family. One morning Mr. G——, followed by the dog, drove off in his gig to superintend some labourers in a distant field. The morning was wet, and he had on his greatcoat. But in the course of an hour the rain ceased, and the heat became very great. Mr. G—— felt it so oppressive that he took off his coat, and flinging it on the grass, told his dog to watch beside it. It was late at night before the farmer got home. He was hot and tired, and had forgotten all about his coat and the dog. His children were in bed. The next morning they asked, "Where is Rover?" but no Rover was to be

seen. But on one of them saying, "Father, you took him with you yesterday," Mr. G—— remembered, and mentioned that he had told the dog to watch his coat. Immediately the eldest boy set off for the field, and found poor Rover where his master had left him, lying on the coat. Hungry as he was, the faithful beast had never quitted it though he knew the way home perfectly well.

Another very clever kind of dog, the turn-spit, is a short-legged, long-bodied little thing, and was at one time used in England, and, I believe, still is in France, to turn roasts of meat before the fire in country inns.

Here are two stories you can read about them.

"A gentleman, coming to a roadside inn in France, ordered a roast fowl. It was put down to the fire on the spit, but nothing could make the dog, whose duty it was, turn the wheel. The gentleman pitied him, but the landlord said sharply, 'He deserves none of your pity. Do you know why he refuses to turn the spit? He thinks that he and another dog ought to share alike, and that it is the other dog's turn.' The guest begged that this other dog might be sent for, and he at once performed the task. After a little while he was taken out, and the first dog put in, who now worked with a good will, as he felt he had been fairly treated."

"Two other turn-spit dogs worked a wheel on differ-

ent days. One of them hid himself, and the other was being put in his place. He barked, and wagged his tail, as a sign for the cook to follow, went to the garret, and pulled out the truant."

What kind of a dog is Pompey, mamma? Do you remember his finding your glove?

He is a retriever; a very sagacious kind of dog, which is trained to fetch and carry game for its master when he is out shooting.

We must not forget the Newfoundland, of which there are two different kinds, and both of them most useful to their masters in the bleak countries of Nova Scotia and Newfoundland.

In what way are they of use, mamma?

Labrador, the native place of these dogs, is, as you know, situated in the very north of North America. It has a long extent of sea coast facing the north, and the climate is very severe and cold. There these poor dogs are employed by their masters as beasts of burden, instead of being kept as the friends and companions of their masters. They have to draw large carts, which are often far too heavily laden for their strength. The little food they get consists chiefly of bad fish. The smaller Newfoundland dog is sometimes called the Labrador dog.

The large Newfoundland is the one most seen here.

farm with a pair of oxen. It was in the evening, and the road a dreary one; but the child was fearless. He was trudging on, singing cheerfully as he walked, when a sound came on the night air that made him shiver. It was the cry of the wolves. At first he hoped he was not the object of their pursuit; but the hideous noise came nearer and nearer, and then he knew he must at once form some plan of escape. In this extremity he lifted up his brave young heart to God, and resolved to use the only chance left him. He mounted Buck, the near ox, making use of his goad, shouting at the same time to the animal to urge him on. In most cases the horned steed would have flung off his rider, and left him for wolves' meat; but now he set off with the speed of a race-horse, well knowing the danger. And the other ox was as swift. Fast, however, as they fled, still faster came on the yelling pack behind. James shouted to keep them off, the oxen almost flying, with their chains rattling as they went. This clanking sound saved them; for the wolves, being unaccustomed to it, paused whenever they came close to the oxen, whilst the latter redoubled their speed, and leaving the enemy behind, never stopped till they brought their brave little master safe home. The child had felt afraid but once, and that was when those dismal yells first broke upon his ear; but he never lost his presence of mind. He

trusted in God, and used the means within his reach for preservation, and arrived safe at last."

That is a very nice story, mamma.

It is indeed. But wolves are not always so terrible. In North America, where there are immense herds of bison and deer, they follow the prairie-hunters, who always kill more game than they can use; and these ravenous creatures devour what the men leave, and soon learn that it is from the hunters they get their supplies of food, and that it is wisdom on their part to leave them uninjured.

Mr. Catlin, a famous traveller in North America, was for days followed by a pack of wolves which never hurt either him or his horse, but, waiting round his encampment every night, were satisfied with the food which he gave them. A Mr. Ryan, too, was attended by a large gray wolf, which became quite tame in the course of a few days. The wolf is capable too of great affection. A young one was given to M. Cuvier, a French gentleman, and became as fond of him and as obedient as if it were a dog. Its master, being obliged to leave home, placed it in the Jardin des Plantes in Paris, which is the same as our Zoological Gardens. For some time the wolf was very sad, but at last made friends with the keepers. M. Cuvier came back in eighteen months. The wolf knew him at once, and tried in every way to

show its love for him. Again its master left it, and again it pined for some time, and then consoled itself with a little dog, of which it was very fond. At the end of three years M. Cuvier returned. Even then the wolf knew him, rushed to him, put its paws on his shoulders, licked his face, and threatened to bite the keepers when they tried to take it away. For the third time M. Cuvier left Paris. The poor animal pined so long and so sadly that it was feared it would die. It did recover; but it had lost its affectionate disposition, and became a common wild wolf.

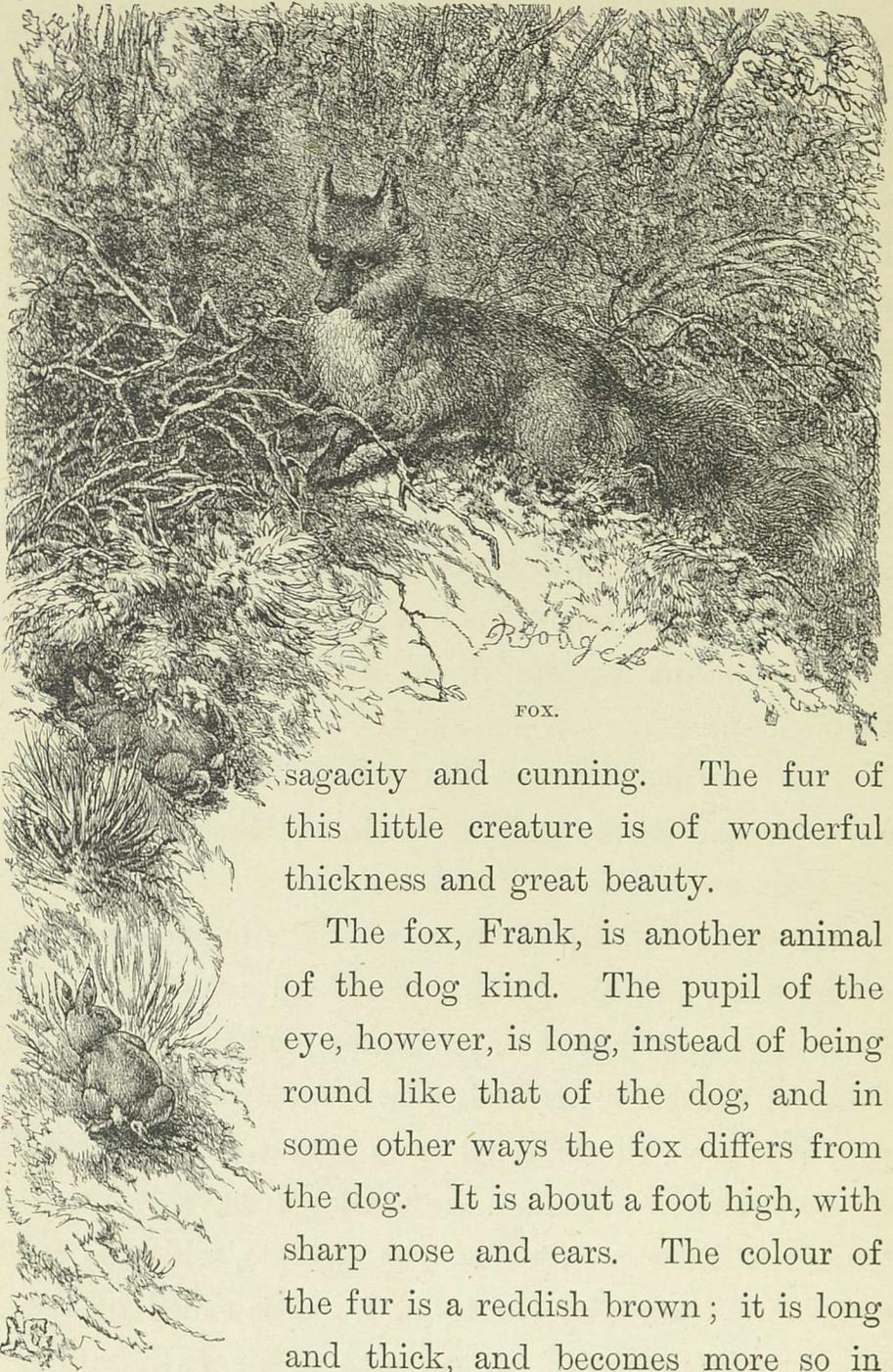
The American wolf is extremely cunning in its method of hunting deer. These latter animals run with such swiftness that the wolf cannot overtake them, and therefore has recourse to stratagem. Whilst the deer are quietly grazing, the wolves assemble in great numbers, and creep slowly towards the herd. Then, when they have entirely surrounded the unsuspecting creatures, they rush upon them, and either enclose them so that they cannot escape, or else drive them towards a precipice, over which the poor deer gallop in terror, and are dashed to pieces. The wolves then descend at leisure and devour their prey.

Sir John Franklin, a very famous explorer of the countries around the North Pole, and who with his crew perished there some years ago, mentions in one of his

books that though the wolves in that part of the world frequently carried off their dogs in the very presence of the men, they never attacked the sailors themselves. On one occasion when his crew had captured a moose deer, and had buried a part of the body, the wolves absolutely dug it out from their very feet and devoured it while the weary men were sleeping. Another time when they had killed a deer, they saw by the flashes of the aurora borealis eight wolves waiting to be fed. Sometimes, however, the wolves helped them to get food; for when the adventurers saw a party of them and of crows assembled, they knew these creatures must be busy with the carcass of an animal, and sometimes succeeded in getting a portion.

It is very curious that the wolves in America should be so submissive to man, as certainly those in Europe and Asia are not so.

Vast herds of buffaloes roam over the boundless plains of America, and though wolves of all colours—brown, black, and gray—prowl round them, it has been noticed that the white wolf is their constant attendant. Whenever it is seen, the hunter knows that a buffalo herd is close at hand. Besides these that I have mentioned there is a little wolf called the cayeute, which is held in great reverence by the Indians, and is called by them “the medicine wolf,” on account of its extraordinary



sagacity and cunning. The fur of this little creature is of wonderful thickness and great beauty.

The fox, Frank, is another animal of the dog kind. The pupil of the eye, however, is long, instead of being round like that of the dog, and in some other ways the fox differs from the dog. It is about a foot high, with sharp nose and ears. The colour of the fur is a reddish brown; it is long and thick, and becomes more so in

winter. The tip of the tail is white. The tail of this animal is called "the brush." The fox is still hunted in this country, and the brush is given to the person who is first in at the death of the poor creature. Unlike other animals of the Dog family, it lives alone, and makes long winding burrows in the ground with its sharp claws. These burrows are called "earths."

Our fox is a terrible enemy to all poultry-yards, and is the most cunning of all animals. It knows that when being hunted the dogs track it by its very strong smell, and it in every way tries to prevent their scenting it. A fox I read about had been hunted over and over again, but always escaped at an old fence, and where it went to no one could tell. This happened so often that the country people became afraid, and said it was a weir or magic fox. One of the hunters determined to find out the secret, so he hid himself one hunting-day near the fence. Up came the fox as usual, leaving the dogs far behind. He scrambled on to the fence, walked along it for two hundred yards, then bounded on to a knot of an old withered tree that stood about sixteen yards from the fence. He ran up the trunk of the tree, and hid himself in a hole at the top. And so you understand the scent was lost. The gentleman thought him so clever that he kept the poor fox's secret. Another, a tame fox that lived in a farm-house, made use of its

scent to get for itself the poor cat's milk. He walked round about the saucer it was poured into, and so tainted it that pussy would not touch it. Another fox saved itself most cleverly. A labourer, intending to kill it, went down by means of a ladder into the pit in which it was caught. As he put his foot on the ground, the fox leaped on his back, then to his shoulder, and from thence to the edge of the pit, and so escaped.

The fox, however, is prudent and brave as well as cunning. If able to carry off more game and poultry than it requires at one time, it does not waste the good food, but conceals it in several hiding-places, so that it may still have a supply, even though one of its hoards should be discovered. There are few animals so capable of enduring pain. A fox, one of whose front legs had been shot by a rifle bullet, was seen to turn angrily round and bite off the dangling limb, and run off on the other three. Another that had met with the same misfortune, finding that it could not escape from a pack of hounds by flight, turned boldly round and leaped over the backs of the dogs in pursuit. But at last the poor thing was wearied out and killed.

Fox-hunting must be horribly cruel, mamma ?

I think it is, my dear. Foxes, like other destructive animals, must be destroyed ; but this should be done as mercifully and quickly as possible. We are not entitled

to amuse ourselves with the sufferings and death of any animal.

Foxes slightly differing from each other in colour though alike in their nature and habits, are to be found all over the world. A very beautiful species, called either the black or the silver fox, is a native of North America.

How can it be both black and silver, mamma ?

Because the long, glossy black hairs of the animal are tipped with white, and give it a very beautiful appearance.

The Arctic fox, however, differs from the others in many ways. Its name tells you that it lives in the countries near the North Pole. It is a much smaller animal than our English fox, and does not, like it, live in a solitary "earth" by itself, but forms burrows on the sea-shore, where twenty or thirty of them reside, each in its separate little dwelling, so as to make a village. In winter they go south in search of food. They are not so cunning as our red fox, and can easily be entrapped, and also tamed; but they never become affectionate. Like all their race, the noise they make is a yelp rather than a bark; but the Arctic fox has the power of imitating different kinds of birds, so as to decoy them within its reach.

Its tail is very long and full, and serves as a covering for the nose and feet when the animal is asleep. The soles of their feet are covered with fur, to save

them from the cold, and to enable them to walk on the slippery ice. The colour of the fur, too, is of a dull, bluish gray, which in winter becomes white. Can you think why this should be, Frank ?

No, mamma.

To enable it to escape by hiding from its enemies the



JACKALS.

white bear and the wolf, which it can more easily do when the colour of the fur is like snow.

The jackal is an animal very like the fox in appear-

ance. It has, too, the same offensive smell; but, unlike the fox, it hunts in packs. It is found only in Asia and Africa.

I have heard Aunt Jane talk of jackals, and how in India she used to be disturbed by the noise they made at night.

The fennec is another and much prettier little animal belonging to the Dog tribe. It is a native of the sandy districts of Northern Africa, where it lives in little burrows that it digs for itself. A tame one that belonged to Mr. Bruce was fond of dates or anything sweet. A cat was its aversion, and it always tried to hide itself if one of these animals appeared, and never tried to bite or defend itself. The colour of its full, silky fur is a pale yellow.

BEARS.

You said, Frank, that among the animals at the menagerie were a white and a brown bear.

Yes, mamma, there were.

And what did you notice about them?

I saw that neither of the bears had any tail, and that the fur of both seemed tremendously thick. Their feet were very large and broad, and the claws terribly long and sharp.

I am glad to find you noticed so much. The foot of

the bear is, as you say, very large and broad. That of the white bear is actually one-sixth the length of the animal's whole body. They are plantigrade animals; which means that they put down their whole foot flat on the ground. In consequence of this they are able to stand upon their hind legs when about to attack an enemy.

But how is that an advantage, mamma?

Because they thus have their arms free to strike with. One blow of their paw is sufficient to strike a man down, and with their sharp claws they inflict dreadful wounds.

They must be very savage animals, mamma.

Some of them are. The white bear is very fierce. But the grisly bear is the most ferocious of them all. It lives, I think you know, in the Rocky Mountains of North America. The hunters there have often tried to tame the cubs, but in vain. Like other savage animals, however, it generally retreats before man, if boldly faced. A Mr. Drummond, a traveller in those countries, had frequent opportunities of observing the habits of these terrible animals. He says that it often happened that on turning the point of a rock he came suddenly upon one of them. On such occasions they reared on their hind legs, and made a loud noise like a person breathing quick, but much harsher. He kept his ground, without attempting to molest them; and they on their part, after

examining him attentively for some time, wheeled round and galloped off. There is little doubt that he would have been torn in pieces by them had he lost his presence of mind and attempted to fly. When he saw them at a distance, he generally frightened them away by beating on a large tin box in which he carried his plants. The cubs of the grisly bear can climb trees. Fortunately the old ones cannot.

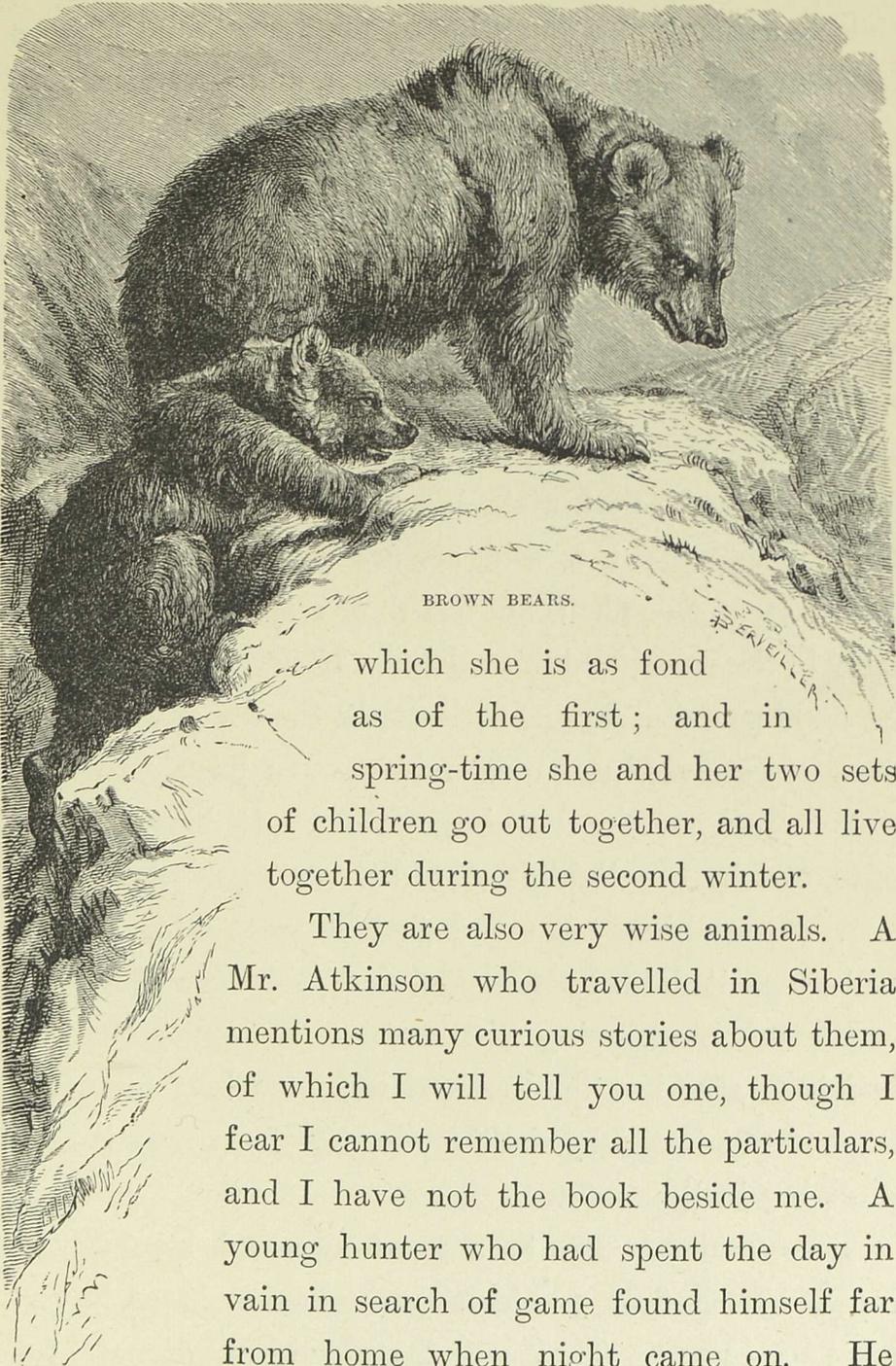
Why is that, mamma? Are they too heavy?

I believe they are, and also the shape of their claws prevents them. These terrible claws are five inches long; as long as this knitting-needle I hold in my hand. They use them not only to tear flesh with, but also to dig up roots and plants; for like all bears they are very fond of vegetable food. Fortunately they are very inquisitive animals, and stories are told of hunters saving themselves when pursued by throwing a piece of meat, or indeed anything, on the ground, and the bear stops to examine it, and thus gives the man time to escape. This creature has a tail, but it is so short and so concealed in the fur that I do not wonder you thought it had none.

The black bear of America is naturally quiet and inoffensive. It becomes, however, fierce and dangerous if attacked or if very hungry, for then it will devour anything it can seize. Its favourite food is fruit and

vegetables, and the small snails found in the prairies; but above all it is fond of honey. In spite of its awkward, clumsy figure, there are few trees it cannot climb to get at this latter dainty; and should the comb be concealed in the trunk, it will gnaw through the wood to obtain it, and swallow bees, honey, and all. It is very fond of corn, too, and does great mischief among the American farms. Sitting down on its haunches, it will take an entire sheaf of corn between its front legs and devour the grain. In this way it sometimes destroys a whole field of ripe grain. It is now a very scarce animal, however, as the American hunters pursue it for the sake of its beautiful black fur.

The brown bear of Northern Europe is not so handsome as the black one of America, but is like it in many ways. Though more destructive to cattle, it has the same taste for fruit and honey. In autumn it becomes extremely fat, and makes a house in some cave, the floor of which it lines with dry leaves and small twigs. Here it remains from October till April, in a dull, stupid state, and is found to be nearly as fat at the end of its long fast as at the beginning. The little bears are born at this time. During the summer and autumn months the mother takes the greatest care of them; but as winter comes on, she prepares a separate house for them from her own. Again another little family arrives, of



BROWN BEARS.

which she is as fond as of the first; and in spring-time she and her two sets of children go out together, and all live together during the second winter.

They are also very wise animals. A Mr. Atkinson who travelled in Siberia mentions many curious stories about them, of which I will tell you one, though I fear I cannot remember all the particulars, and I have not the book beside me. A young hunter who had spent the day in vain in search of game found himself far from home when night came on. He

collected therefore a quantity of pine-wood, and made a large fire by the banks of a stream, and determined to pass the night there.

The fire, I suppose, mamma, was to keep away wild animals?

Yes, and also for warmth, for the cold in Siberia is very great. He took, besides, the precaution to place a heap of fir branches beside him, so that he could renew the fire if it went out at night. After sleeping some hours he awoke with a start. It was a very dark night. He was astonished to find his fire nearly out and himself very wet. Then he heard the splash of a heavy body in the river; and immediately afterwards he thought he could perceive, by the feeble light the fire gave, a large dark object moving towards him. He hastily threw a pine branch on the burning embers. It blazed up at once, and by the light it gave he saw distinctly a huge bear approaching. He had just time to seize his gun and shoot it dead. On examining it he found the fur of the animal dripping with water. Evidently the bear had been afraid of the fire, and was sagacious enough to try and put it out by shaking its huge body near it after plunging in the water.

These animals live to a great age, and become very large. Their flesh, particularly the legs or hams, is very good for eating. They are playful and affectionate, full

of fun, and easily tamed. Pretty stories are told of their love towards their masters and towards each other.

The bear you read of in the Bible is the Syrian bear, the fur of which is much lighter in colour. Though when hungry it eats flesh, it prefers fruits and vegetables.

Bears are found all over the world, except in Australia; and in Africa they are rare. We read of their being in Britain when the Romans conquered it.

A curious species, the sun-bear, a native of Sumatra and Borneo, is remarkable for the great length of its tongue, which it uses to get honey out of cracks in trees. It is so gentle that one was kept by a gentleman in his nursery as a pet for his children, and was often allowed to sit at table with its master.

The aswail or sloth-bear is a native of India, and, as you may guess from its name, is a very lazy animal. The soles of its feet are so sensitive that it remains quietly in its cave during the heat of the day, when the surface of the ground is scorched with the rays of the sun.

The feet of the polar bear are protected from the intense cold of the regions it lives in by being covered with fur. The fur of this animal is a yellowish white. It has a long neck and small flat head, with bright black eyes, and very black claws. It is a very savage animal, and lives entirely upon flesh. A dead whale is its

greatest dainty ; and as it is a powerful swimmer, it pursues the seal and walrus even in the water. In winter the female bear makes a home in some sheltered cave, which is soon covered as well as kept warm by the terrible snow-drifts that occur there. At this time her cubs are born, and remain with their mother till winter has passed away. The affection of the mother for her young is very great. There is a story of one that, along with her two cubs, was attacked by sailors. At first she went in front of her little ones, and constantly turning round, urged them to follow ; but finding they were being overtaken, she placed herself between them and the men. Sometimes she pushed them on in front ; then she took them in her mouth, and threw them a considerable distance before her. The little creatures understood her wishes, and when thrown, ran on in front till she came up. At last they all escaped.

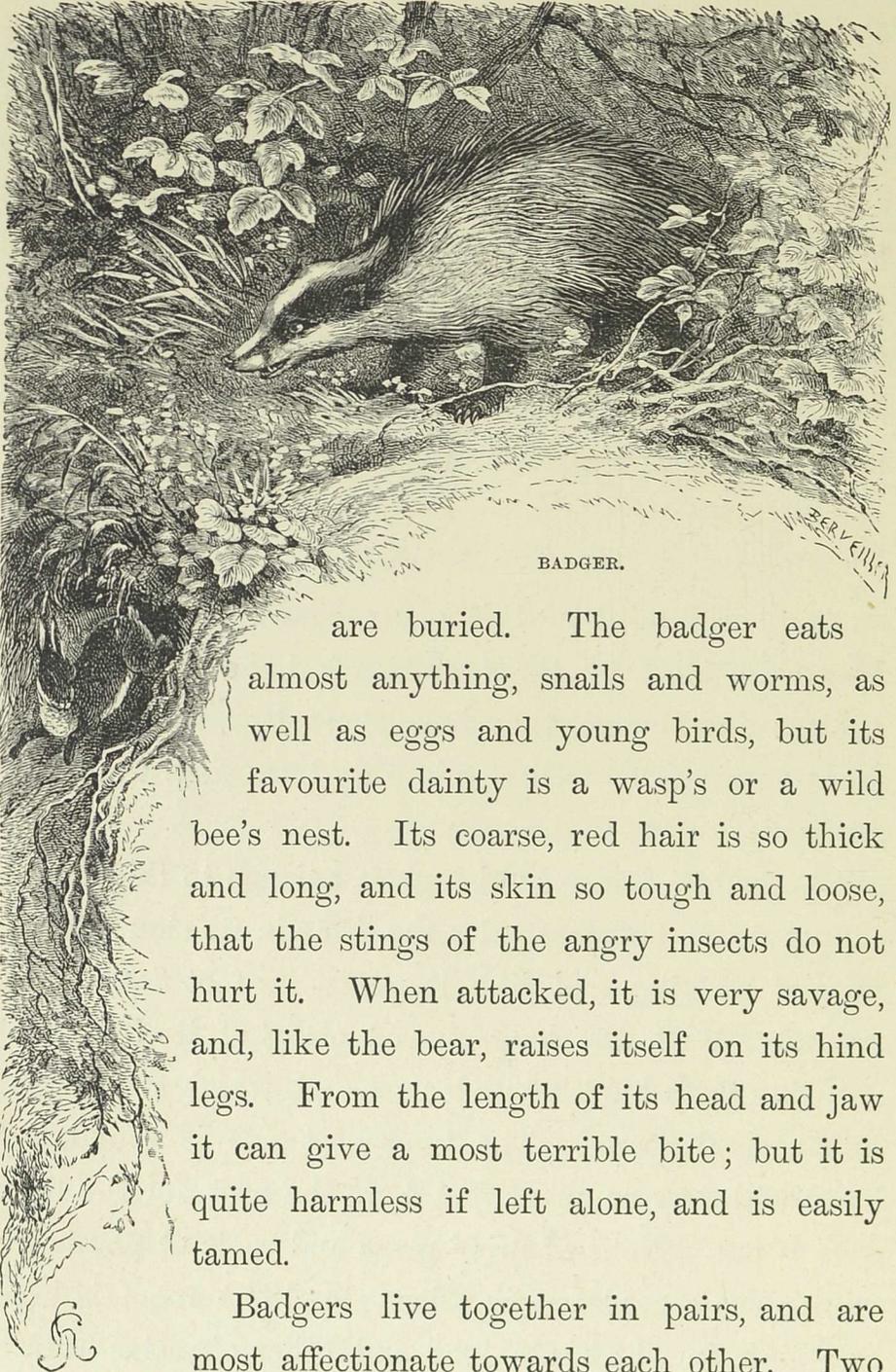
There are several other animals which are placed in the same family as the bears, though in many ways they differ from them. The two principal are the racoon and the coatimondi. The former is found only in North America. It is about the size of a fox, with the same sharp nose and bushy tail, which, instead of a white tip, has alternate rings of black and white. It eats all kinds of food, and prowls about at night in search of prey. It is a playful animal, and easily tamed.

The coatimondi is a native of South America. Being an expert climber, several of these creatures live together in little companies amongst the trees. The fur is coarse and of a reddish colour, the tail long and bushy. It prefers animal food to all others, and is a merciless robber of birds' nests. With its long snout it turns up the earth for worms and insects, which it also devours. It is, too, a nocturnal enemy. Though easily tamed, it has a capricious temper, and is not to be trusted.

THE WEASELS.

Another family of this order, Frank, is that of the Weasels. Most of these creatures have long, slender bodies; and though they have short legs, they can leap great distances, as well as climb up trees with wonderful swiftness.

The badger, however, though it belongs to this family, cannot do so, but resembles the bear in its slow, clumsy way of walking, and like it places its foot flat on the ground. With the long, curved claws of its front feet it makes deep burrows under ground, which are divided into several rooms. The innermost one is round, and lined with hay or moss, and here the nest for the little ones is put. Balls of dried grass and roots of plants for winter use are placed in others; and one room is kept as a sink, in which old food and other offensive things



BADGER.

are buried. The badger eats almost anything, snails and worms, as well as eggs and young birds, but its favourite dainty is a wasp's or a wild bee's nest. Its coarse, red hair is so thick and long, and its skin so tough and loose, that the stings of the angry insects do not hurt it. When attacked, it is very savage, and, like the bear, raises itself on its hind legs. From the length of its head and jaw it can give a most terrible bite; but it is quite harmless if left alone, and is easily tamed.

Badgers live together in pairs, and are most affectionate towards each other. Two

Frenchmen during a walk killed one, which they drew towards the next village. Presently they heard the cry of an animal in distress, and saw another badger approaching. They threw stones at it, but still the creature came up, and began licking the dead one. The men now left it alone, and drew the dead one along as before, when the living badger lay down on it, taking it gently by the ear, and in this way it was drawn into the village, and, I am sorry to say, was killed; for at one time, on account of their very offensive odour, country people always killed them. A few badgers are still to be found in this country, but it is not a common animal anywhere. The Chinese consider them a great delicacy, but in this country no one would eat them.

The other animals of this family are found all over the world. They live chiefly by sucking the blood of their victims. The most terrible of them all is the wolverene or glutton, so called from the great quantity of food it eats. Concealing itself amongst the thick branches of a tree, it drops down on the neck of any unfortunate animal that may be passing. It is like a small bear in appearance, and is a native of North America and Siberia.

Though they all have a most offensive odour, the skunk is most remarkable in this way. When angry or frightened it pours out a liquid concealed in a gland near the

tail. The smell of this is so powerful that no animal will go near it. No furniture or clothes that have once been tainted by it can ever be cleansed. It is a pretty animal, with long, soft hair, and a bushy tail.

The fur of most of these animals is very valuable.



SABLE.

The sable, which is one of them, is a native of Northern Asia; and the poor hunters endure terrible hardships in pursuing it over those snowy regions.

The ermine also is to be found there, as well as in America. Its fur in summer is of a dull, reddish colour,

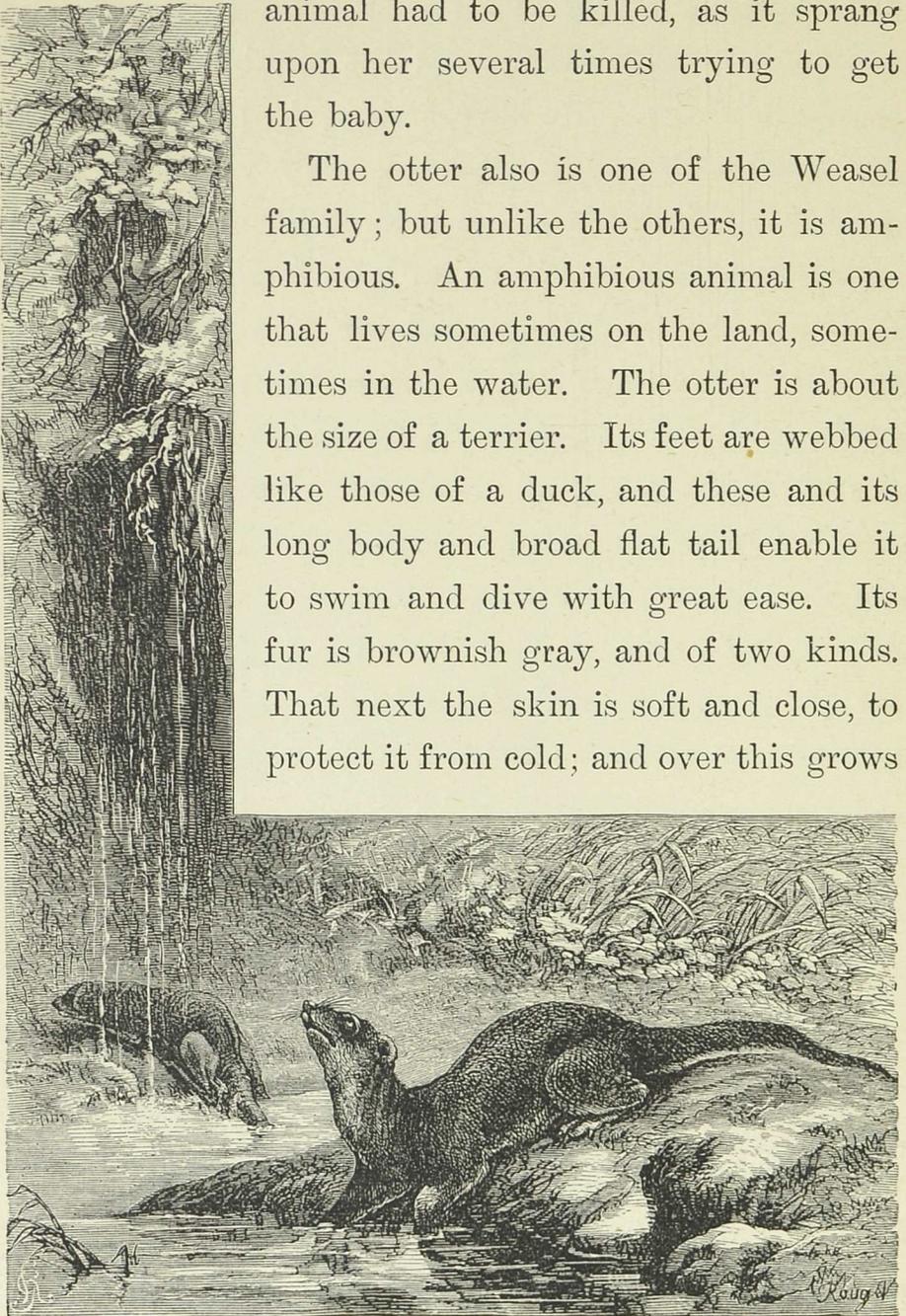
but in winter it becomes pure white. In this country the ermine is called the stoat : the fur changes to a pale yellow in winter. We have, besides, the pine-marten and the beech-marten. Their fur is very valuable. They are terribly destructive. A pair of them in two nights killed twenty-one lambs on an Irish farm.

The polecat and the weasel are also natives of this country. The latter live in numbers in the holes of old walls, and are sometimes dangerous. A gentleman having, in the course of a walk, struck one of them, was attacked and pursued by a number of these creatures. He tried to beat them away, but finding that impossible, he ran home, a distance of four miles, as fast as he could. He pulled his hat down firmly over his head, and as they always spring at the throat, he managed to protect it with his hands. When he reached his stables five weasels were still clinging to him.

The ferret is another animal of the same kind. It was originally a native of Africa, and requires to be kept very warm in winter. It can be tamed, and farmers and grooms keep it to destroy rats; but it is a dangerous pet. A poor woman left her baby in its cradle asleep whilst she went to fetch water. On her return she found the poor little thing terribly bitten about the face and neck by a ferret that was busily sucking its blood. She had some difficulty in saving the child; and the

animal had to be killed, as it sprang upon her several times trying to get the baby.

The otter also is one of the Weasel family; but unlike the others, it is amphibious. An amphibious animal is one that lives sometimes on the land, sometimes in the water. The otter is about the size of a terrier. Its feet are webbed like those of a duck, and these and its long body and broad flat tail enable it to swim and dive with great ease. Its fur is brownish gray, and of two kinds. That next the skin is soft and close, to protect it from cold; and over this grows



OTTERS.

long coarse hair, which yields to the water when it swims. It makes its nest in a hole close to a river, so that in case of danger the mother and her little ones may escape by diving. The teeth of an otter are terribly sharp, and few dogs can endure a bite from them. In this country the otter is always killed, as it is very destructive to fish; and very wasteful too, merely taking a bite out of the neck of the fish, and then leaving it. The natives both in China and in India train it to fish for them. They take the creature when young, and feeding it upon bread and milk, teach it to seize an imitation fish. Afterwards, when allowed to catch a real fish, it is severely beaten if it does not bring it to its owner. But, except for such an offence, it is treated with kindness. A few have been tamed in this country, and were found to be very affectionate and docile. A gentleman in Fife had one which caught fish every morning for him for breakfast. This is a lesson to us, my dear Frank, that many creatures that we now consider hurtful to us, if gently treated may be made our friends.

SEALS.

In talking of the Weasel tribe yesterday, Frank, we found that one of them, the otter, although a quadruped, lives more in the water than on land. This, you remember, it can do from the shape of its body, feet, and tail.

Those of the seal, the next animal in our list of those belonging to the class Mammalia, and order of flesh-eating animals, are still more curious. These creatures are found in great numbers lying on the icebergs or swimming in the waters near both the North and the South Pole. Their sharp-pointed teeth enable them to catch the slippery fish on which they feed. The different kinds of seals vary in size and in the colour of their fur. The head, shoulders, and chest are round, and the body gradually becomes smaller towards the tail. They are not able to walk, as other quadrupeds do, but drag themselves along, hooking the claws of their front feet into the rough ice. All the feet are webbed; but the webs of the back feet can be folded up like a parasol, so that they are able to lie flat close to the body. The webs of the front feet are always stretched out. As the seal lives almost entirely in the water, it has the power of closing both its eyes and its ears. Its body, too, is thickly covered with double fur; and this fur is kept constantly oiled with fat, which is placed close *below* the animal's skin, so that the lower fur next the body is never wet. The common seal and gray seal are both often found in the mouths of the large rivers along the shores of Great Britain and Ireland. I myself have heard the former on the coasts of Sutherland.

What sort of noise do they make, mamma?

Every kind of noise. At first I thought it was a calf bleating. Then the sound was like that of a dog yelping or barking; then like a bull roaring. I was much astonished when I was told that the noise was made by seals at play. I concealed myself and watched, but I never could see any of them, they were so swift and cunning in hiding themselves. They have a curious love for music, and numbers of them are known to have followed a ship near Spitzbergen on board of which a violin was played. The common seal is very gentle, intelligent, and affectionate.

Besides these there are the harp seal, the crested seal, the elephant seal, and one or two others. The harp seal is a native of the regions near the North Pole. It is nearly nine feet in length, of a whitish-gray colour, with a black figure on its back something in the shape of a harp, and from this it derives its name. M. Cuvier, the Frenchman to whom the tame wolf that I told you about belonged, had one of these seals. Though when first brought to him it was very wild, in the course of a few days it became so tame that it forced itself upon his notice. Two little dogs were kept in the same enclosure with it, and they amused themselves by mounting on its back, barking, and even biting it. The seal, however, never became angry with them, and even allowed them to snatch the fish out of its mouth when

feeding, though when another seal attempted to do so it fought most furiously. In cold weather the seal and the little dogs huddled kindly together, and when they left the enclosure it always tried to follow them.

The crested seal is about the same size as the harp seal, and is also a native of the North Polar circle. It is called crested from its having a thick folded skin on the top of its head, which rises up between its eyes and extends to the back of its head—like a little cap, in fact. It is only the old males that have it. The fur of this animal is particularly fine. Great numbers of skins are brought to Europe.

The elephant seal is the largest of all the species, being sometimes twenty feet in length, and is only found in the frozen regions near the South Pole. They are migratory animals. Do you know what that means, Frank?

No, mamma.

An animal is said to be migratory when it moves from one place to another. As summer comes on, these creatures go further south. And going south in that part of the world, you must remember, means that they go to a colder region. They pass the greater part of their time on land asleep. Hundreds of them may be seen stretched on the shores of King Island, or among the long grass, so that the coast looks black with them.

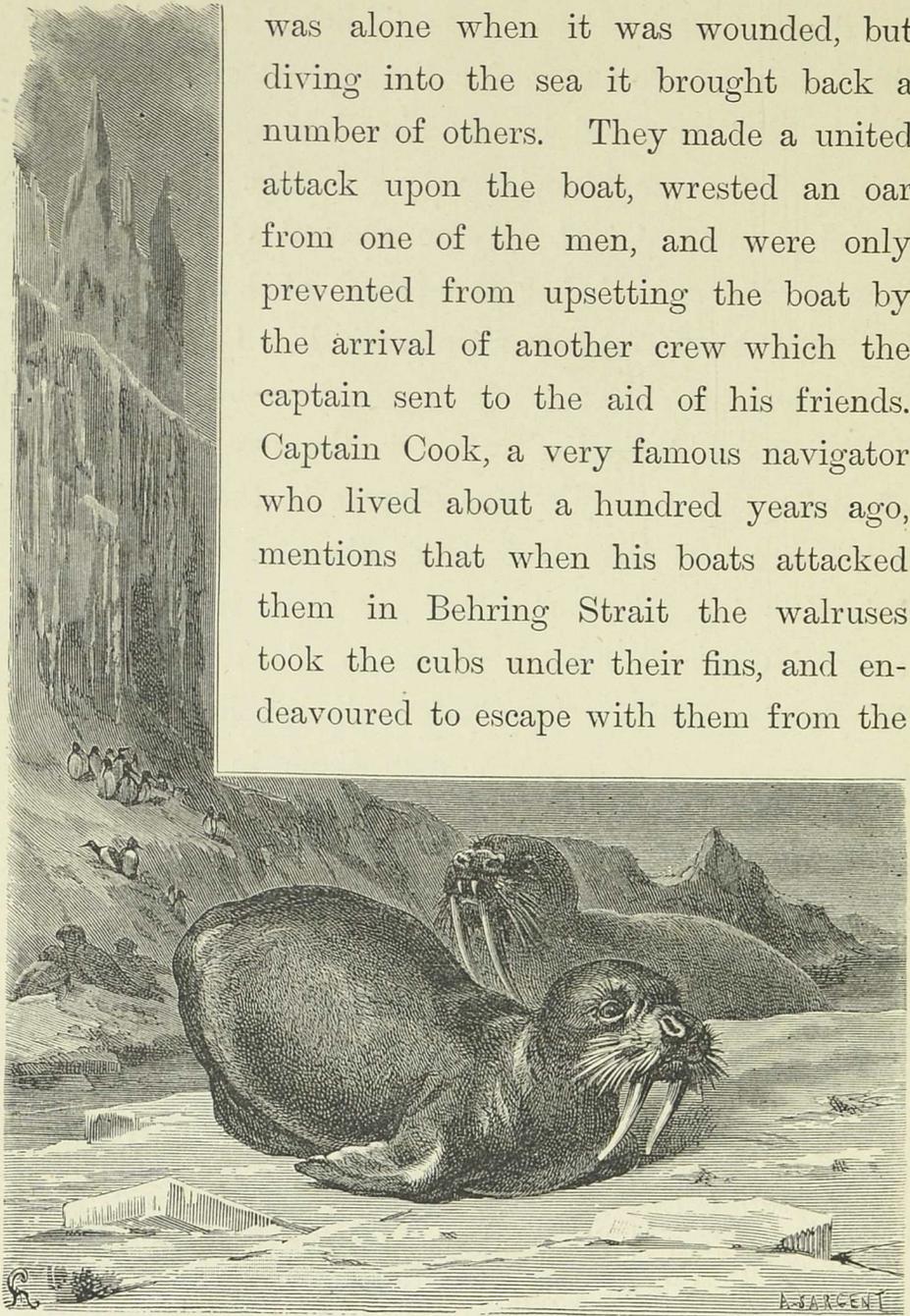
Great seal fisheries have been established in the lands in the South Pacific Ocean for the capture of these seals, for the oil they yield is very abundant and fine. The skin and fur are likewise very valuable. It is called the elephant seal, not only on account of its size, but because the animal has the power of lengthening its long movable snout into a proboscis like that of a tapir or an elephant.

But undoubtedly the walrus is the most remarkable of all the Seal family. You observe in the picture that it has two very long tusks like those of the elephant, only that instead of standing out from the head they curve downwards. They are made of the finest ivory. They are sometimes twenty-four inches in length, and very sharp. The creature uses them in climbing up rocks, as well as in digging up sea-weed, and also in defending itself against the white bear and the Eskimo. Like other seals, they are gregarious animals—that means that great numbers of them live together. They are found both at the North and at the South Pole.

I suppose it is a very savage animal, mamma.

All seals are so when attacked. They not only defend their young with great ferocity, but join together to assist a wounded companion. I have read an account of two officers who went in a boat to pursue some walruses. They fired at one, and wounded it. The animal

was alone when it was wounded, but diving into the sea it brought back a number of others. They made a united attack upon the boat, wrested an oar from one of the men, and were only prevented from upsetting the boat by the arrival of another crew which the captain sent to the aid of his friends. Captain Cook, a very famous navigator who lived about a hundred years ago, mentions that when his boats attacked them in Behring Strait the walrus took the cubs under their fins, and endeavoured to escape with them from the



WALRUSES

ice into the sea. Several whose young were killed and wounded, and were left floating on the surface, rose again and carried them down, sometimes just as the men were going to take them into the boat; and they might be traced bearing them to a great distance through the water, which was coloured with their blood. They were afterwards seen bringing them up at times above the surface as if for air, and again diving under it with a dreadful bellowing. The female in particular whose young had been killed and taken into the boat became so enraged that she attacked the cutter, and struck her tusks through the bottom of it.

But why do men hunt and kill them in this cruel way? said Frank.

I thought you would have understood, from what I have already told you, that it is for the sake of the oil they furnish, which is used for all kinds of machinery. The fur, too, is very valuable as an article of dress.

To the poor Greenlander this strange-looking creature is a greater blessing than any animal that we have could be. He clothes himself in its skin, which he also uses to cover his tents and boats. Its flesh supplies him with good food, and the fat gives him oil for his lamps and for his stove. The Eskimos make tools from the bones, and thread to sew with from the sinews, and of the stomach they make oil-flasks. In

fact, there is no part of it that is not of use to these poor people. Thus you see, my dear Frank, how watchful is the love of our heavenly Father over us, and how he suits the different animals he has made to our wants, and to the countries we live in.

VI.

ANIMALS BELONGING TO THE WHALE TRIBE.

HE seals, we found, Frank, had feet that were more fitted for moving through the water than on land; but the animals we have now come to—the whales—cannot move on land at all, for they have no feet.

Mamma, I thought a whale was a fish.

And so do many people. They belong, however, to the class Mammalia, for their young are born alive, instead of coming out of eggs as young fishes do. Some kinds of whales are the largest animals God has made. The dolphin, however, is only seven or eight feet in length. It is found near our own shores, and is remarkable for having one hundred and ninety teeth.

The porpoise, another of the Whale tribe, is about the same size. The fat of this creature gives a very fine oil, and valuable leather is made from the skin.

The grampus is much larger, and is found chiefly in the northern seas.

The teeth of all the different kinds of whales are peculiar. The narwhal has them only in the upper jaw; and one of these, in the male narwhal, grows out on the left side in a straight line from the head. This horn is of the purest ivory, round, and twisted like a rope, with an exceedingly sharp point. It is sometimes



DOLPHIN.

seven feet long. Sides of ships have often been pierced by it; but, fortunately for those on board, the horn has always broken off and filled up the hole. Narwhals live together in numbers in the northern seas, and the Greenlanders make use of their skin and the oil made from their fat. It is about thirteen feet long.

Most whales are black or dark gray, but one kind,

called the baluga, is generally of a cream colour, though sometimes it is a pale pink or orange. It lives entirely in the northern seas, and in the mouths of the North American rivers, where it is much prized for the sake of the oil and the skin obtained from it.

One of the largest of these animals—the cachalot, or spermaceti whale—is found everywhere except in the polar seas, and is generally seventy or eighty feet long. As you may suppose, great quantities of oil are got from such an immense creature; and, besides this, a substance called spermaceti, from which very fine white candles are made, is found in a hole in its skull. And this is not all, for ambergris, which chemists mix with their scents, is also obtained from this whale. These creatures live together in large herds, or “schools,” as they are called, and are so affectionate that when one of them is struck by a harpoon its companions swim round and round it until it dies, and in consequence many more are killed.

What is a harpoon, mamma?

A harpoon is the weapon with which sailors attack and hold whales. It is a long shaft of iron, with a flat broad head. The head is sharpened at both edges, and ends in a point. From the shape of the head, when once the harpoon has pierced a whale, it can be got out only by cutting the flesh. A long rope is fastened to

the other end of the handle, and is coiled round in tubs in the boat. When a harpoon has been flung into a whale this rope is quickly let out over the side of the boat, and the whale pulls it so swiftly that the men are obliged to pour buckets of water over it to prevent the wood going on fire. Very often the boat is upset and the men are drowned; for sometimes the whale turns fiercely round, and with a single blow of its enormous tail breaks the boat to pieces.

The spermaceti whale has very sharp teeth in its lower jaw, with which it can crush a boat. One monster actually destroyed nine boats. It is well able to do so, for its jaw is sixteen feet in length, seven or eight in breadth, and about ten in height. Your little bedroom is about the same size.

But, mamma, I thought whales had whalebone instead of teeth.

The Greenland whale, the rorqual, and one or two other kinds, have whalebone. The whalebone, of which there are more than three hundred plates or pieces in one animal, is fastened to the upper jaw of the mouth, and hangs down. Each piece is from ten to twelve feet in length, and eleven inches broad at the root. The edges of this whalebone, or baleen, as it is called, are fringed; and I will explain why. The throat of the Greenland whale is so narrow that it can swallow only

the very smallest fishes, such as shrimps, which are kept back by the fringes of the whalebone when the whale spouts the water it has swallowed into the air. The throats of the spermaceti and rorqual whales are much larger. The latter is the most enormous of all the Whale tribe; some of them are one hundred feet long. But it is so savage, and the oil and blubber it gives are so inferior, that whalers seldom attack it. To the Laplanders, however, this whale is so valuable, that they fling their lances into it at a great distance, and trust to the waves to bring the dead body to the shore.

As you cannot know what blubber means, Frank, I must explain that whales have three skins. The third or lowest skin, which is next the body, is mixed with a great deal of fat, and in a large whale is two feet deep. This is blubber. The whale has no hair, and the blubber keeps the outer skin oiled and enables it to resist the water, and keeps out the cold, and from its lightness enables the enormous body of the animal to float. You must remember, too, that the whale moves by its tail, which is so enormously strong that it enables the largest whale to leap right out of the water. Their fins or flippers they use to balance themselves with, and also to grasp their young, of which they are very fond. Indeed a mother whale has often been killed in trying to defend her young.

But why does the whale not remain under water out of sight, and so escape?

Because, Frank, it is not a fish, but must come up for air every few minutes, as a dog must. There is a story told of a whale that was actually drowned by being caught in ropes fastened to a dead and sunken whale, and therefore could not rise to the surface. The nostrils of the animal are placed on the top of its head, so that when it rises as little as possible of its body may be seen. These nostrils are called blow-holes, and through them it spouts up water as well as its own warm breath to a height of forty or fifty feet, which looks like an enormous fountain playing. The spermaceti whale has only one blow-hole. When under water the animal is able to protect both its nostrils and ears by a sort of round stopper of skin and muscle, which fits so closely that not a drop can get in.

Two very curious creatures, the manatee and the dugong, are in many ways like whales. They are found at the mouths of large rivers, where they browse on the sea-weed, for they are not carnivorous. They never quite leave the water, but draw themselves half-way up on the bank to feed; and they cannot remain long under water, for, like the whale, they require fresh air. The mother, when swimming, keeps her own round head as well as that of her baby's above the waves, and

in consequence these creatures were at one time thought to be mermaids. They are very affectionate animals; and when one is killed, the other swims round and round the boat in which its dead companion is, and is itself, of course, destroyed.

These creatures are about twenty-seven feet long, and at the end of the flippers there are very small nails. The dugong is found in the Indian and Pacific Oceans; the manatee only in the Atlantic. Both of them are very valuable for the sake of their skin and oil.

I have not time to tell you more of these strange and wonderful creatures, which are so valuable, not only to the poor Greenlanders and Eskimos, but to us who live in a warmer climate. The skill and care of man have helped to make the horse and cow and sheep so valuable to us as they are; but the whale and the seal are truly the gifts of God, fresh from the hands of the Almighty. Man only interferes with them to destroy them. Therefore, my dear Frank, when we study the wonderful works of God, we must in doing so strive not only to acquire knowledge, but also feelings of reverence and gratitude towards our great Creator, remembering that he is the Giver of all our blessings.

VII.

THICK-SKINNED ANIMALS.



THE order in your book, Frank, I see, to which we have now come is that of the thick-skinned animals. Whales are thick-skinned ; but they, you remember, eat fish, whilst the animals I am now going to describe to you live only upon vegetables. And not only are they unlike flesh-eating animals in this respect ; but you will notice that they cannot use their limbs and feet either to seize their prey or to climb trees, for they have hoofs instead of claws, and can therefore only move upon the ground.

The elephant belongs to this order, and is the largest of all land animals, being about nine feet in height. There are two kinds of elephants, the Indian and the African. The latter is the larger of the two, and is remarkable for the enormous size of its ears, which hang down below the neck. The Romans tamed and used it in their armies ; but the natives of Africa at present only hunt and kill it. All parts of its flesh they eat greedily.

They carefully preserve the fat, and rub it over their bodies to protect them from the heat of the sun. The foot they either roast or boil, and it is said to be delicious. There is a fine under skin beneath the tough hide, which is taken away and made into water-vessels. But the most valuable parts of the elephant are its ivory tusks, which the natives sell to merchants from all countries. These tusks are merely the two front teeth of the upper jaw. There are four teeth on both sides of the two jaws, but no front teeth in the lower jaw. The elephant lives to a very great age—to more than one hundred years—and changes its side teeth very often; but it changes the tusks only once, when it is quite young. The second tusks grow to a great size and weight. In Africa both the male and female elephants have them, but in India only the male.

The most wonderful part of this creature, however, is its proboscis or trunk. This is merely the nose and upper lip joined into one. It is several feet long, and becomes narrow toward the end; is very flexible, and can be made longer or shorter as the elephant pleases. When the trunk is not in use it looks as if it were covered with huge wrinkles, which disappear when the elephant stretches it out. At the end of it are the nostril holes. The nostrils themselves go all through it, and enable the animal to drink, for it fills them with

water, and then turns the trunk into its mouth. It cannot stoop down its head to graze, as the horse does, on account of the shortness of its neck, and therefore uses its trunk, which it employs as hands. By twisting it round the branches of trees, it breaks them off and puts them into its mouth. At the end of the trunk, too, above the nostril holes, the skin is lengthened into a kind of finger, with which it can pick up the smallest nut or leaf.

The eyes of the elephant are very small, and the legs are like strong short pillars. The foot is flat, and well fitted for crushing down the thick bushes and grasses of its native country. There are five toes on each foot, each of which is covered with a kind of hoof. In spite of their clumsy figure, elephants can walk so quickly that a horse at a trot can hardly keep up with them.

These animals live together in large herds in their native forests, where they commit much havoc, tearing down branches and uprooting trees as they wander about. The large bulls take the lead, the females and young, sometimes as many as three hundred, follow after, marching one by one. These sagacious creatures have been known to carry with them the branches of trees, with which they flap away the insects from their bodies. As they cannot live without constant bathing, they are always to be found near the banks of large rivers.

The native princes of India use them in war, and in

their grand processions, as well as for hunting tigers, and for daily use. The driver who attends to them is called a mahout, and the seat put upon its back when the elephant is ridden is called a howdah. It is said that the elephant is not only more easily tamed but is wiser than all other animals. Indeed, tame elephants, by their cleverness, help to catch wild ones. Two of them will walk carelessly along, plucking leaves and grass with their trunk, till they come close up to the wild elephant that their master wishes to catch. Standing on each side of him, they completely occupy his attention whilst the hunters fasten the poor deceived animal's legs to a large tree, and there he is left till hunger and thirst have so tamed him that he allows himself to be led quietly away. The natives also catch elephants by enclosing a space of ground with very strong logs of wood, taking care to leave one side open. They then surround a herd of these animals, and drive them into the enclosure; and there they keep them till, worn out by hunger and fear, the poor creatures allow the hunters to enter the enclosure and fasten them to trees. And so obedient do they become that, even if they escape to the woods, and remain away for years, they will return to their keeper if by chance he meets them and calls to them.

There is a story told of one that was employed to build walls. He knew on one occasion that he had not

done part of his work well. When his master came up, he tried to hide it with his body; and when made to move so that the wall could be seen, he immediately began to pull it down.

I have read of another who was clever enough, whilst his driver slept, to pull away a bag of rice, which the man had put under his head as a pillow, without awakening him. The elephant was seen to put his huge foot gently under his master's head to support it, whilst he removed the bag of rice with his trunk, and placed in its stead a stone, and then proceeded to devour the contents of the bag at his leisure.

Those two elephants were not very honest, mamma.

No; but I can tell you the story of another, which shows how good as well as sensible they are:—A gentleman, who lived at Candy in Ceylon, was riding one evening near a dense jungle. Suddenly his horse began to tremble violently, and he himself was startled by hearing a noise like “Umph, umph,” repeated over and over again in a hoarse rough voice. In a few seconds he found himself face to face with a huge elephant, from whom the noise proceeded, that was with difficulty carrying a large beam of wood across its tusks. The pathway was too narrow to allow the beam to go straight across it, and therefore the poor animal was obliged to bend his head sideways as he carried it along,

and the exertion and discomfort made him utter the sounds which so terrified the horse. Although the elephant had no driver with it to instruct it, as soon as it saw them it flung down the beam of wood, and forced itself backward among the brushwood, so as to leave room for the horse to pass; and seeing it still hesitate, it thrust itself deeper and deeper into the jungle, repeating its cry of "Umph, umph," but in a voice evidently meant for encouragement. Still the horse trembled, and again the elephant wedged itself further amongst the trees. At last the gentleman succeeded in persuading his horse to pass; and after he had done so, he saw the wise creature stoop and take up his heavy burden, turn and balance it on his tusks, and resume his journey.

I am sorry to tell you that these wise creatures have been trained by the Indian princes to kill prisoners by crushing them to death with their huge feet.

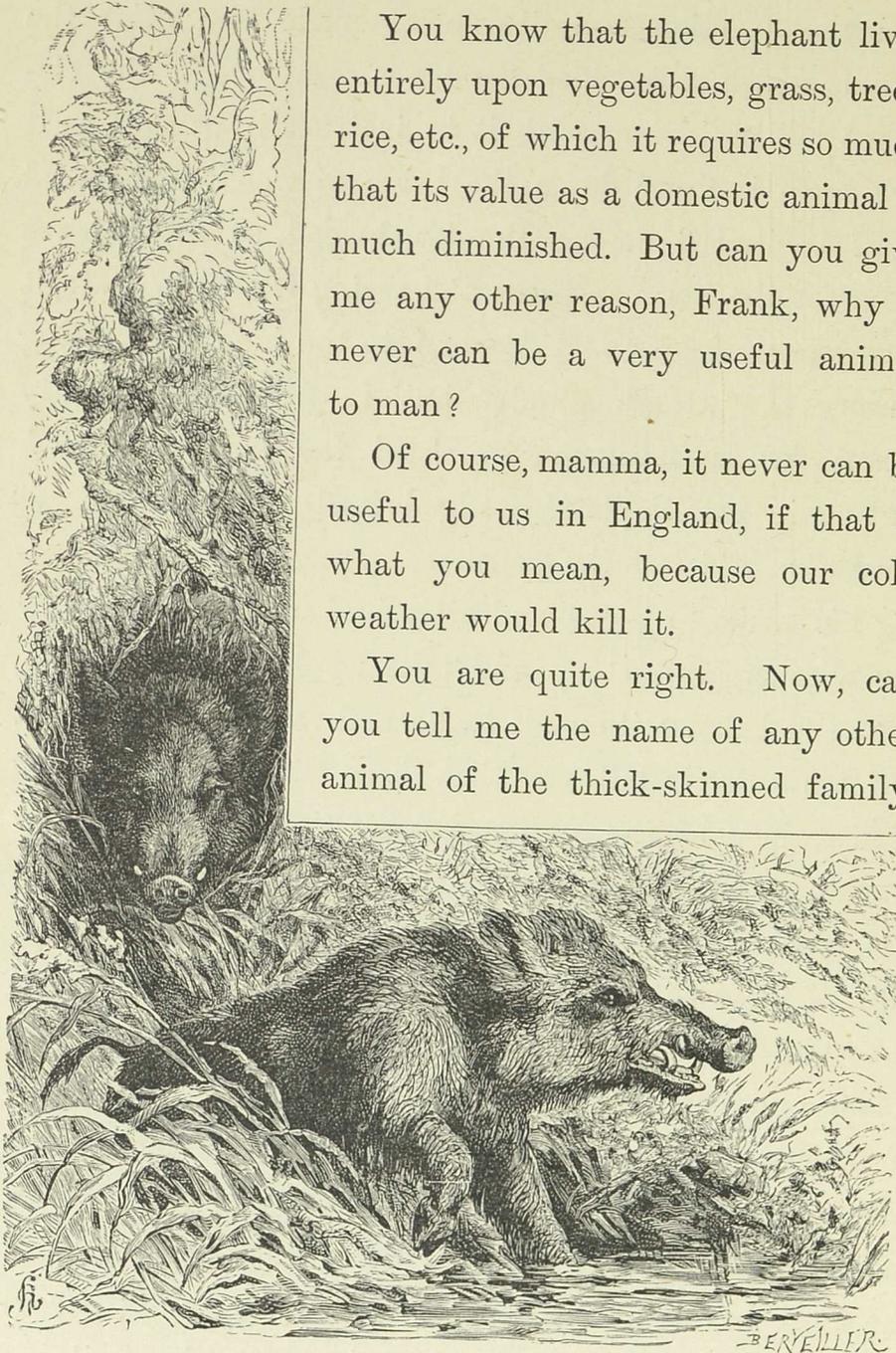
I must not forget to mention that it makes a strange kind of noise with its trunk, called trumpeting, because it is so like the noise of a trumpet. Elephants are black in colour, and a few coarse hairs are scattered over the body.

There are a few white elephants, which the King of Ava, who is called "Lord of the White Elephants," always tries to get. Not only does he cover their necks and ears with the most beautiful jewels, but he builds splendid houses for them, and their drinking-troughs are made of silver.

You know that the elephant lives entirely upon vegetables, grass, trees, rice, etc., of which it requires so much that its value as a domestic animal is much diminished. But can you give me any other reason, Frank, why it never can be a very useful animal to man?

Of course, mamma, it never can be useful to us in England, if that is what you mean, because our cold weather would kill it.

You are quite right. Now, can you tell me the name of any other animal of the thick-skinned family



WILD BOAR.

which has gone with man to every part of the world?

No, mamma; I don't know what animal you mean.

You had some of its flesh for breakfast.

I had ham, mamma. Do you mean the pig?

Yes, I mean the pig. At one time it roamed wild through the forests of our country, and still does so in those of Germany and other parts of Europe, as well as in India. The male pig or boar is very savage. With its four sharp tusks, two of which curve upward, it inflicts most dreadful wounds; and it is so quick a runner that the swiftest horse can hardly escape from it. The female pig or sow has no tusks, but she can give a terrible bite with her teeth. The nose of the wild pig is even longer than that of our common one, and is used by the animal to dig up roots. It lives chiefly on vegetables, but can eat flesh; indeed, sad stories are told of pigs devouring young children. I am sorry to say it is sometimes obliged to eat very abominable food, and to live in very filthy styes; but the poor pig is not to blame, as it is by nature a cleanly animal. If you look at its foot you will see that it has four toes, each of which has a separate hoof; the two middle ones are much the largest, and are very deeply divided. Leather for saddles is made from its skin, and the bristles are used for hair-brushes. It has a very keen sense of

smell, and is not at all a stupid animal. In the south of France it is used to draw the plough, and a famous sow called Sleet was taught to point at game. A farmer in Norfolk had a hog on which he rode to market.

The tapir resembles an elephant in the length of its nose, which is indeed a proboscis, though it has not a finger at the point as the elephant has. There are two kinds of tapirs: one, a native of South America, is of a dusky-brown colour; the other lives in Sumatra and Java, and is black, with a broad white band across the body. They are harmless, gentle creatures, but can give a severe bite with their formidable teeth when attacked.

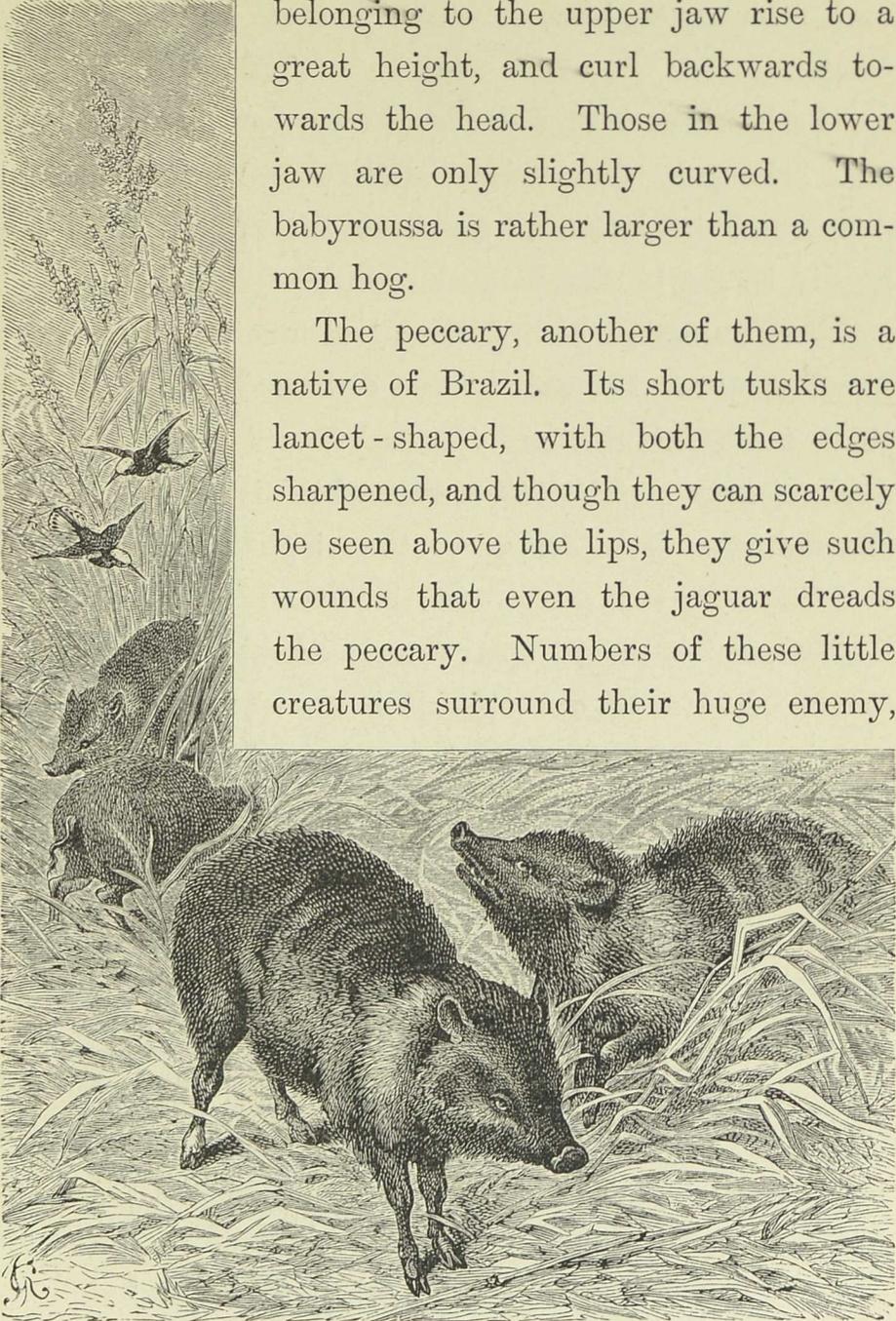
The babyroussa of Malaya is a very dangerous animal of this order. It has four very large tusks. The two



BABYROUSSA.

belonging to the upper jaw rise to a great height, and curl backwards towards the head. Those in the lower jaw are only slightly curved. The babyroussa is rather larger than a common hog.

The peccary, another of them, is a native of Brazil. Its short tusks are lancet-shaped, with both the edges sharpened, and though they can scarcely be seen above the lips, they give such wounds that even the jaguar dreads the peccary. Numbers of these little creatures surround their huge enemy,



PECCARIES.

and rush upon him so fiercely that he is glad to escape.

The bosch-vark and the klache-vark of South Africa also belong to this order. Both are very fierce and dangerous, the latter so much so that the natives can hardly be got to attack it.

These animals which I have just mentioned, my dear Frank, you must remember, are distinguished by having their teeth lengthened into tusks, and the tusks are made of ivory. The rhinoceros, which is next in size of the animals of this order to the elephant, has a horn. But this horn is not a tooth; it does not project from the jaw, but is placed upon the skin behind the nostrils, so that it can be cut off. It is not unlike whalebone, and is made of a number of fine hairs firmly glued and pressed together. The point of the tip is very smooth and terribly sharp, but the lower part where it joins the skin is rough. It is very heavy, and much valued by the natives of Africa, who make it into drinking-cups. The large white rhinoceros has two horns, the lower one of which stands straight out from the head, and is often four feet long. It is said the mother guides her little one with it as it trots before her. The natives use them as sticks. There are six different kinds of rhinoceroses. Two are natives of India, the other four are found in Africa. All of them are from four to five feet in height,

and eleven in length, and are remarkable for having such a thick tough skin that nothing can pierce it, and therefore the natives make it into shields. In the Indian rhinoceros it lies in thick folds, which can be lifted up, and looks in some places as if a thick rope were below it. The under skin below these flaps is quite soft. The poor animals suffer sadly from the insects which are so numerous in that warm country, and which creep up and sting this soft



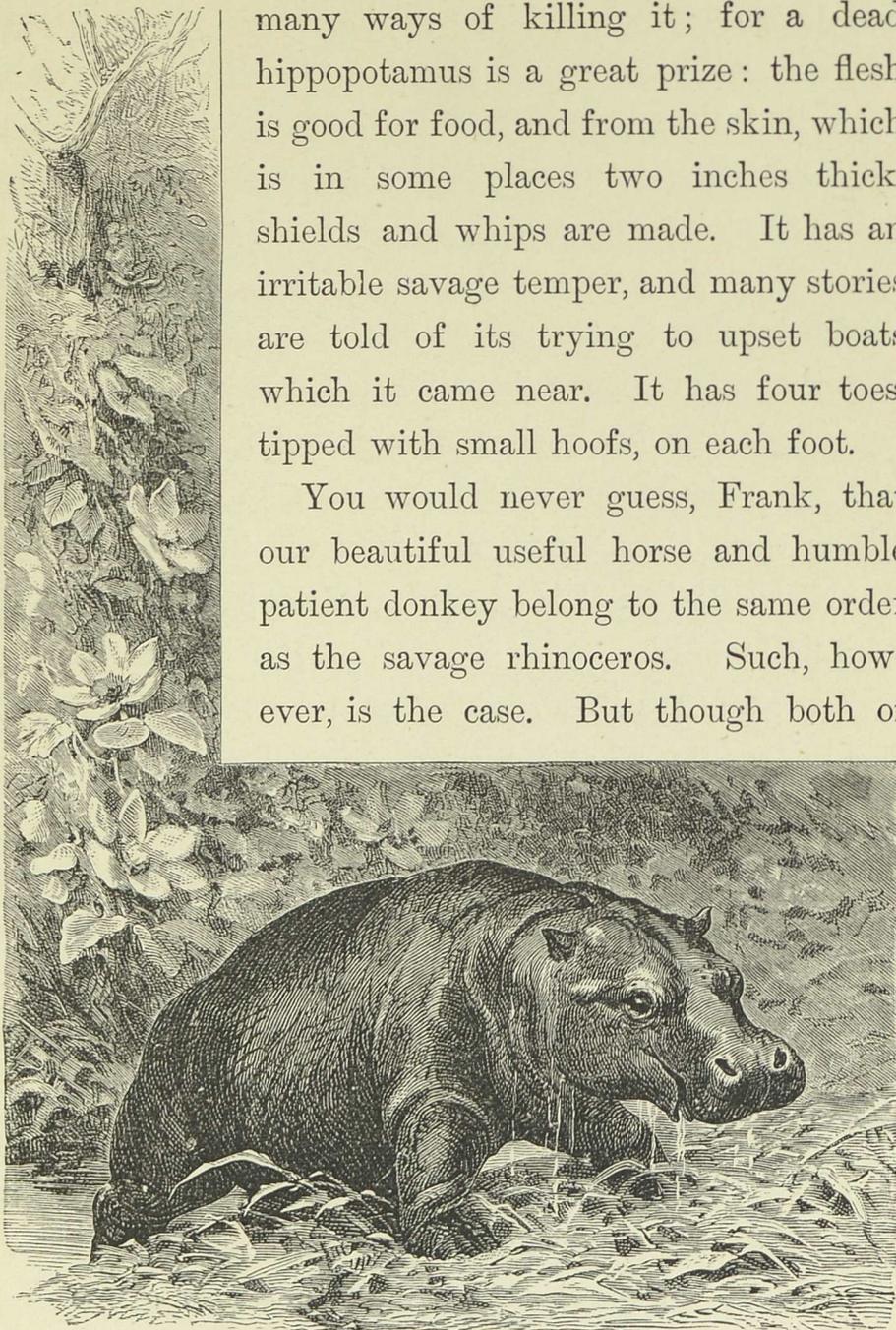
RHINOCEROSES.

under skin. Strange to say, the rhinoceros finds the little birds are his protectors against these troublesome enemies. They settle upon the back of the huge animal, and peck away the gnats; and not only do they do him this service, but they also act as his sentinels. When they leave him he at once suspects danger, and either moves away or else prepares himself for combat. The rhinoceros has a most ferocious temper, and is a dangerous enemy, as it can both smell and hear very acutely, though it cannot see well, on account of the horn between its eyes. It lives alone in dense jungles by the banks of rivers, for it is a good swimmer, and spends a great portion of its time in water, where it can easily find the leaves and grasses it devours. It has on each foot three toes, with a hoof on each toe.

The hippopotamus is another of the thick-skinned animals. It is somewhat like an enormous pig that has had the snout cut off, so broad and flat is the end of the face. It is about four feet in height, and twelve in length, and the legs are so short that the stomach of the creature almost touches the ground. It lives in great herds near all the large rivers of Africa, and is found in no other country. It has no tusks, but very valuable ivory is obtained from its enormous teeth. With these teeth it tears up the strong grasses in the river beds, or cuts down the growing crops of the natives. They have

many ways of killing it; for a dead hippopotamus is a great prize: the flesh is good for food, and from the skin, which is in some places two inches thick, shields and whips are made. It has an irritable savage temper, and many stories are told of its trying to upset boats which it came near. It has four toes, tipped with small hoofs, on each foot.

You would never guess, Frank, that our beautiful useful horse and humble patient donkey belong to the same order as the savage rhinoceros. Such, however, is the case. But though both of



HIPPOPOTAMUS.

them are placed among the thick-skinned animals, their feet are unlike those of all other animals. You know well that they both have a hoof which goes all round the foot without any division, whereas the hoof in every other animal is divided. Inside of it are placed the toes, and below them is a soft pad, or frog, as it is called, which touches the ground when the animal walks. You have so often seen a horse that I need not tell you what it is like, but perhaps you do not know that when a horse puts back its ears it wishes to bite; when it places them standing up, it is listening to every passing sound; and when it is pleased and happy, it makes the ears lie forward.

The horse has been so long used by man that we do not know from what country it originally came. When Julius Caesar invaded Britain, the natives who fought against him had their chariots and horses. The Egyptians, of whom we hear so much in the Bible, were a civilized people when all other nations were either wandering shepherds like the Hebrews or barbarous savages. We know that, thousands of years ago, they had tamed the horse and brought it into subjection. It is possible that they may have been the first people to do so. When you are older and able to read the writings of the prophets, you will find they constantly rebuke the Israelites for trusting to the Egyptians

and their horses; the two are almost always placed together.

A race of really wild horses, it is said, is found in Tartary. But besides these, numbers of wild horses descended from animals that once were tame roam about the steppes between Russia and Tartary. Wild as they are, these creatures are under the direction of a leader. They suffer much in winter from the want of food in those snow-covered plains, and in summer from thirst, for the heat then is as great as the cold in winter. In spring they have to defend themselves from the wolves, which come in search of the young foals. Sometimes one is carried off, and then a terrible battle takes place. The foals are placed in the middle, their mothers stand round them in a circle, and dash upon the wolves, tearing them with their teeth and trampling them with their fore feet; the stallions, or male horses, rush into the fight, and often kill a wolf with a single blow; and so the battle goes on until the wolves are either killed or chased away. These horses are red in colour, with a black stripe down the back. The Tartars not only drink the milk but eat the flesh of these animals.

The wild horses which scour the prairies or plains of America are called mustangs. They, too, are not properly wild, but are descended from some which the Spaniards took over with them when they conquered

that country: at that time there were no horses of any kind there. They defend themselves from the jaguar, as those in Tartary do from the wolves. The foals and mares are placed in the centre, the stallions surround them, and rearing on their hind legs keep off the enemy with their teeth and hoofs.

The Indians catch them in different ways. Sometimes they do it by means of a lasso. This is a long rope made of hide, one end of which is fastened to the saddle; at the other end is a noose. The hunter gallops forward, with the lasso twisted round his arm, to about thirty feet from the horse he has chosen; then swinging the lasso round and round above his head, he throws it so cleverly that the noose falls round the neck of the horse. The poor animal is of course nearly strangled, and has to stand still for want of breath. The huntsman then gets off his horse, and keeping his hands on the lasso, creeps cautiously up to his captive; and when near enough, seizing its muzzle in his hand, he blows strongly into its nostrils. Strange to say, the horse immediately becomes quiet, and in a few hours is quite tame.

There are, you know, many different kinds of horses—the racer, the hunter, the carriage and the cart horse. But they are all horses; they are not different animals, as the tiger and the leopard are. One or two kinds of

wild ponies are still found in our own country. Your little Shetland pony is one of them.

You need not be told that horses live on grass and vegetables. Apples and sugar are favourite dainties, and they will also eat meat. It makes them wild and fierce, but keeps up their strength for long journeys. If properly taken care of, a horse will live to thirty years, or even longer. It is sad to think how cruelly wicked and thoughtless people treat this good and intelligent animal, which, if well used, becomes a faithful and affectionate friend. The Arabs, who have a very fine race of horses, are as kind to them as if they were children, and so proud of them that they will scarcely ever sell one. An Arab chief, who had been on a marauding expedition, was taken prisoner by some horsemen belonging to the Pasha or Governor of Acre, and was laid at night in front of a tent, with both his hands and feet tied with ropes. Hearing his horse neigh, with some difficulty he crept up to it, and speaking lovingly to the creature, he managed to untie the rope that fastened it with his teeth, and then told it to go home. But the noble animal, instead of galloping away, bent his head over his master, took his clothes gently between his teeth, and set off home. He galloped straight on, without resting, to the well-known tent in the mountains of Arabia, where he arrived in safety.

He laid his master at the feet of his wife and children, and then fell down dead from exhaustion.

As for the donkey, Frank, you know it well, so I need not describe it to you, with its long ears and its short ridge of black hair along the neck, instead of the flowing mane of the horse. But though not nearly so beautiful a creature as the latter animal, we must not judge of its appearance from the asses we see in this country. It is evidently intended to live in warm climates, for in cold ones it becomes small, and the hair grows rough and woolly instead of being sleek and smooth. The Spanish ass is nearly twice the size of ours. In the East it is still used by men of rank for riding; and there it has been so long used that it is quite impossible to tell now from what country it came originally. You remember we read in the Bible of the judges riding upon white asses. I told you before that the horse was particularly the animal used by the Egyptians; in the same way the ass was the peculiar animal of the Hebrews, whilst the camel or dromedary was that of the wandering tribes of the desert. Solomon, when he married his Egyptian wife, introduced the use of the horse along with other Egyptian customs into his country. We have a proof of the estimation in which the Israelites held the ass in the story of Saul. Who was he, Frank?

Saul was the first king of Israel; and I know, mamma,

what you are thinking of. He had been sent by his father to look for some strayed asses, when the prophet Samuel met him.

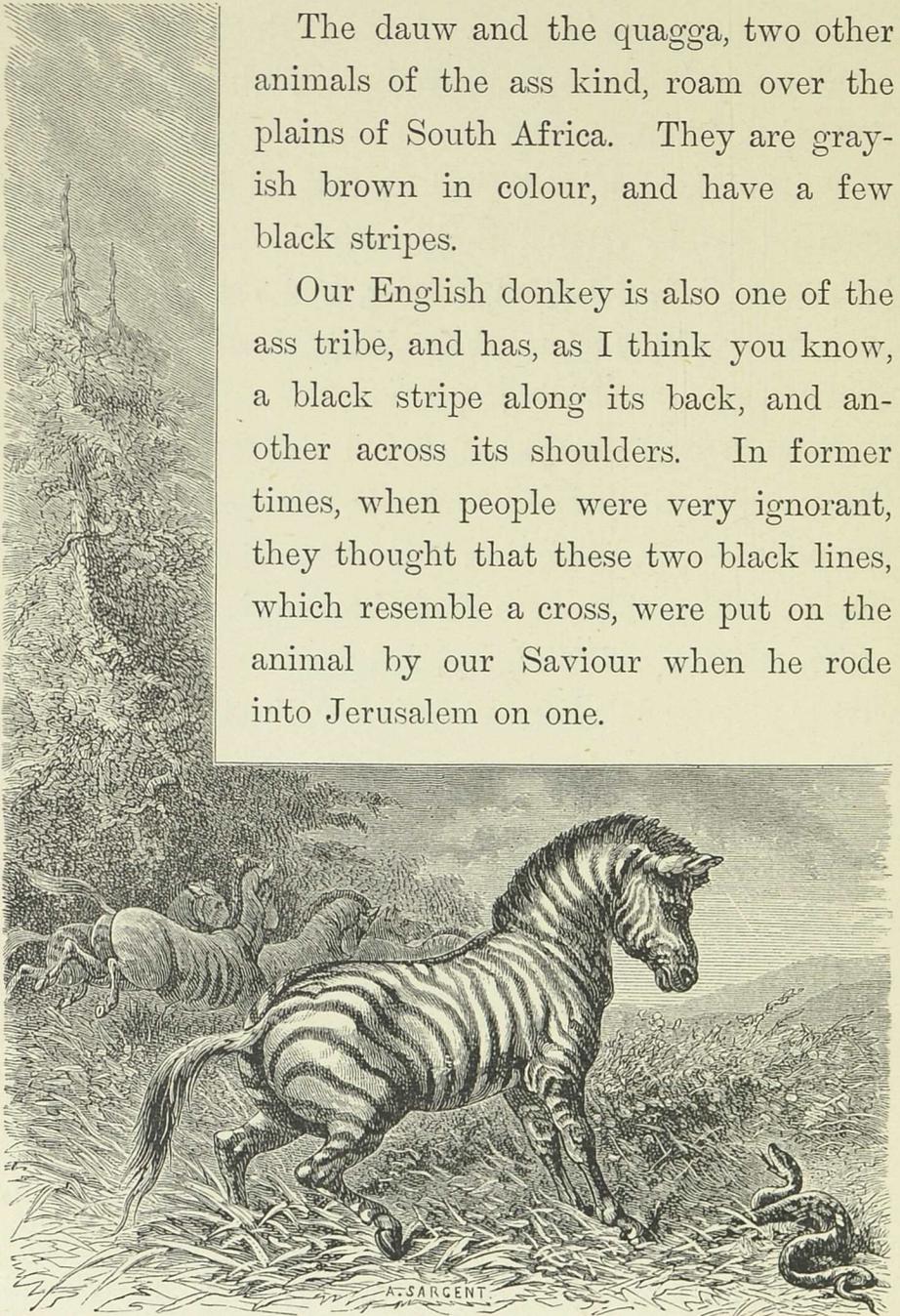
Quite right ; and our Saviour entered into Jerusalem upon an ass, to remind the Jews of a time when God had been their King and Ruler, and especially of an ancient prophecy that their King should come unto them, "lowly, and riding upon an ass."

The ass of Persia is a very beautiful animal. In that country there are two kinds, one kept for riding, the other for carrying burdens. But the finest of all are in Arabia. They are of different colours : some are white, others a reddish gray, and some are pale gray or silvery yellow ; but they all have a dark stripe along the back, and a short black mane, while the tail, which, as you know, is so different from a horse's, is covered with short hairs, except at the tip, where there is a tuft of dark hair. Both Persians and Tartars consider the flesh of the wild ass a very great delicacy, and hunt it for food, though it is so swift it can scarcely be overtaken, and so fierce as to be almost untamable.

The zebra, another species of wild ass, is perhaps the most beautiful of them all. It is pale yellow in colour, with black stripes. It lives in large herds in the mountainous parts of Africa, and is very fierce and almost untamable.

The dauw and the quagga, two other animals of the ass kind, roam over the plains of South Africa. They are grayish brown in colour, and have a few black stripes.

Our English donkey is also one of the ass tribe, and has, as I think you know, a black stripe along its back, and another across its shoulders. In former times, when people were very ignorant, they thought that these two black lines, which resemble a cross, were put on the animal by our Saviour when he rode into Jerusalem on one.



ZEBRAS.

The poor donkey is often sadly ill used, and called stupid, and treated as if it were so ; but in reality it is very intelligent, and becomes much attached to any one who treats it kindly. It is so sure-footed, too, that it can be used in mountainous countries where no horse could go—not only along straight roads, but up and down steep precipices, where one hasty step or a chance blow against the side of the mountain would throw the rider into the ravine below. But if the traveller wishes to journey in safety, he must let the animal have its own way. When it comes to the top of one of these steep hills, it stands still for some time, looking at the road down which it has to pass, and occasionally smelling it ; then placing its feet together, it slides down with great rapidity.

An animal called the mule, which has the horse for one of its parents and the ass for the other, is also very sure-footed, and being stronger than the ass is much used in the Andes of South America.

You know the noise a horse makes is called neighing ; that of the donkey is called braying. The young of both is called a colt or a foal.

VIII.

CUD-CHEWING ANIMALS.



THE different kinds of deer, sheep, goats, and oxen, and many others, belong to the order of animals that comes next in your book, I see, Frank, and are remarkable because they all chew the cud.

And what does chewing the cud mean, mamma?

I will try to explain; and I hope you will be able to understand and remember what I tell you, for the animals that belong to this order are more useful to man than any others that God has made. They are able to live in almost every part of the world, and to go with man wherever he goes. Besides which, they do us this good, that they oblige men to improve themselves. Very ignorant savages are not able to make much use of them. It is only when men have become patient and industrious that they are able to benefit properly by these creatures. Their flesh supplies us with food, their wool and hair and skins with clothing.

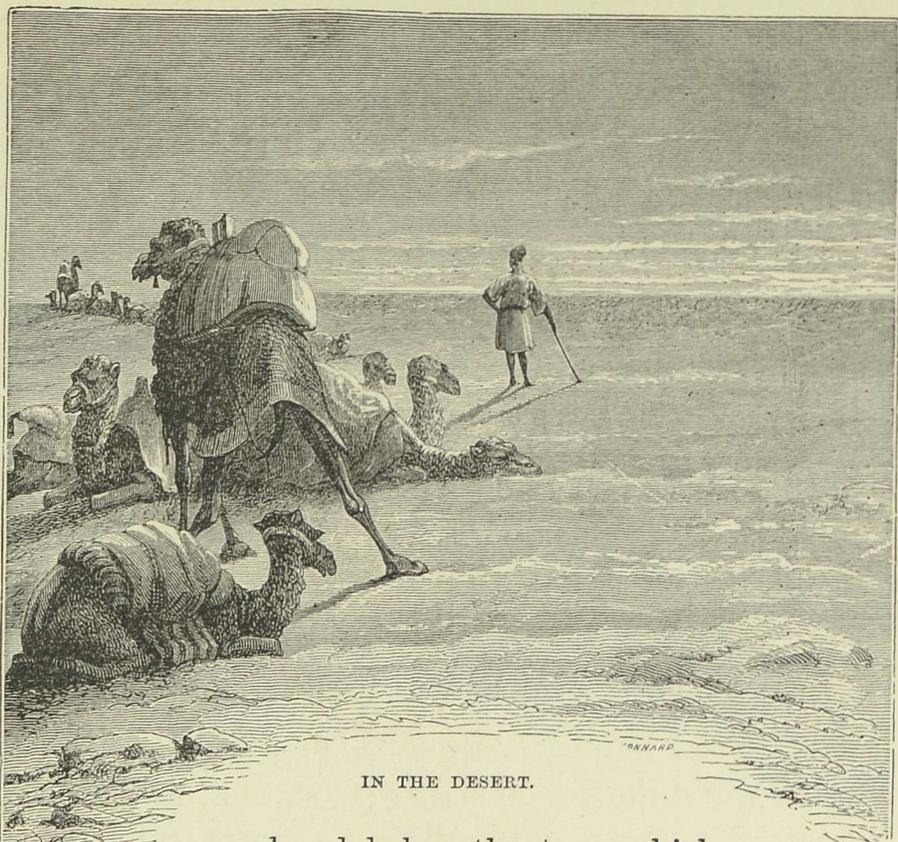
Indeed, men could not live as civilized beings without them, though they are not able to be a companion to man as the dog is. They all live upon vegetables, either browsing the grass of the field or plucking leaves and twigs from trees. Most of them have horns to defend themselves with; but they are generally timid creatures, and trust to flight for safety, and would often starve if they were not able to chew the cud.

And now I must tell you what this means. You know when you eat your food you chew it with your teeth before you swallow it. But these creatures do not chew the leaves and grass they pluck, but place them in a kind of bag, called the paunch, which they fill, when they are eating, at leisure and in safety. Then if a sudden alarm comes they rush off to their homes, and when once more in safety they make the food they have put into their paunch go down into a stomach, where it is softened with different kinds of juices, and then they take it back into their mouth and chew it at their leisure, after which it goes down into the proper stomach and becomes nourishment. Thus, you see, by being able to fill the paunch very rapidly with food, they are often saved from starvation. To enable them to see well, their eyes are placed at the side of the head rather than in front, so that they can look over a great extent of country, and from the shape

of the pupil they can see almost as far behind as before. Their ears are placed far back, and are very movable, so that the animal can hear every passing sound. You know the horse and the ass have the same kind of eyes and ears, though they do not chew the cud.

THE CAMEL.

The camel is the first of the cud-chewing animals we will describe, because in many ways it resembles the thick-skinned creatures we have just been talking about. It is remarkable, too, for having no horns, and can be used only in warm countries. There are now no wild camels. As far back as history can go, we read of camels being domesticated—that is, used by man. You remember Abraham is said to have been rich in camels. It is a native of Arabia, one of the hottest countries of the world. There, as well as in Africa, vast deserts of burning sand extend for miles and miles, and separate the natives more completely than the sea could do. They would be impassable if it were not for the camel, and therefore it is often called “the ship of the desert.” It is from its figure well fitted to carry men and luggage across those dreary wastes. Its height is very great—from six to seven feet at the shoulder. The legs are long and slender. Each foot has two long, broad toes tipped with small hoofs. Soft, wide cushions or pads



are placed below the toes, which support the foot in the shifting sand, and enable the animal to walk without making any noise.

The neck of the camel is long and slender; and the eyes, which are quick to find out water even at a great distance, have long eyelashes on the upper lids to preserve them from the drifting grains of sand. It has the power of closing its nostrils so as to protect them also. You must remember that most animals of this order have no front teeth. The camel has four, but when very young the two middle teeth drop out and

leave a space. The camel has long thick lips, the upper one of which is divided. With them, and with its powerful teeth, it is able to pluck up and eat the hard prickly shrubs that grow in the desert. Though such a large animal, it is able to live on very little food, and has to be content with what it can pick up by the way, for its driver seldom gives it any.

In Syria and Egypt and Arabia great numbers of merchants with their camels travel together. These assemblies of men and animals are called caravans. The camels march one after another. Their necks are generally ornamented with bells, which make a pleasant tinkling sound, of which the animals are very fond. If the luggage piled on one falls off, it is led aside and reloaded while the others march on, so that no time may be lost. But if, alas! the poor camel itself falls from fatigue or thirst, it is left to die.

It is very difficult for us who have not been in those countries to understand the dangers and sufferings to which travellers in those terrible deserts are exposed from the simoom, as well as from the want of water.

What is the simoom, mamma?

The simoom is the name given by the Arabs to the south-east wind, which, sweeping across those vast plains, brings with it clouds of burning sand and dust. A very famous traveller called Burckhardt thus describes

one of those storms that he encountered:—"A dark blue cloud first appeared. As it approached nearer, and increased in height, it assumed an ash-gray colour, with a tinge of yellow, striking every person in the caravan who had not previously seen such a sight with amazement at its magnificent and terrific appearance. As the cloud came nearer, the yellow colour became deeper, while all around the sky was of the brightest blue. At last it burst upon us in its rapid course, and involved us in darkness and confusion. Nothing could be distinguished at the distance of five or six feet. Our eyes were filled with dust. All our tents, even those most firmly fixed, were levelled with the ground. In the meantime the terrified camels arose, broke the cords by which they were fastened, and endeavoured to escape from the destruction which seemed to threaten them."

On another occasion Mr. Burckhardt was overtaken by a storm when he was quite alone. He thus describes it:—"When the whirlwind arose, neither house nor tree was in sight; and while I was endeavouring to cover my face with my handkerchief, my dromedary, made unruly by the quantity of dust blown into its eyes and by the terrible noise of the wind, set off at a furious gallop. I lost the reins and fell to the ground, and not being able to see ten yards before me, I remained wrapped up in my cloak on the spot where I had fallen until the wind

abated. When pursuing my dromedary, I found it at a great distance quietly standing near a low shrub, the branches of which afforded some shelter to its eyes."

Many sad tales are told of travellers who have lost their way and perished miserably in those burning sands; for you must remember that there are no trees or hills or rocks to guide them through those vast deserts—nothing but the sun by day and the stars by night, and their sufferings are often cruelly increased by the mirage.

I do not know what the mirage is, mamma, though I have often heard about it.

The mirage is what is called an ocular deception: that means that a person thinks he sees things that are not really before him. In those deserts the traveller sees before him lakes of water, which are gone the instant he arrives at the spot where he hoped to be able to quench his thirst. The Arabs are so accustomed to this strange sight that they are seldom deceived by it; although if a real stream and a mirage could be seen together, it would be difficult to tell the one from the other. The guides of the European traveller often amuse themselves by calling to him that water is in sight when they are upon the most thirsty spots of a sandy or gravelly plain. The same Mr. Burckhardt mentions that during one whole day's march they were

surrounded on all sides by lakes of mirage. Their colour was of the purest azure, and so clear that the shadows of some distant mountains were reflected in them with the greatest precision, and the delusion of their being sheets of water was rendered still more perfect.

When it is to be loaded the camel is made to kneel ; and that it may not be hurt by the burning sands and rough stones of the country, nature has provided the knees and breast of the animal with very thick cushions or pads of hard skin. When the loading begins, the animal sets up a harsh, ill-natured growl ; for it has a very savage, revengeful temper, and constantly tries to bite, so that the Arabs have a proverb, and when they wish to say a man is very unforgiving, they say he has “a camel’s temper.” It walks very slowly, only three miles an hour, but very steadily, and can go on for twenty hours at a time.

The Arabs are invariably kind to this useful animal ; and well they may be, for not only is it useful as a beast of burden, but it is to them what the cow and the sheep are to us. The camel’s milk, mixed with meal, is a favourite dish with them. A kind of rancid butter is made by shaking the cream in a goat-skin bag. At certain seasons of the year the camel’s hair becomes loose, and can easily be pulled off by the hand without

hurting the animal. This is woven into cloth for tent coverings and other purposes. Fresh hair, you understand, grows in its place. It is too valuable an animal to be often killed for food, but at great feasts a rich Arab will sometimes do so. And in the burning desert, on a long march, when its owner is dying from thirst, he will kill the beast to get at the water contained in its stomach.

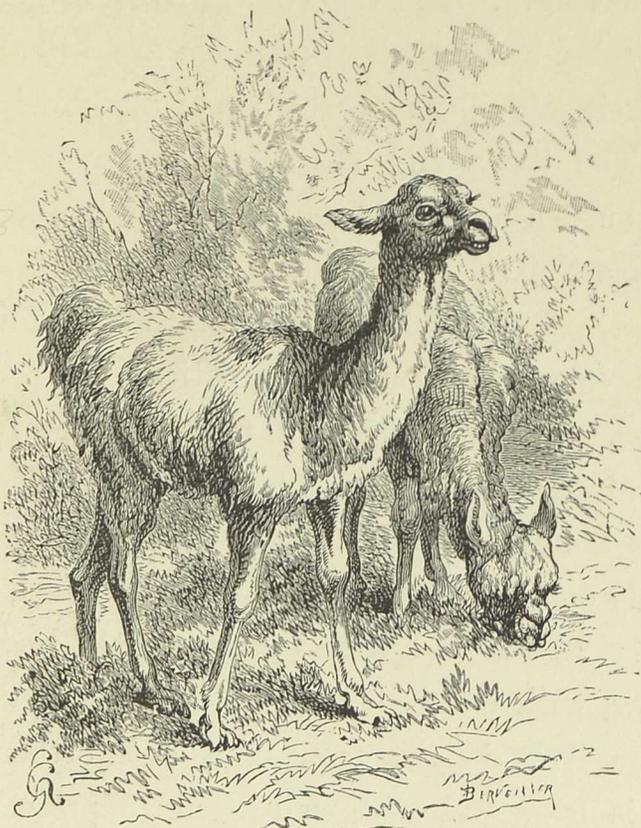
In its stomach, mamma! What do you mean?

There are cells or bags in the paunch of the camel which it has the power of filling with water, so that it can go on a journey of five or six days, or even for a longer time, without drinking, being refreshed by this supply. This water is of a light-green colour, and has a very disagreeable taste; but dying men will take anything. The hump of the camel, too, enables it to go for a long time without food, as the fat and flesh of it help to nourish the animal. Toward the end of a journey, therefore, the hump often becomes very small. There are two kinds of camels. The common one of Arabia has only one hump. The Bactrian camel has two, but is not nearly so strong nor so useful an animal.

The dromedary is a kind of camel, but smaller and finer: there is much the same difference between them as there is between a fine riding horse and a cart horse.

There are no camels in America, but instead of them

there is a curious animal with woolly hair, very like a long-necked sheep. This is called the llama, and belongs to the same family of animals as the camel, though it is much smaller, being only between three and four feet in



LLAMAS.

height. Moreover, it has no cells in its stomach for holding water; and the feet are different. Those of the camel fit it for walking on the soft sand. In the feet of the llama the toes are covered with hoofs which are very much divided, and are so hooked as to look like

claws. These enable the animal to climb amongst the rocks of the Cordilleras. There are four different kinds of llamas, but they all are natives of South America, and of no other country. One kind of llama, called the vicugna, has never been tamed. It lives in great herds on the Andes, and numbers of them are killed for the sake of their soft silky fur, which is of a yellowish-brown colour. The llama and the alpaca were employed as beasts of burden by the old inhabitants of South America, at the time the Spaniards conquered the country. The hair of both these animals is made into stuff for dresses. Like the camel, they are very patient, and need very little food. But they have a nasty habit of spitting when displeased.

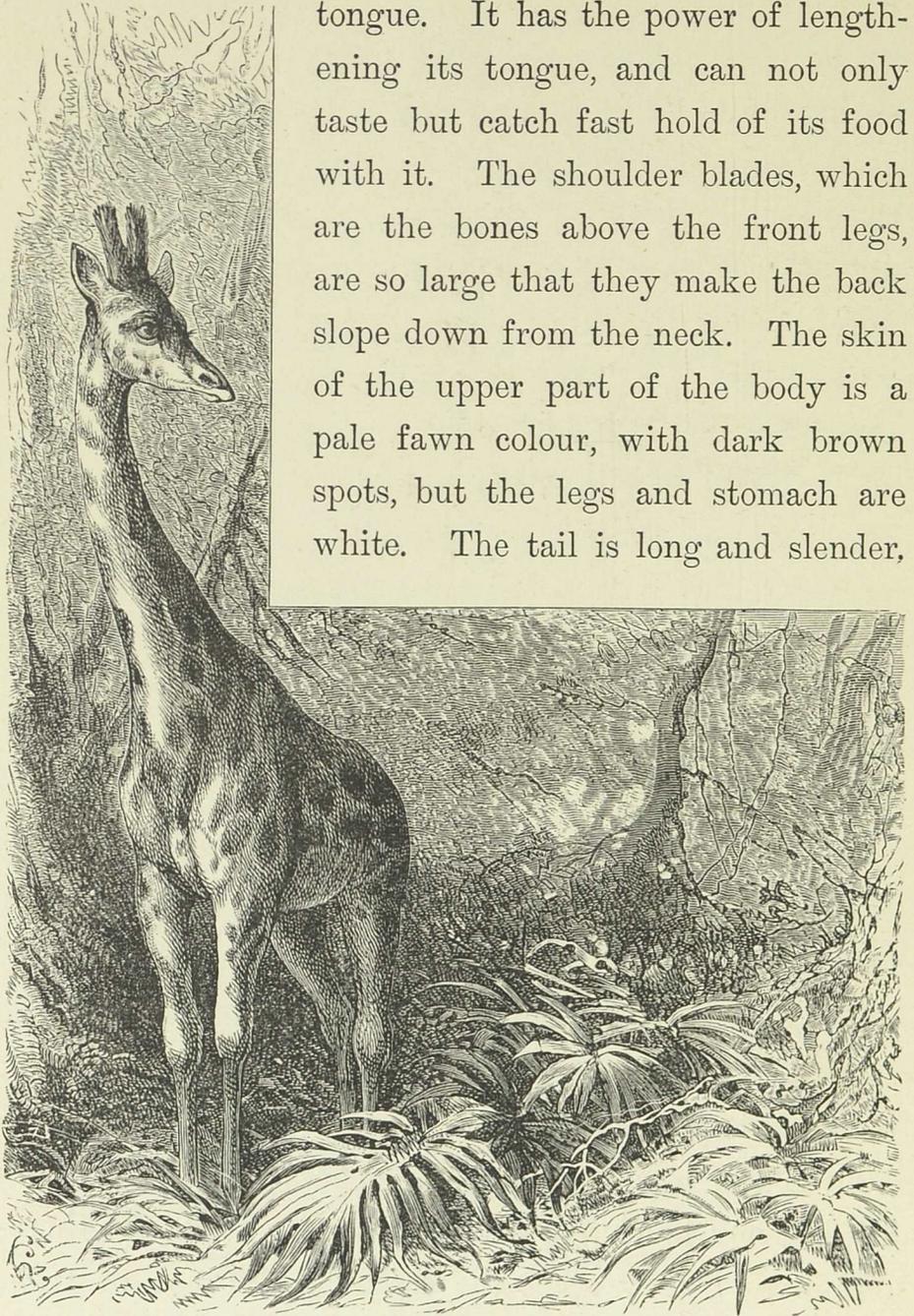
The little musk-deer is also a cud-chewing animal, and is the only one, except the camel and the llama, that has no horns. The male has two long pointed teeth in the upper jaw, with which it digs up roots. The common musk-deer lives in the mountains of Northern India. The fur is long and stiff, well fitted to protect it from the cold of these regions. Great numbers of them are killed for the sake of a substance called musk which is found inside them, and is much used as a perfume. Other kinds of musk-deer, called chevrotains, live not amongst rocks, but in the forests of Southern India. They are beautiful little creatures, and easily tamed.



MUSK-DEER.

You will easily remember all that I can tell you about the giraffe, Frank. This curious-looking creature is found only in Africa, and is the tallest of all animals, sometimes twenty feet in height. Its long slender neck is fringed with a short black mane; but long as the neck is, the legs are so much longer that the creature can scarcely touch the ground with its head. It therefore lives chiefly upon the leaves and twigs of trees, which it strips off and places in its mouth with its long

tongue. It has the power of lengthening its tongue, and can not only taste but catch fast hold of its food with it. The shoulder blades, which are the bones above the front legs, are so large that they make the back slope down from the neck. The skin of the upper part of the body is a pale fawn colour, with dark brown spots, but the legs and stomach are white. The tail is long and slender,



GIRAFFE.

with a tuft of black hair. The head is small; and with its large dark eyes the animal can see behind as well as in front. The upper eyelids are fringed with long eyelashes to protect the eyes from the sand, and for the same reason the nostrils are mere slits which the animal can close at will. On the head are two little horns covered with skin and crowned with a tuft of dark hair. They are of no use to it in fighting; the giraffe employs its hoofs for that purpose, and with a single kick can kill a lion. It is a gentle creature, and easily tamed. About three hundred years ago the Sultan of Egypt gave one to Lorenzo de Medici, Grand Duke of Tuscany. It was a great favourite with the people of Florence, and was in the habit of walking about the streets, stretching its neck to the balconies and windows of the houses for food. The giraffe is remarkable for being a silent animal, unable to make a noise of any kind. The natives hunt it for the sake of its flesh and its tough thick skin.

DEER.

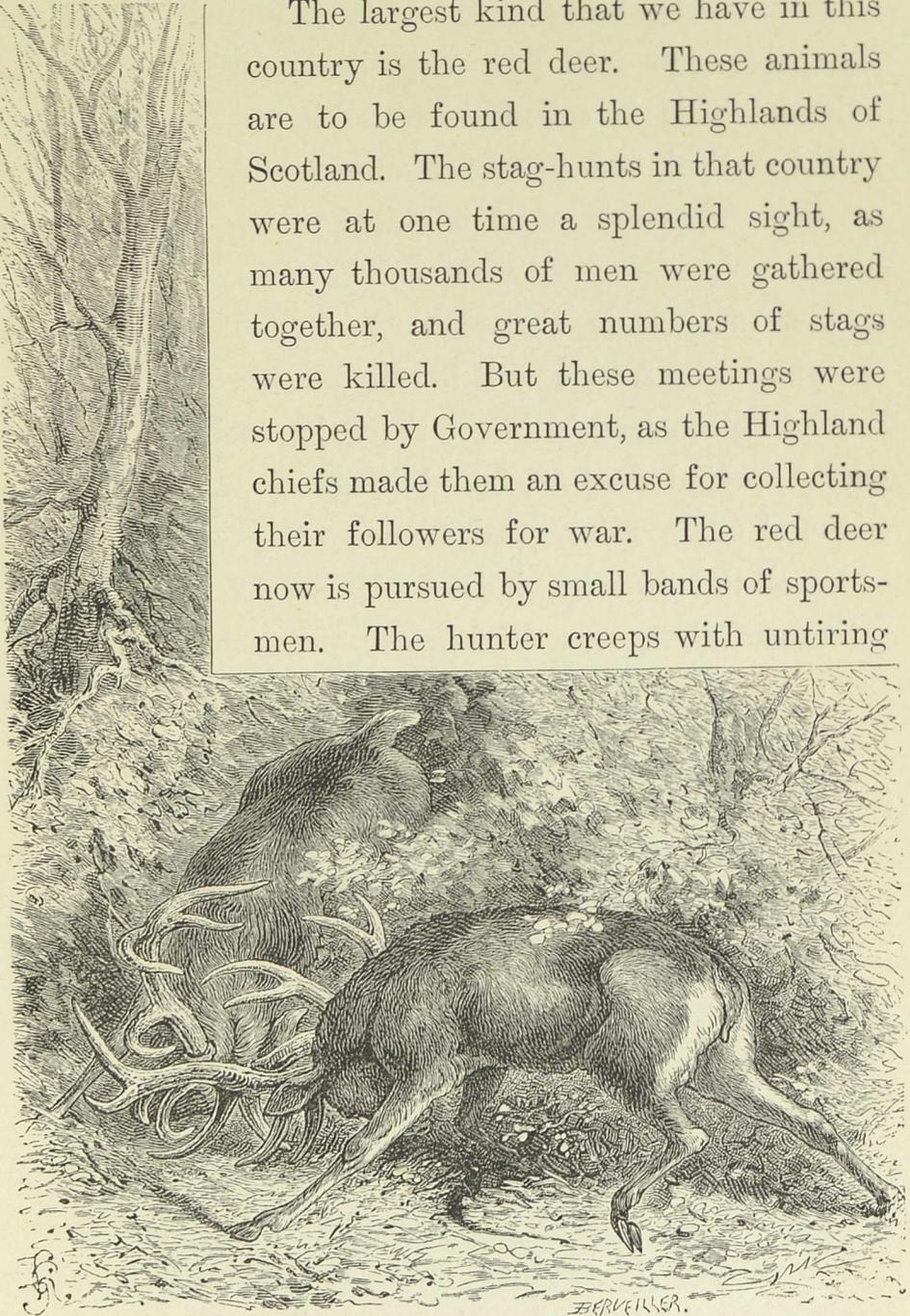
I hope you understand, Frank, that all the different orders of animals are divided into families. The animals in the different families are like each other in some things, but not in others. The camel and the various kinds of deer belong to different families of the cud-chewing order. They all chew the cud, they all have

hoofs ; but the camel, you know, has no horns, whereas the male animals of all kinds of deer have.

And so has the cow, mamma.

Yes ; but the horns of the cow are not like those of the deer. I will tell you about hers by-and-by. And first you must remember that the horns of the deer are called antlers. They are not made of ivory, like the tusks of the elephant, nor of horn, of which its hoofs are made, but of bone. Every spring the old horns fall off and new ones come in their place. When the stag is two years old, a little swelling, covered with a velvety kind of skin, is seen on each side of the head. These swellings are burning hot to the touch, because they are full of blood rushing quickly through them. Each drop as it passes leaves behind it a tiny bit of bone ; and you can understand that as one atom of bone is added on to another, the antler grows larger and larger. At last, at the end of ten weeks, it is large enough ; and then the blood, instead of adding more bone to the end of the antler, leaves bone at the place where the antler joins the head, and so the holes through which it has rushed are soon filled up, and therefore no more of it can go through. Then the velvety skin dries up and falls off, and the stag helps it to do so by rubbing it against trees. Every year the antlers grow a little larger. It is only the male deer that has them.

The largest kind that we have in this country is the red deer. These animals are to be found in the Highlands of Scotland. The stag-hunts in that country were at one time a splendid sight, as many thousands of men were gathered together, and great numbers of stags were killed. But these meetings were stopped by Government, as the Highland chiefs made them an excuse for collecting their followers for war. The red deer now is pursued by small bands of sportsmen. The hunter creeps with untiring



STAGS FIGHTING.

caution among rocks and thorns and mud till he can bring his gun into proper position for shooting the animal. This is called deer-stalking. The red deer is a beautiful and powerful animal, and at times very savage. The male of it is called a stag, the female a hind.

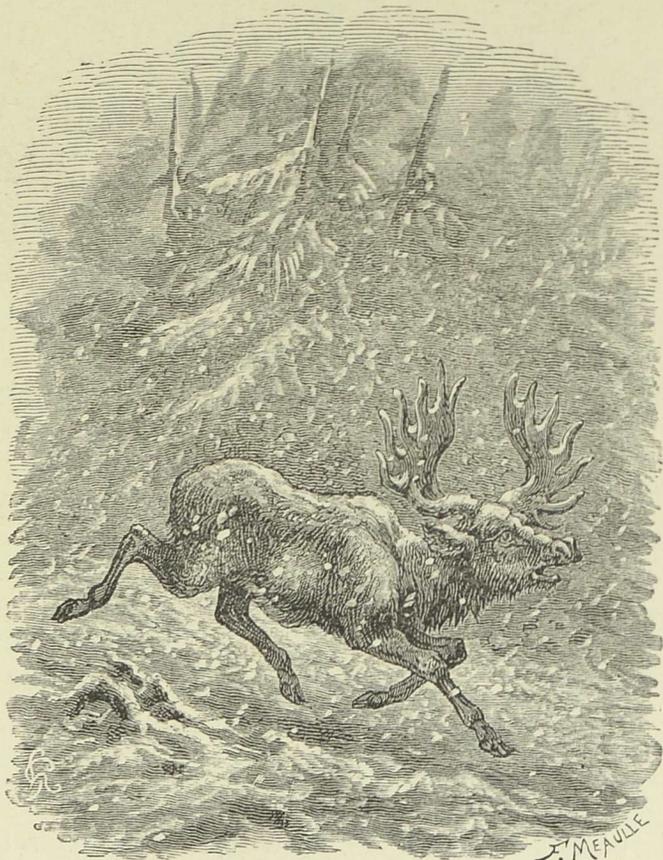
The roebuck is the smallest deer found in Great Britain. The female of it is called a doe.

The fallow deer is larger than the roebuck. It is a pretty spotted creature, found in great numbers in the parks of our country gentlemen.

Of all the different kinds of deer the elk is the largest. It is not fully grown till fourteen years old, and then is from seven to eight feet in height. The antlers are large and broad, to enable it to shovel up the snow and get at the grass below, and so powerful that with a single blow it can kill a wolf. It is found in all the northern parts of the world, and in America is called the moose. The hide is so thick that a bullet will scarcely pierce it. For this, and for its flesh, all parts of which are good for food, it is much pursued by hunters. The tongue and the nose are said to be delicious eating. A few in Sweden have been tamed and trained to draw sledges. The colour of its fur is a dark brown.

The wapiti is another large American deer. The sambur and the axis are natives of India. Besides these,

there are many more whose names you could not remember. Most of them are easily tamed, and many



ELK.

stories are told of their being harnessed to and drawing light carriages; but they are not to be trusted, for though the fawns, as young deer are called, are playful and gentle, they always become savage as they grow old.

The flesh and the skin of all these animals are useful to man; but the reindeer is the only one of the deer tribe that has been domesticated—that means, that it



REINDEER.

has been taught to obey and to be useful to man. It is rather smaller than the elk, but like it lives in the cold northern regions of the world. In America it is called the cariboo. To the Laplander the reindeer is as useful as the cow and horse and sheep are to us. He eats its flesh, and makes clothing of its hide, which is so thick that any one wrapped in it can sleep out of doors even in Lapland without suffering. Besides all this, the reindeer draws his sledge, which is the only conveyance the Laplander has. It can trot about ten miles an hour. There is the portrait of a reindeer in the Palace of Drotningholme in Sweden that had drawn a

sledge conveying an officer with important papers the enormous distance of eight hundred miles in forty-eight hours. The story adds that the poor animal fell down dead at the end of the journey. And this useful animal requires very little food. It lives on a white kind of moss or lichen which covers the mountainous parts of Lapland, and to get at it the creature digs up the deep snow. Like the camel, reindeers travel in a long single line. If by chance a traveller becomes separated from his friends, his reindeer will bring him safely to them; for, holding its nose to the snow, the animal tracks them by its keen sense of smell, as a dog would. The colour of the reindeer in summer is of a blackish brown. In winter the fur becomes longer and of a lighter hue.

ANTELOPES.

Though many of the antelopes are very like deer in appearance, others are like oxen, and some are like goats; so they are divided into four classes: 1. The true antelope; 2. The bush antelope; 3. The capriform or goat antelope; 4. The bovine or ox antelope.

The horns of all these creatures, though they differ in size and shape, are the same in substance. In all antelopes one and sometimes two bones rise up from each side of the forehead. These bones are covered over with a sheath of horn, just as your glove covers your hand.



GAZELLES.

They never fall off, but both the inner bone and the outer covering of horn grow as the animal grows. Most of the females have horns as well as the males. Altogether there are about seventy different kinds of antelopes. One of the most beautiful of them, the Ariel gazelle, is so swift that a greyhound cannot catch it, and the falcon is therefore used in hunting it. The bird is trained to strike at the head and eyes of the poor little gazelle, and thus delay it till the dogs come up. This pretty creature is easily

tamed, and is a common pet in Syrian families. The skin is a yellowish brown in colour, the stomach being white.

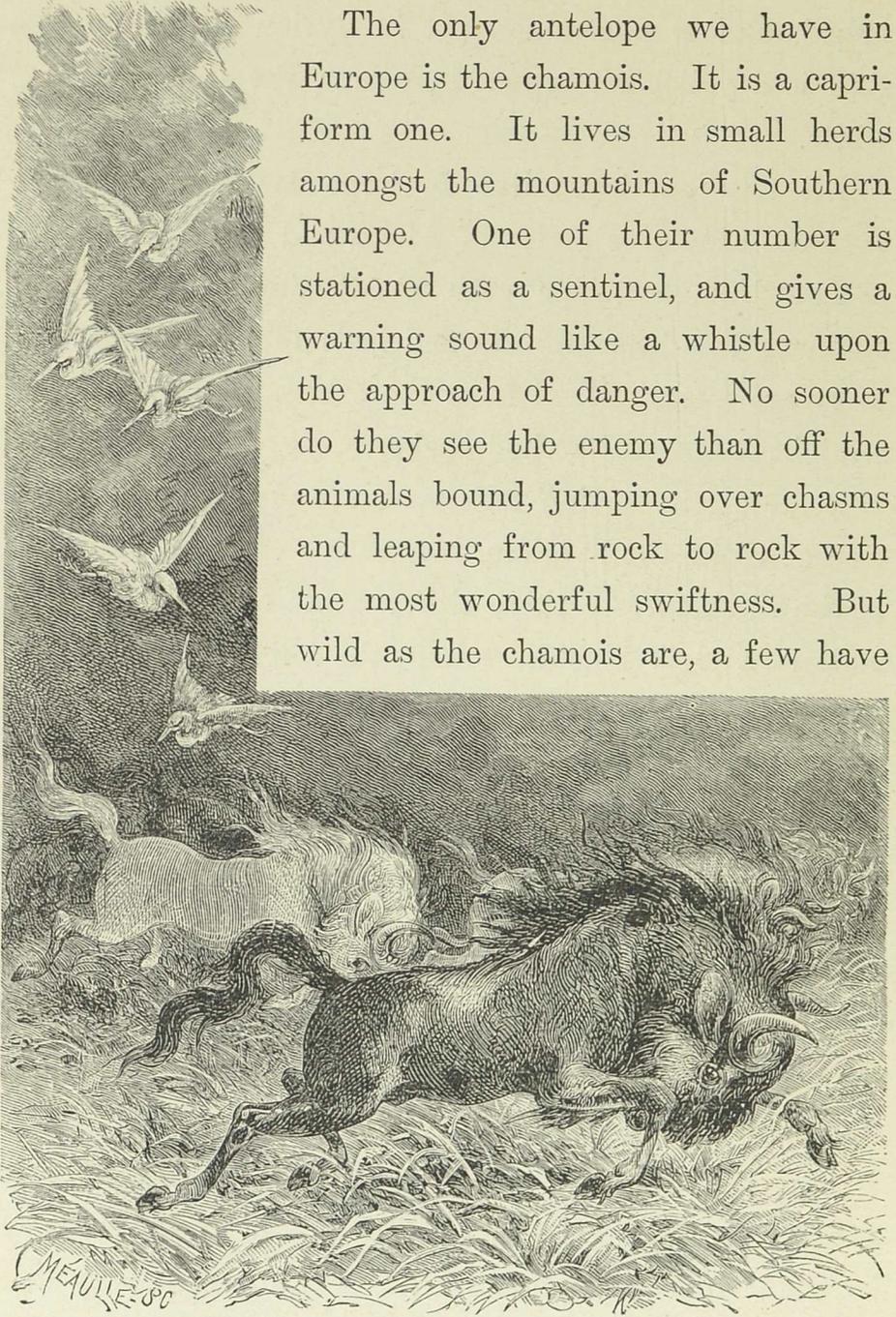
All true antelopes live in large herds, and wander over the extensive plains of Africa and Arabia.

The bush antelope goes about singly or in pairs amongst the dense forests and beds of reeds of Africa. They are distinguished from the others by having short straight horns and arched backs.

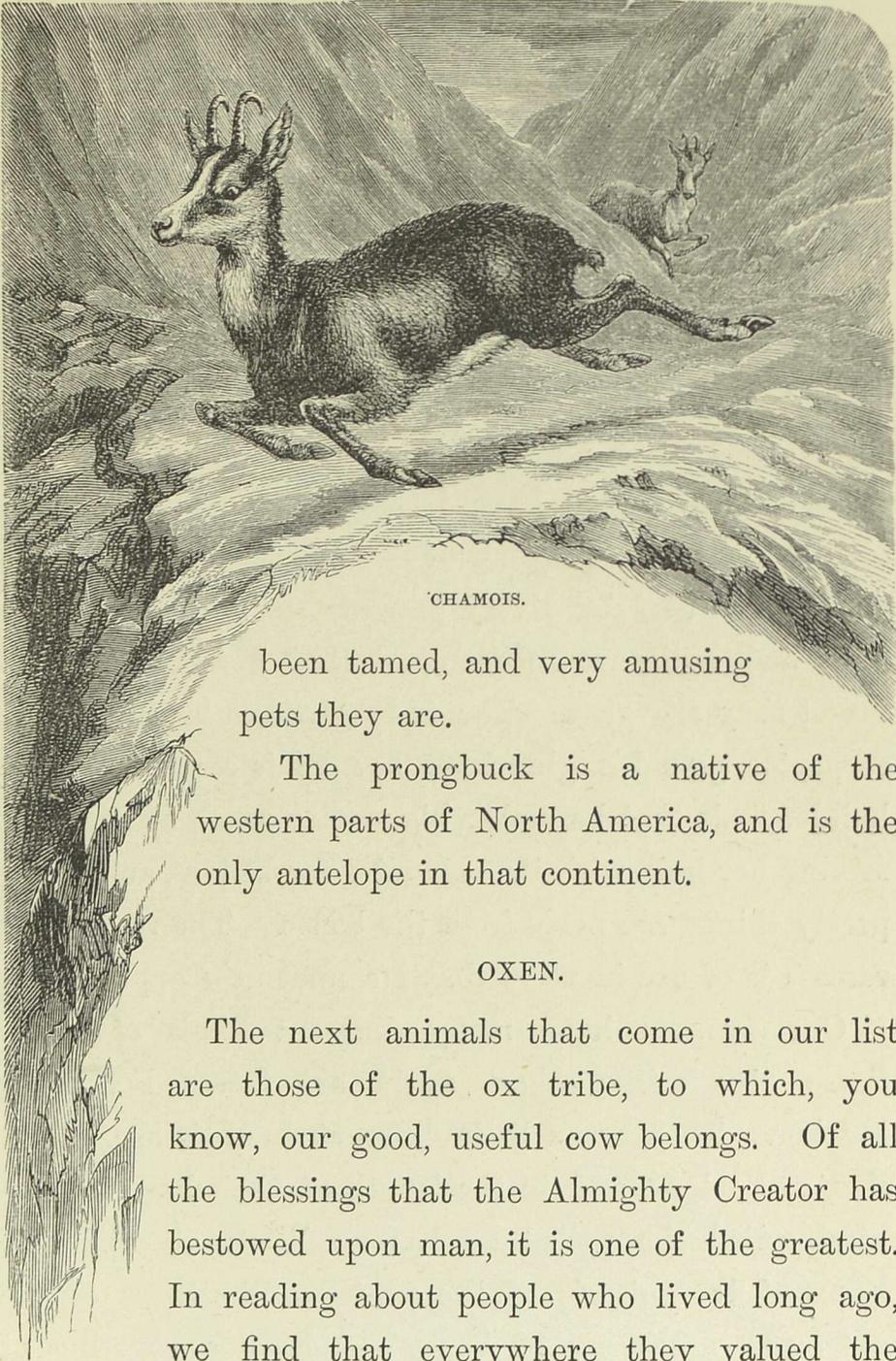
Some of the bovine antelopes are very large animals. One of them, the nylghau, is a native of India, and lives in the thick forests there either alone or in pairs. The male is a slaty blue in colour, the female a tawny red. Another, the ganna or eland, is the largest of them all, and is a native of South Africa. It is nearly six feet in height, and is of an ashy-gray colour generally. But the gnu, also a native of Africa, is the most curious-looking of them all. The head and horns are like those of an ox. The eyes are large, and have a savage expression. The body, the tail, and the neck with its flowing mane, resemble those of a horse; but it has the legs of an antelope. It is rather more than four feet in height; and though it can be domesticated, it is a savage creature, and, like the bull, is driven to fury by the sight of anything scarlet. The flesh is very like beef in taste.

THE CHAMOIS.

The only antelope we have in Europe is the chamois. It is a capri-form one. It lives in small herds amongst the mountains of Southern Europe. One of their number is stationed as a sentinel, and gives a warning sound like a whistle upon the approach of danger. No sooner do they see the enemy than off the animals bound, jumping over chasms and leaping from rock to rock with the most wonderful swiftness. But wild as the chamois are, a few have



GNUS.



CHAMOIS.

been tamed, and very amusing pets they are.

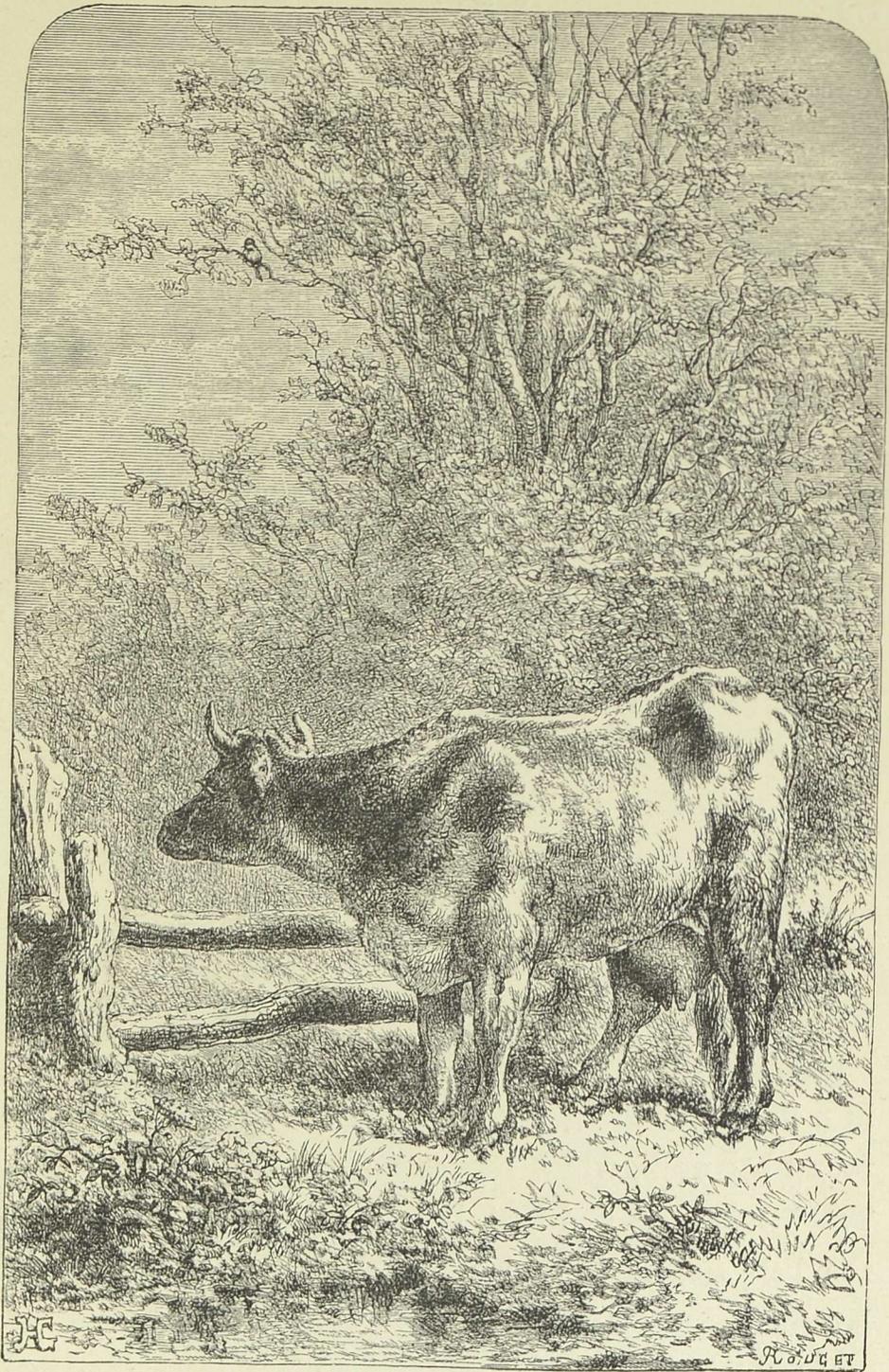
The prongbuck is a native of the western parts of North America, and is the only antelope in that continent.

OXEN.

The next animals that come in our list are those of the ox tribe, to which, you know, our good, useful cow belongs. Of all the blessings that the Almighty Creator has bestowed upon man, it is one of the greatest. In reading about people who lived long ago, we find that everywhere they valued the

cow. The Egyptians worshipped a bull and a cow, as they thought these creatures represented the sun and the moon, which were their chief gods. Even now the natives of India believe that these animals are particularly beloved by their great god Brahma. And our own Saxon forefathers who conquered Britain believed that the father of their great hero Odin sprang alive out of the body of the cow Adumla. All this shows that they knew what a great gift the cow is to us. And as men have improved and become more civilized, the cow has improved too—has become more gentle and useful. Every part of her is of use. Her flesh and milk are so plentiful that I fear we almost forget they are gifts. The hide gives us leather. The carpenter gets his glue from her hoofs and ears. The builder finds that he makes his mortar much stronger by mixing her hair with it. Handles for knives, and many pretty things, are made from the bones. The rest of her carcass is of use in ways that I cannot now explain.

Our farmers have many different kinds of cattle. Some give milk; others again are fattened for the butcher. They are a little different in their shape, and size, and colour, and in the length of their horns. One kind, called the polled ox, has no horns at all. The horns of the animals of the ox tribe, like those of the antelopes, are made of bone, and have a covering of



THE COW.

horn. You must remember that oxen have no front teeth, only side ones, in the upper jaw. In many parts of this country the ox is used to draw both the cart and the plough, and this is still the case all over the rest of the world.

When the Dutch settled at the Cape of Good Hope, they found that the Hottentots, as the natives there are called, had cattle. Those creatures were of a very large size, and were not only trained for riding, but were used in battle against their enemies. They were also taught to guard the kraal or village, and though obedient as a dog to the inhabitants, any stranger who approached was sure to be killed by them.

In Switzerland the cows are treated with great affection. They live during the winter in the valleys at the foot of the mountains, which they gradually ascend as the warmer weather comes on. The peasants collect them by blowing on the Alp-horn: this is a tube of wood about five feet long, and the sound it makes can be heard at a great distance. These cows always walk in a line, one taking the lead. This cow has a bell tied round her neck, which makes a pleasant tinkling sound. The handsomest and best behaved cow is chosen to bear the bell, and it is said that she is very proud of the honour.

In Moldavia and Wallachia there are large herds of

cattle which wander about with their owners in search of pasture, much in the same way, as we read, that those of Abraham did. Can you remember, Frank, who is the first person mentioned in the Bible as having cattle?

Yes, mamma; it was Jabal, the son of Lamech.

Quite right. You can understand therefore that it is quite impossible to find out in what country the race of oxen we now possess lived in a wild state. Though there are several wild animals of the ox tribe, none of them are quite the same as ours. The Earl of Tankerville has at Chillingham Park and the Duke of Hamilton at Cadzowe Forest some very handsome wild cattle. They are very swift and savage, as well as beautiful. They are white, with red ears, and their white horns are tipped with black. It is not known whether our peaceful, gentle cow is descended from them, or whether, long long ago, these white wild cattle were not tame. For in America, when the Spaniards conquered it, there were no cattle. Some were therefore taken across from Europe, and the descendants of these tame animals now roam in large herds over the pampas, as the plains there are called. They are of a reddish-black colour. But though fierce and wild, they all belong to different farmers, and are branded with the names of their owners. In Paraguay the people have little other food than the flesh of these cattle. Spoons, combs, and

drinking-cups are made of the horns, whilst the hides are used for bedding and for covering tents. Soap and candles are made from the suet, and the fat is used instead of oil. The bones are burned for fuel, and even the skulls make very good chairs in the *estancias*, as the large farms are called.

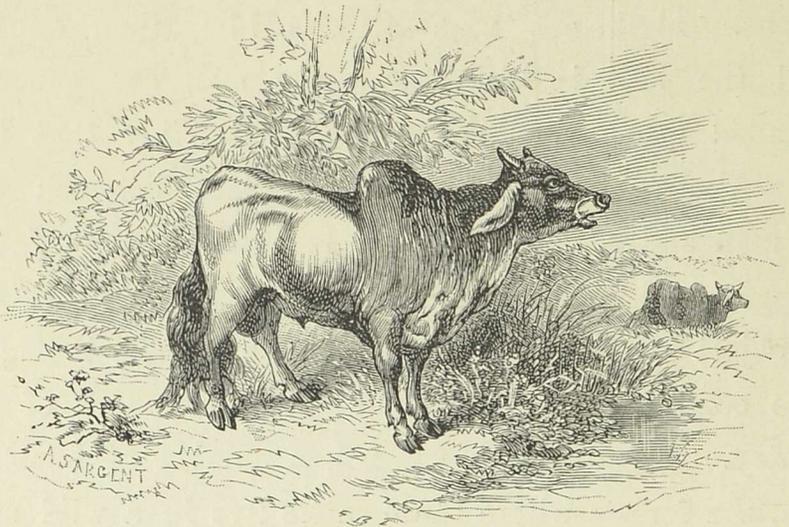
Large numbers of the same kind of cattle are found in the forests of Spain and in the Maremma of Italy. The Maremma is a flat piece of country which extends between the western side of the Apennines and the Mediterranean for nearly seven hundred miles. The small portion of it that is cultivated produces very fine harvests; but the greater part is marshy, and in summer very unhealthy. Here it is that these wild cattle roam about under the charge of keepers, called *vaccari*, who are as wild as themselves. They are generally men who have committed some great crime and have fled to the Maremma to escape from punishment. They are always mounted on fleet horses, and are armed with a long lance, which they use to defend themselves from, as well as to guide, the cattle which they collect and drive into the towns to be sold, and also to exhibit at the bull-fights, for the Italians as well as the Spaniards are very fond of these shows.

I have often heard of bull-fights, mamma. What are they?

I will try to explain what they are as simply as I can. One of these poor animals is driven into a court, round which there are rows of seats, one rising above another, for the spectators. There the bull finds five or six horsemen waiting for him, all armed with lances, and with a red scarf tied round their waists; and, you know, anything scarlet in colour drives the animal furious. First one man attacks him, then another, until the bull is killed, and the men are generally wounded themselves, sometimes so terribly that they die. Very often the fight takes place between only one man and a bull, and that is a much more fearful struggle. These men are called matadores. Sometimes the object is not to kill the bulls, but to tame them; for these creatures are used in all the farm-work of that country. When one is wanted, a number of horsemen go to the forests where these cattle live in a wild state, and surrounding a number choose out the best, and drive them into a neighbouring town. This is a work of great danger, as the bulls constantly turn round and charge the men; but when once they have been got into the court where the fight takes place, they are so thoroughly tamed by the cruel treatment they there receive that they can at once be employed on farms.

In Europe there is only one really wild animal of the ox tribe that can never be tamed. This is the

aurochs. It is found only in the forests of Lithuania in Poland. Though only six feet in height, it is so powerful that one aurochs is able to overcome several wolves. The hair is dark brown in colour. That which covers the body and legs is soft and woolly, but about the head and shoulders it is long and rough and forms a mane.



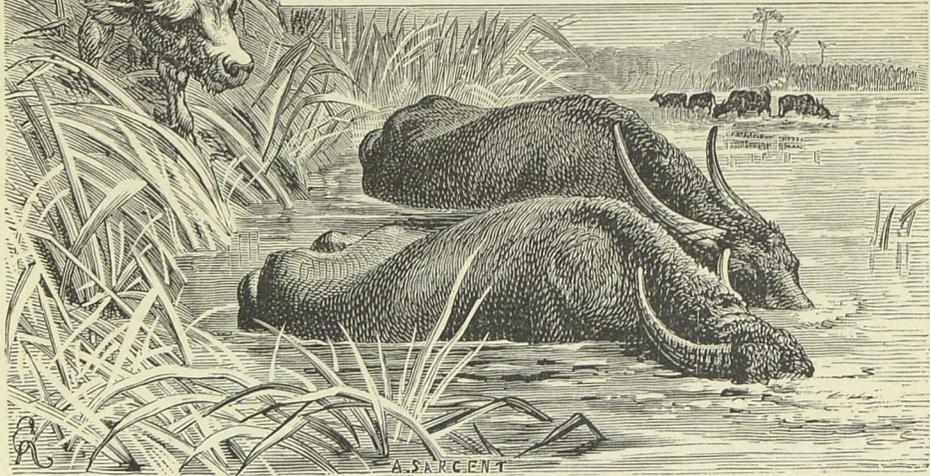
ZEBU.

In India there are many different animals of the ox tribe. The best known are the zebus. They are of different sizes, and some are so swift that they can be used for riding; others again are only employed in drawing waggons. Most of them have a hump on their back. This is especially the case with the Brahmin bull. This animal is much revered by the natives, who believe it is under the particular care of



their god Brahma, and therefore allow it to wander about, eating what it likes out of their shops, and no one venturing to disturb it though it lies down in the path and blocks up the road.

The buffalo also belongs to the ox tribe, and has long been domesticated in India, and has spread from thence into the south of Europe. Though dangerous to a stranger, they become attached to their own keeper, and have often been known to save them from tigers. Being very strong and powerful, they are much used in farm-work, both in India and Italy.



BUFFALOES.

The wild buffalo of India is very savage. That of Africa is still larger and more ferocious.

The gaur, another of these animals, is sometimes seven feet in height. They live in small herds in the thick forests of India, and there the tiger, the elephant, and the rhinoceros dare not attack them. They are, fortunately, when not provoked, very gentle. Their colour is a blackish red, and the noise they make is like a grunt.

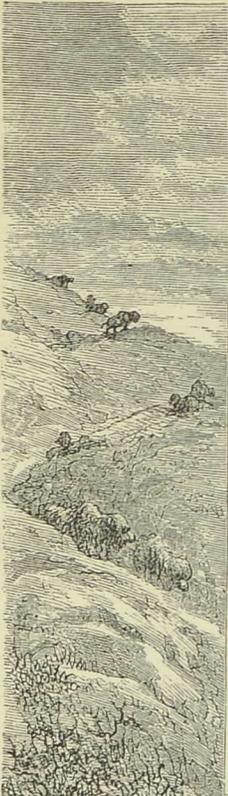
The yak, a native of Thibet, is called the grunting ox from the noise it makes. There are several kinds of them. All can be domesticated. One, the noble yak, is very handsome, with a white bushy tail. This tail is often dyed red, and used by the Chinese to deco-



YAKS.

rate their caps. It is, too, fastened to a silver handle and used in India to flap away the flies from the horses of the great men there.

The bison, which roams in countless herds over North America, is very like the aurochs, but the hair is longer and more closely curled, and the mane actually reaches to the ground. Like the camel, it is able to keep a large quantity of water in its stomach, and is therefore often killed by the hunters when they find themselves parched with thirst in the midst of those vast plains, with no



BISONS.

water in their vessels. The flesh of the bison, especially its hump, is delicious eating, and the Indians use the hide to cover their tents and to make shields.

The musk ox is the smallest animal of the ox family. Its long, woolly, yellowish-brown hair makes it look larger than it really is. It has a strong musky smell, which gives it its name; but in spite of this the flesh can be eaten. It is a swift, active animal, and lives in the extreme north of America.

GOATS AND SHEEP.

Goats and sheep are last in the list of animals that chew the cud. There are so many different kinds of the former that I cannot mention all of them to you. They all have horns and long beards, and when wild prefer to live in mountainous countries, where they leap from rock to rock with great ease. One of them, the ibex, a very handsome animal, with enormously long horns, is found in the Alps. The milk of the goat is very rich. Large herds of them pass through the Syrian towns, and are milked before the houses of the customers. The horse has such an affection for this animal that one of them is often kept in stables, and has been of much use on the occasion of a fire taking place. A goat will march boldly through the flames, and horses, encouraged by its example, will follow, when no persuasions or threats



DOMESTIC GOAT.

of their masters would
 make them do so. The
 hair of the goat is woven into
 cloth, and the beautiful Cashmere shawl
 you have seen ladies wear is made from the
 hair of a kind that lives in Thibet and the
 neighbouring countries, and is called the
 Cashmere goat. I need not tell you, Frank,
 who was the first keeper of sheep.

Abel, mamma.

Yes; but the sheep he took care of would

be very unlike those you see here. They would have horns, as all wild sheep have: some have even as many as six. Few animals change more than it does, according to the place it lives in. Some English sheep were sent to the West Indies, and in two years they became quite thin, and their curly wool turned into long straight hair. The male sheep, you know, is called a ram, and the female a ewe. The male always has horns, and so has the ewe of the black-faced Highland sheep. Like the cow, all parts of this animal are of use. Your comfortable jacket and my soft dress are made from the wool of the sheep.

I thought your gown was made of merino, mamma.

Yes; but merino is the wool of a Spanish sheep. The Syrian and South African sheep have such long fat tails that the shepherds, to keep them from the ground, tie a little board with wheels below them. The fat of these tails is thought a great delicacy, and is used instead of butter.

In a flock of sheep there is always one who leads the rest. If it were to jump over a precipice, the others would follow. The shepherds in the East profit by this habit of following a leader. They have a few pet sheep which come to their call. These follow the shepherd, and the flock follow them. In this country, you know, the shepherd drives his flock before him.

Do you know what cutting the wool off the sheep is called ?

Yes ; it is called sheep-shearing, I think.

Quite right. The Romans had the cruel habit of tearing the wool from the skin, and until lately this was still the custom in Orkney.

There are several kinds of wild sheep. One, the argali, is almost as large as an ox. It is a native of Siberia and North America, as well as of the mountains of Corsica.



ARGALI.

Before we leave the sheep I must tell you a story about a pet lamb which ate up all the parsley in the garden belonging to its mistress. The gardener tried to save some of the herb by putting a glass shade over it; but to his annoyance the creature broke the glass and ate the parsley. A stronger kind of glass, called bull's-eye, was then tried; but it, too, was broken. So now the gardener determined to watch and see how the lamb did the mischief. He placed another frame in the usual spot, and hiding himself, saw the creature come up to it and look at it carefully. Then it walked away, but soon returned, carrying a large stone in its mouth. When it reached the frame, rising on its hind legs, it struck the glass with the stone with such force that it was broken to pieces, and the lamb was able to get at its favourite dainty.

IX.

GNAWING ANIMALS.



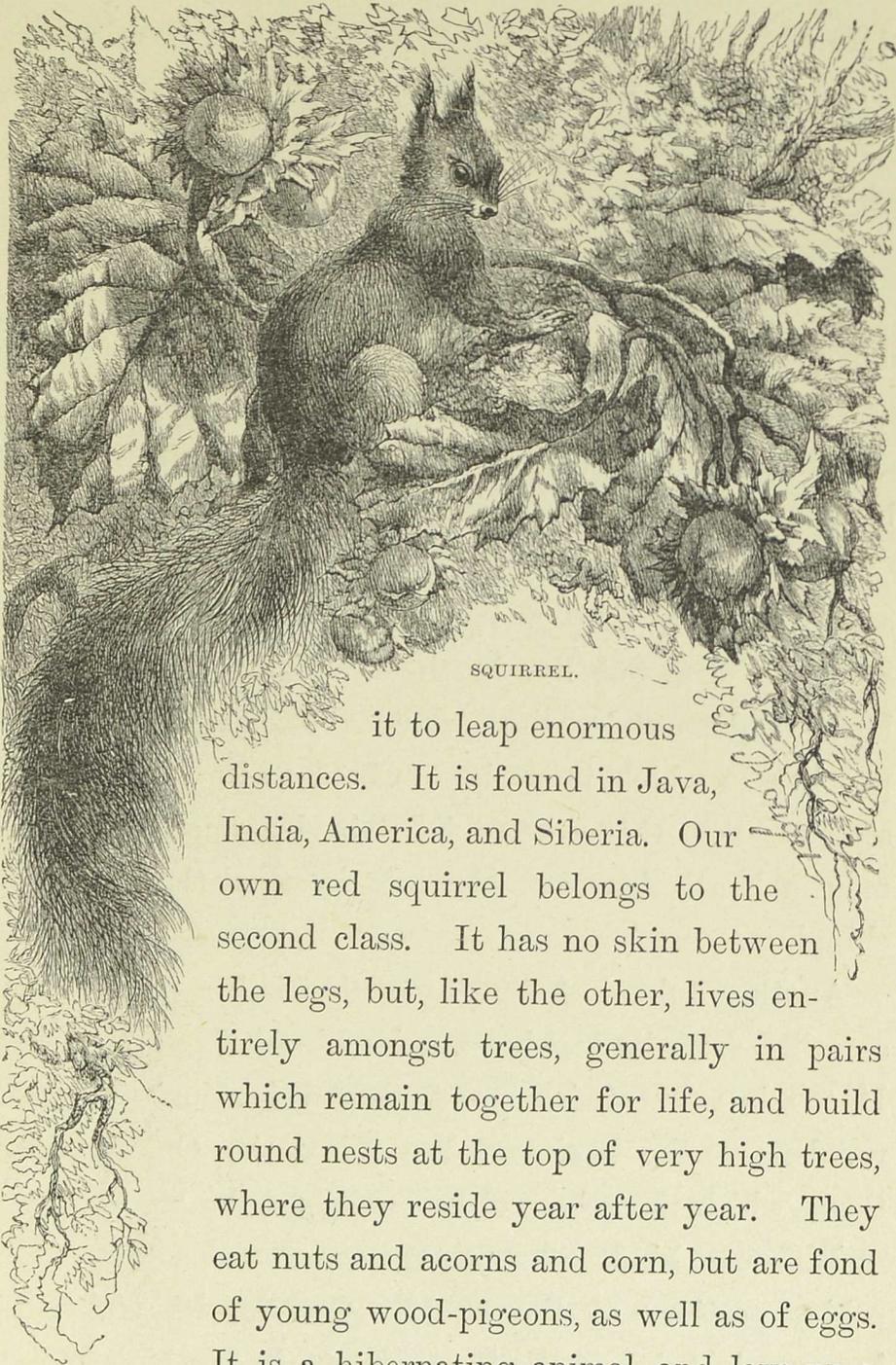
YOU are almost as familiar with the animals described in this next chapter as with the cow and the sheep. They are all vegetable eaters, but particularly they are remarkable because they *gnaw* their food; and when I tell you that the mouse belongs to this order, you will understand what I mean, for you know how it gnaws wood. To enable these creatures to do so, they have two strong, sharp, curved teeth in the very front of both their jaws; but the side ones are few and small. The upper lip is cleft, and is prehensile—which means that they are able to seize their food and place it in their mouths by the help of the lip. They are found all over the world, in every country, able to endure both heat and cold. Many of them live in and near our homes; and the flesh of many of them is good for food and the fur useful. They are easily tamed, but none of them can be domesticated. They cannot be of use to us by what they do, as the

horse and the dog are ; but they can do what the horse and the dog cannot—or rather, I should say, have not been created to do. Some of them can live peacefully together in large numbers, and help each other to build houses, and obey laws ; therefore they are called social animals. The horse and cow and sheep are gregarious animals—they eat and sleep together ; but that is all.

The animals that gnaw their food are sometimes placed next in order to those that eat insects, as the feet of both are very much alike. They have either four or five toes on each foot, and each toe has a sharp curved claw. You have noticed that your white mice often sit on their hind legs ; this they do because the hind legs of all animals that gnaw are longer than the front ones, and they all hold their food between the latter.

The most beautiful of them all is the squirrel. This little creature is found in all parts of the world except Australia. It is of different colours and sizes. The tail is not only its greatest ornament, but is of the greatest use to it in leaping. The hairs stretch out on both sides like a fan, and guide and support the animal. There are three kinds of squirrels.

First, the flying squirrel, which is so called from its having a skin, thin as paper, but covered with fur, stretching between the front and hind legs, which enables



SQUIRREL.

it to leap enormous distances. It is found in Java, India, America, and Siberia. Our own red squirrel belongs to the second class. It has no skin between the legs, but, like the other, lives entirely amongst trees, generally in pairs which remain together for life, and build round nests at the top of very high trees, where they reside year after year. They eat nuts and acorns and corn, but are fond of young wood-pigeons, as well as of eggs. It is a hibernating animal, and lays up a

store of food for winter and spring use. A very beautiful creature of this class, with shining black hair, is found in North America. Another is the gray squirrel of America, which is a great enemy to the farmer. In the far North-west of that continent multitudes of these creatures assemble together, forming a large army, and move eastward. Neither mountains nor rivers stop them; onward they come, devouring and destroying everything, and causing wonder and fear. They have so many enemies besides man that few ever return to their homes.

The third class of squirrels is the ground squirrel; so called because, though it can climb trees with great agility, it does not live in them, but makes its nest in burrows deep under the ground. It has large cheek-pouches, in which it carries its food to its underground storehouses. It is a beautiful striped animal, very common in North America, where it is called the hachee or chipping squirrel.

Another animal of the same kind is the prairie dog; so called from its making a noise like the yelp of a dog. It, too, is a burrowing creature, and is found in great numbers on the banks of the Missouri. One amongst them, which the others obey, is called "the big dog."

Different kinds of marmots are found all over the colder portions of the world. One species makes its burrows just below the line of snow in the high moun-

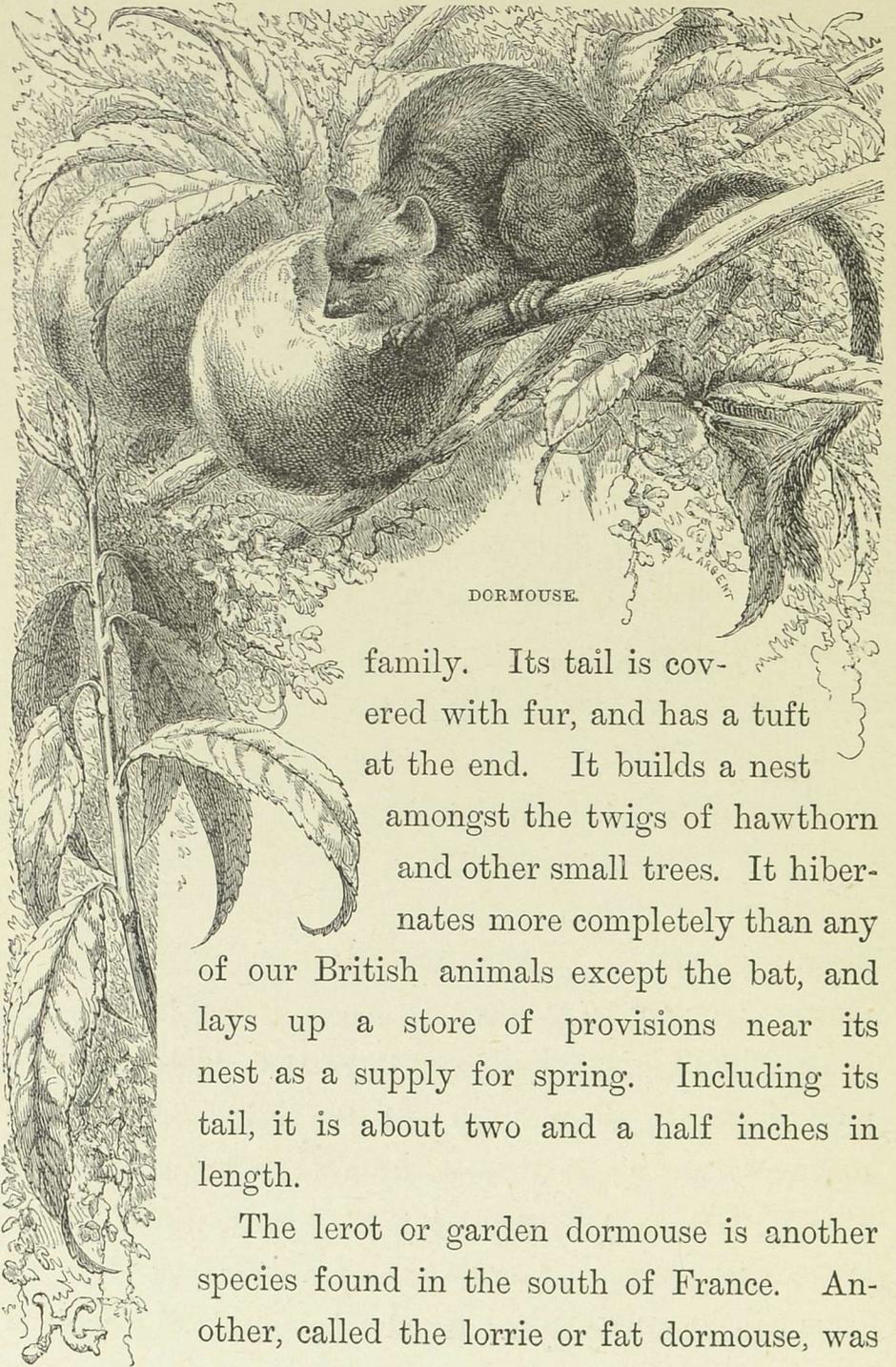
tains of Europe. Several families work at them together. The passage into these burrows for the first six feet is only wide enough to admit one marmot to pass. Beyond this there are other passages and rooms. One of the latter is used as a storehouse for dried grass and nuts for food in spring ; for during the winter they hibernate



ALPINE MARMOTS.

so completely that they never rouse themselves to eat at all. They close up the mouth of their burrow with a ball of hay so as to keep out the cold. They never wander to any great distance from their homes, and one or two of the community are posted as sentinels, which give a piercing cry when an enemy approaches.

The pretty little dormouse also belongs to the squirrel



DORMOUSE.

family. Its tail is covered with fur, and has a tuft at the end. It builds a nest amongst the twigs of hawthorn and other small trees. It hibernates more completely than any of our British animals except the bat, and lays up a store of provisions near its nest as a supply for spring. Including its tail, it is about two and a half inches in length.

The lerot or garden dormouse is another species found in the south of France. Another, called the lorrie or fat dormouse, was

kept and fattened by the Romans as a dainty article of food.

The jerboas, which form another family of the animals that gnaw their food, are natives chiefly of North Africa, and are very like squirrels in the enormous size of their hind legs. With these, and with their very long and powerful tail, which they press firmly against the ground, they leap along the sandy wastes of the desert with such rapidity that they look as if they were flying. They are a tawny yellow in colour, and about the size of a rat. They are burrowing animals, living together in great numbers. Their teeth are so powerful that they can gnaw not only through the hardest wood but through layers of stone.

A little creature very like it, called the jumping mouse, is found in Labrador.

The Cape leaping hare is found all over Southern Africa, where it makes numerous burrows. It is about the size and colour of our common hare, but the ears are shorter, and the hind legs enormously longer.

The legs of our own hare are so long that it hops rather than runs. As it cannot defend itself from its enemies, but can only avoid them, to enable it to do so the better the colour of its fur is like that of dead leaves and earth. Its nest, which it makes of withered grass and leaves, is called its "form;" and to this form

it always tries to return, however far it may have been chased. Hares live alone; their young are called leverets. They sleep with their eyes open; and their eyes are so large and round that they can see as well behind as in front. The ears are tipped with black, and are a third longer than the head, and so movable that they can hear the least noise.

They are easily tamed, if taken when young and kindly treated. I have brought with me to-day my volume of Cowper's Poems. At the end of the book is an account of three hares he tamed. Mr. Cowper had not been well, and thought that the task of attending to these animals would amuse him. I will read to you portions of what he says about them:—

“I undertook the care of three leverets, whom I called Puss, Tiney, and Bess. Immediately commencing carpenter, I built them houses to sleep in; each had a separate apartment. In the day-time they had the range of a hall; but at night each retired into his own bed, never intruding into that of another. Puss soon grew very tame, would leap into my lap, raise himself upon his hinder feet, and bite the hair from my temples. He would suffer me to take him up and carry him about in my arms, and has more than once fallen asleep on my knee. He was ill three days, during which time I nursed him, kept him apart from his fellows that they

might not molest him (for, like many other wild animals, they persecute one of their own species that is sick), and by constant care restored him to health. No creature could be more grateful than my patient after his recovery; which feeling he expressed by licking my hand, first the back of it, then the palm, then every finger separately, then between all the fingers, as if anxious to leave no part of it unsaluted,—a ceremony which he never performed but once again, upon a similar occasion. Finding him extremely tractable, I took him always after breakfast to the garden. I had not long accustomed him to this pleasure when he began to be impatient for the return of the time to enjoy it. He would invite me to the garden by drumming upon my knee, and by a look that it was impossible to mistake. If this did not succeed, he would take the skirt of my coat between his teeth and pull at it with all his force. Thus Puss might be said to be perfectly tamed, and to be happier in human society than when shut up with his fellows.

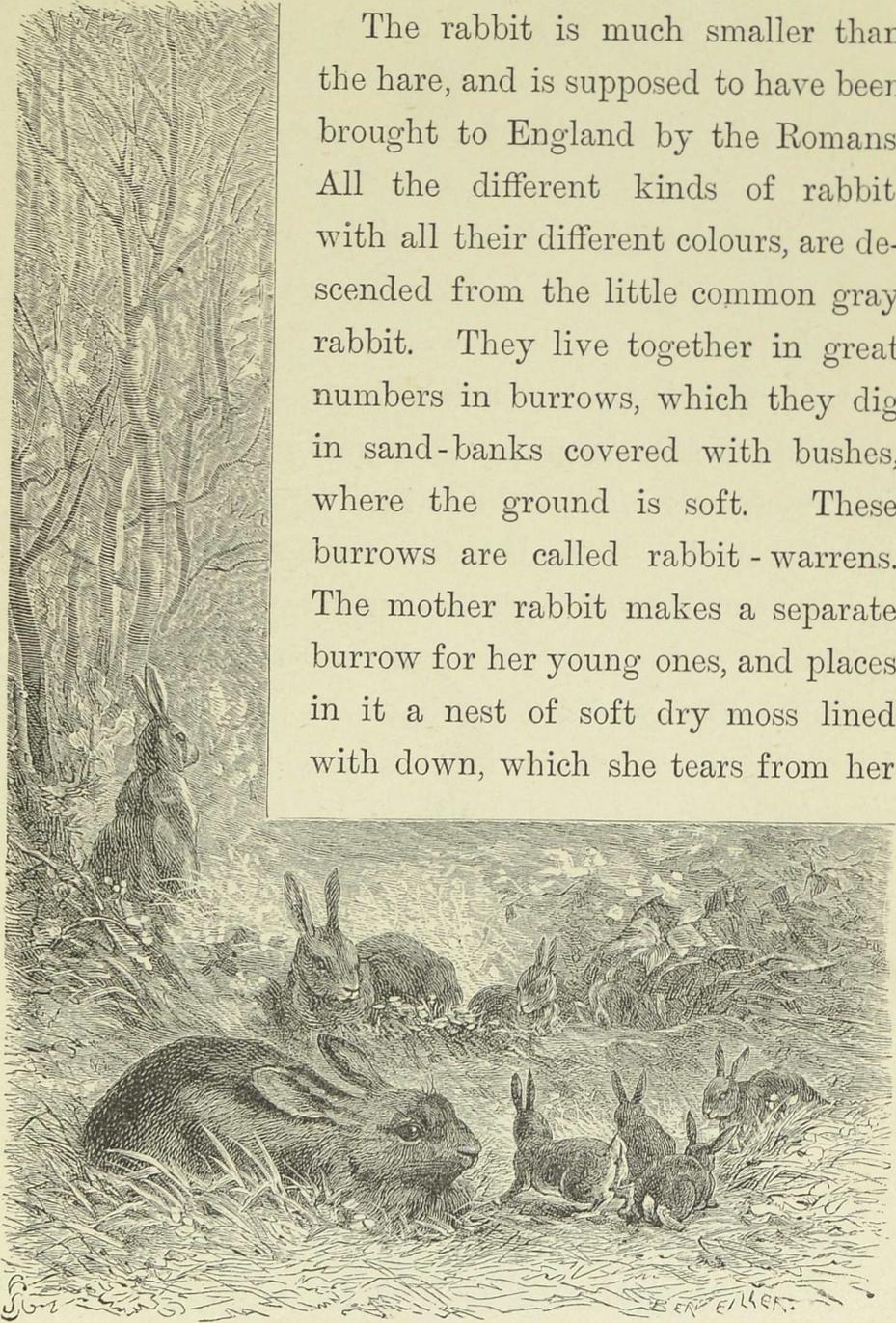
“Not so Tiney. Upon him the kindest treatment had not the least effect. He, too, was sick, and in his sickness had an equal share of my attention; but if after his recovery I took the liberty to stroke him, he would grunt and try to bite.

“Bess was so courageous that I may almost say he was tame from the beginning. I always admitted them

into the parlour after supper, where they would frisk and play a thousand gambols. One evening, the cat being in the room, had the hardiness to pat Bess on the cheek, which he immediately resented by drumming on her back with such violence that the cat was happy to escape and hide herself.—These creatures are wonderfully quick in discovering the smallest alteration that is made in the place to which they are accustomed. A small hole being burned in the carpet, it was mended with a patch, and that patch in a moment underwent the strictest scrutiny. They seem, too, to be very much directed by the smell in their choice of favourites. To some persons, though they saw them daily, they never could be reconciled, and would even scream when they attempted to touch them; but a miller coming in engaged their affections at once,—his powdered coat had charms that were irresistible.

“I cannot conclude without observing that after Bess and Tiney died I introduced a little spaniel to Puss’s acquaintance. I did it with great caution, but there was no need for it. Puss showed no symptom of fear, nor the dog any hostility. Bess died when quite young; Tiney lived to be nine years old.” Mr. Cowper finishes his account of his hares by writing: “This day died poor Puss, aged eleven years and eleven months, of mere old age, apparently without pain.”

The rabbit is much smaller than the hare, and is supposed to have been brought to England by the Romans. All the different kinds of rabbit, with all their different colours, are descended from the little common gray rabbit. They live together in great numbers in burrows, which they dig in sand-banks covered with bushes, where the ground is soft. These burrows are called rabbit-warrens. The mother rabbit makes a separate burrow for her young ones, and places in it a nest of soft dry moss lined with down, which she tears from her



RABBITS.

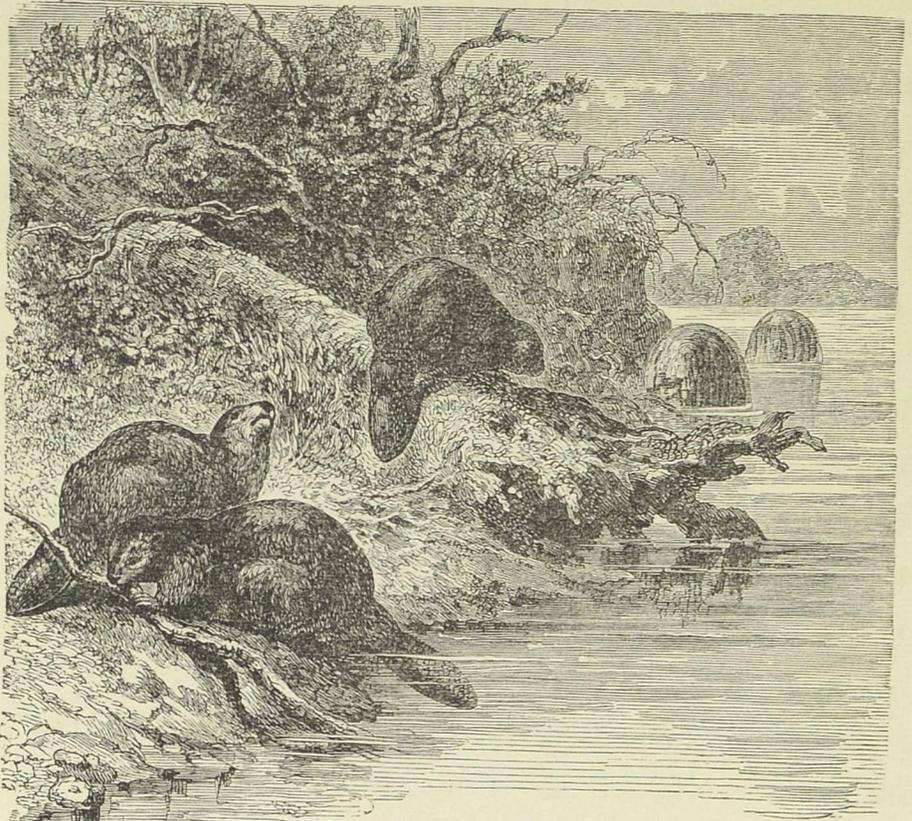
own body. The little rabbits are born without any hair, and are blind for several days.

The chinchilla is about the size of a rabbit, and is a native of the lofty mountains of South America. Vast numbers of the chinchilla are killed for the sake of their beautiful gray fur. It is, like the rabbit, a burrowing animal.

Another little creature resembling the chinchilla is the viscacha of the Pampas. They are like our hares in appearance, but, unlike them, live together in burrows under ground. These burrows are upwards of a mile in length, and have numerous entrance-holes. The old live apart from the young in these burrows. Riding over the ground they have undermined is very dangerous, so much is it destroyed by them. The viscacha never ventures far from its home, and seldom appears till evening. Then hundreds may be seen sporting round their holes and making a noise like a pig. They defend themselves courageously from dogs, and even attack the feet of the hunters' horses. Vast numbers of small owls also inhabit the holes made by the viscachas, and seem to live with them in the greatest friendship.

The burrows of the different animals I have told you about are very curious, but they are not so wonderful as the houses the beaver builds. When the Romans

invaded Britain this animal was found in our own island. A few still exist on the banks of the Weser and the Danube; but its principal homes now are the banks of the Missouri and other North American rivers. During the summer it roams through the immense forests of that continent in search of grass and nuts, but in August begins its work of house-building. Its two front teeth are so large and hard that the Indians use them to cut the horn with which they tip their spears. With these teeth the beaver gnaws round the trunk of a tree till it falls, and then again gnaws the trunk and branches into logs; but the bark is carefully taken off and laid aside for winter food. With these logs it builds its lodge or house, placing them carefully one on the top of the other, making them firm with mud and stones which it carries in the palms of its little hands. The lodges are round in shape. Inside they are three feet in height and seven across, but the walls are so enormously thick that the outside is twice as high and broad. The round top is made perfectly smooth, and every year fresh mud is added, which the frost in winter makes so hard that even the wolverene, the great enemy of the beaver, cannot break through. The only opening to these houses is far under water; for the beaver makes a deep ditch round them, so that it can swim in and out with safety. It walks slowly,



BEAVERS.

HG
 but swims very rapidly; for its two hind feet are webbed, and its scaly tail, broad and flat, is a great help in the water. Several beavers live in each lodge. They have, however, separate beds, which they place against the wall, leaving the centre of the room unoccupied.

As these creatures always need the water near their lodge to be level, they help each other to build dams, which are merely walls in the water. They make them across a river from one bank to another, so as to keep

the water back. These dams are sometimes three hundred feet in length, and twelve feet in breadth at the bottom, though only two feet at the top.

The beaver is hunted for the sake of its fur, and also for a substance much used in perfumery, called castoreum. This is found near the animal's tail, in two little bags. The fur is much valued. So many thousands of skins have been sent to England that the animal is becoming scarce. It is gentle and affectionate and easily tamed.

Very different from the gentle beaver is the savage rat; though it too is very easily tamed, and is wonderfully clever. A lady once saw a number of rats carry some eggs safely down from her store-room above to their holes below. Each egg was held between the fore paws of a rat, and was given by it over the edge of the step to another rat that was reared on its haunches on the step below; and in this manner the eggs were taken safely down the steps from the top to the bottom of the house. I was told a story by a friend of some rats that infested his stable. They were very anxious to get at some oil contained in a flask that hung on the wall; but the mouth was too small—they could not get in their heads. So they, clever creatures, were seen to dip in their long tails, and then lick off the oil. The same gentleman gave me rather a touching account of the sad fate of some of these poor rats. They had penetrated

into his dining-room ; and, very unwisely, his servant used poison to get rid of them ; and, as was to be expected, the smell from the dead animals was so offensive that the flooring had to be lifted. About a dozen of them were found lying side by side near the hearth-stone, each wrapped up in a little bit of flannel, which they must have wrapped round themselves when they felt the cold of death coming on. Their tails are very ugly, long, and round, and covered with scales instead of hair. Like most gnawing animals, rats burrow very deeply in the ground, and those that live in towns sometimes destroy in this way the foundations of houses. They are very savage creatures. A number of them can with ease destroy a man, however well he may be armed. And if one of themselves be wounded or caught in a trap, its companions at once devour it. And often, if suffering from hunger, the stronger ones attack and eat those that are feeble. In the same way the father rat always tries to kill the young ; but the mother is a most affectionate parent.

There are two kinds of these animals. The black rat was brought into England about four hundred years ago, but it has almost disappeared, having been destroyed by the brown rat, which is much larger and fiercer. This latter came to Europe one hundred and fifty years ago from Persia, its original home. It has since spread

all over the world, going in our ships everywhere. And everywhere it does an immense amount of mischief, for it eats everything—poultry, eggs, grain—nothing escapes it. In large towns it is useful as a scavenger, however.

You must not suppose that the water rat is merely a common brown rat, which has by chance made its home near a river. The water rat is a totally different animal. It feeds upon the roots of water plants, and in autumn lays up a store of provisions for winter use in its burrows. These are always made near the banks of rivers, and of great length, and always slope upwards; so that though the opening of the burrow is close to the water's edge, the room in which the animal lives is high up above the reach of the water. A farmer who was ploughing in a dry, chalky field, far removed from any water, turned out a water rat that was taking its winter sleep in a nest of leaves and grass. At one end of its burrow he found a gallon of potatoes stored up for winter use. It is much the same size as the land rat. The fur is of a reddish-brown colour.

I need not describe the common mouse to you, Frank. You know it well, with its black, bead-like eyes, and long tail, which, like that of the rat, is round and scaly.

The Barbary mouse, a beautiful little creature, rather larger than our common mouse, is found in the north of

Africa. It is dark brown in colour, and marked on each side with five or six yellowish stripes.

Another beautiful striped mouse is also found near the Cape of Good Hope. The upper surface of the head of this little animal is black, and it has four black



HARVEST MICE.

stripes along the back, while the rest of the body is of a brownish-gray tinge.

Of the many different kinds of mice the beautiful little harvest mouse is the smallest. This tiny creature makes a nest about the size of a cricket-ball, of thin dry

grass, which it weaves in and out round four stalks of strong rank grass. It is perfectly secure, but so loosely woven that it is easy to see the six or eight little ones inside. It is quite a puzzle to know how the mother gets in and out, as there is no opening to the ball. Small as this mouse is, it does a great deal of mischief to the farmer.

Besides it there is the short-tailed field mouse, sometimes called the field vole, which devours not only corn, but destroys trees by gnawing right through the trunks. About fifty years ago one hundred thousand of these little things were killed in the New Forest and in the Forest of Dean, where they had done much mischief.

The hamster is, however, perhaps a greater enemy to the farmer than any other animal of this order. Fortunately it is not a native of Great Britain, but is found in great numbers in Russia, and indeed all over Europe. Like the mole, it makes very extensive burrows under ground, which it fills in autumn with provisions for winter use. Actually sixty-five pounds of corn have been found stored up in the magazine of a single hamster. It has, like some of the monkeys, two large cheek pouches. In these it carries the food it collects, and has been seen using its paws to press the grain backwards to the bottom of the pouch in order to make room for more. Like the mole, too, it is a

nocturnal animal, and very savage, and will jump with equal fury at a waggon wheel or a horse if he tread near it. It has a short thick body. The colour of the fur is a reddish brown.

The little economist mouse is a native of Kamtchatka, of the northern parts of Siberia, and of Iceland. It scoops out extensive galleries and chambers for itself under the turf; for you can understand that living as it does in countries where the winter lasts so long, it requires to lay up a store of provisions. What is chiefly remarkable about this little creature, however, is that every now and then, from some unknown cause, but always in spring, these mice collect together in vast myriads and travel westward. Neither lakes nor rivers stop them. Thousands are drowned or destroyed by birds and beasts of prey; but onwards they march for hundreds of miles, until the month of July, when they retrace their steps, and return to Kamtchatka about October. They are said to show great cleverness in crossing rivers. A party of from six to ten have been seen to choose a flat piece of bark or of cow-dung. On this they place some food in a heap in the middle. Then by their united force they bring it to the water's edge, and after launching it, embark and place themselves round the heap, with their heads joined over it and their backs to the water; while with their tails, which they leave in the water, they

endeavour to guide the course of their frail little vessel.

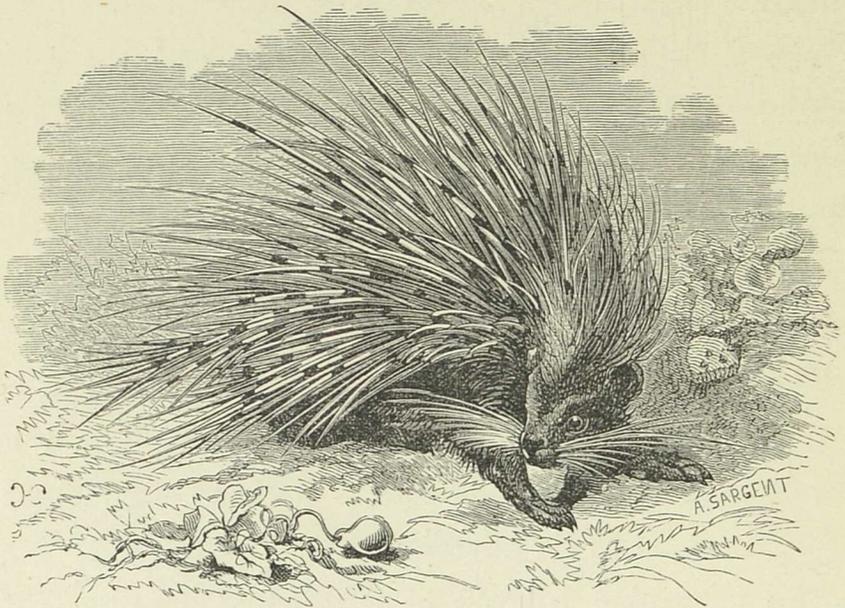
The ondatra, or musquash, or musk-rat (so called from its musky smell), is a native of North America. Like the beaver, its hind feet are webbed, and it is much sought after by the trappers for the sake of its beautiful red fur.

The mole-rat is found in Asia Minor and the east of Russia. It is remarkable as being blind. The eye is a small black grain lying beneath the skin, which is covered with fur. To make up for the want of sight, it can hear very acutely. Like the mole, it lives under ground.

The Canada sand-rat is a curious-looking animal, with long cheek-pouches that trail on the ground, and look like bags fastened to each side of its head. In these it carries its food to its burrow.

The porcupine belongs to a different family of this order. It is found in Italy, all over Africa, and a great part of Asia. It is a quiet, gentle creature, coming out at night in search of food, and passing the day in its burrow, which it digs with its strong sharp claws. Its name is taken from a French word, and means "scaly hog;" for it makes a noise like that of a pig. Like the hedgehog, it is covered with spines, though they are larger and longer. These spines are marked with

alternate rings of black and white. When attacked, the porcupine bends its head down, turns its back towards its enemy, makes its bristles stand up, and if any creature is foolish enough to touch it, pushes some of its spines into the flesh, where they sink deeper and deeper, till they kill the animal that attacked it.



PORCUPINE.

There are several kinds of porcupine. One, the coendoo, a native of South America, has a long tail, which it uses in climbing trees.

Another curious animal is the capybara, or water-hog. It is a native of South America, and about the size of a pig. It is like that animal, too, in its heavy, clumsy walk; in its hoof-like toes, which are, however, webbed;

and in having its body covered with bristles. The legs of this creature are so short that its body almost touches the ground. It lives in small herds upon the banks of streams, and when alarmed flies at once to the water for protection. Although it has a musky smell, the flesh is good for food.

You have Guinea pigs of your own, Frank, so I need not describe this pretty little creature to you. But remember that it is not a pig, but a gnawing animal; and that it comes from South America, not from Guinea, which you know is in Africa.

The agoutis are natives of the Antilles and Bahama Islands. When these islands were first discovered, they formed the principal food of the natives, being the largest quadrupeds there. They are about the size of a rabbit. The fur of one kind is brown, another black, and the third is a golden colour. They live together in numbers in the hollows of trees, for they are neither able to burrow nor to climb.

X.

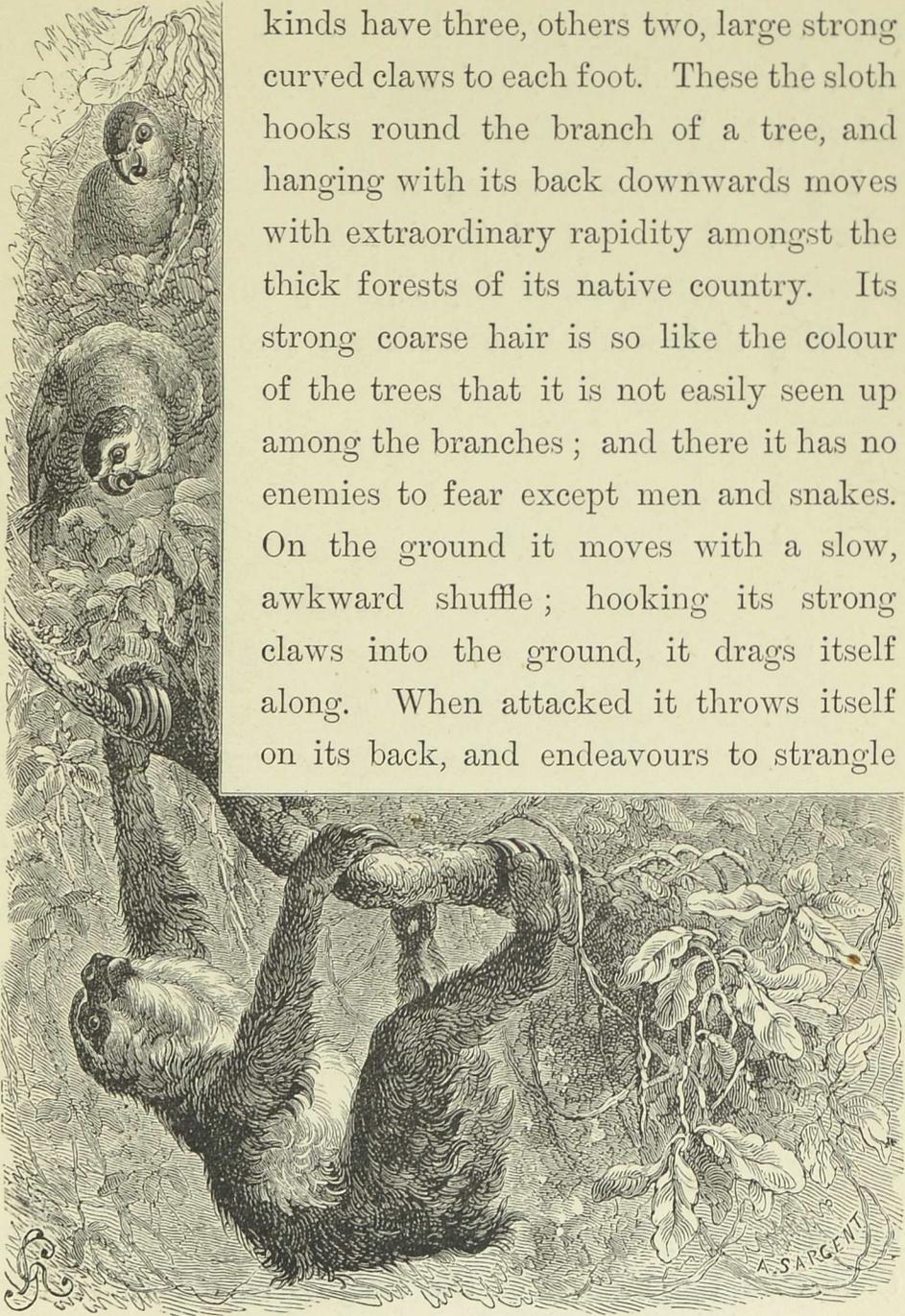
TOOTHLESS ANIMALS.



YOU are not old enough yet, Frank, to understand how the teeth of one animal are unlike those of another; but you remember, I hope, that the teeth of the Cat tribe are made to tear flesh, and those of the thick-skinned animals to chew vegetables. Those animals that chew the cud again, you know, have no front teeth in the upper jaw, whilst the gnawing animals have two strong ones in the front of both jaws. The animals of the order I am now going to tell you about have no teeth in the front of either the upper or the under jaw. Some of them have a few weak ones in both jaws at the sides; others, again, have no teeth at all.

The sloth, of which there are several kinds, is one of these curious creatures, and has a few weak teeth. It is a native of the West Indies and South America. Its shape is very different from that of the gnawing animals, for its front legs are twice the size of those behind. Some

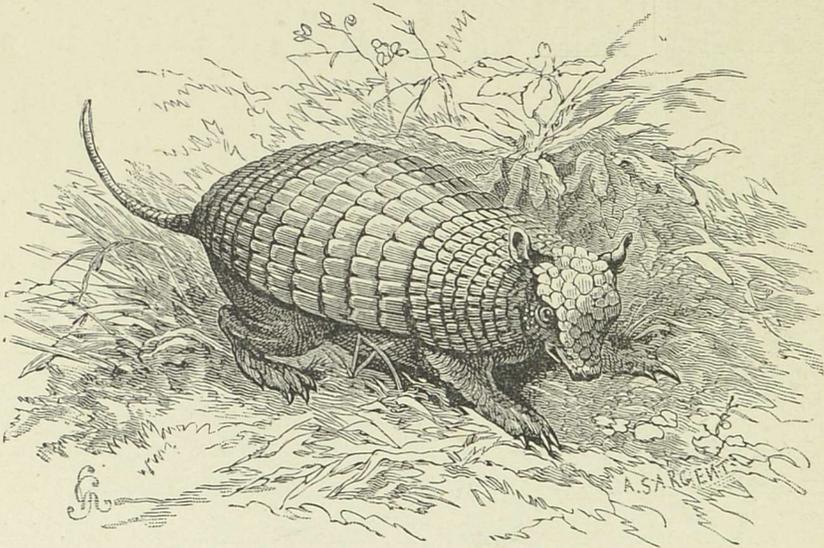
kinds have three, others two, large strong curved claws to each foot. These the sloth hooks round the branch of a tree, and hanging with its back downwards moves with extraordinary rapidity amongst the thick forests of its native country. Its strong coarse hair is so like the colour of the trees that it is not easily seen up among the branches ; and there it has no enemies to fear except men and snakes. On the ground it moves with a slow, awkward shuffle ; hooking its strong claws into the ground, it drags itself along. When attacked it throws itself on its back, and endeavours to strangle



SLOTH.

its enemy with its powerful arms. It lives entirely upon leaves and twigs, and completely strips one tree before it begins to another.

The armadillos also belong to this order. These animals are all natives of South America. With their enormously strong claws they dig deep burrows, and eat anything their weak little teeth are strong enough to



ARMADILLO.

chew. Other animals have either very thick skins, like the elephant, or else they are covered with hair; but though the stomach and feet of the armadillos are clothed with hair, the back and head and tail are covered with strong thick plates, or layers of horn, which protect them like the armour of the knights of old that you read of in your history. The plates of horn are of

different shapes and sizes in the different kinds of armadillos.

The aard-vark has the same strong claws and small teeth of the armadillo, but instead of horny plates its body is covered with coarse hair. It is found only in South Africa, and lives entirely upon white ants. You have seen ant-hills in this country. Those made by the white ants are very much larger. These hills the aard-vark tears open with its strong claws, and thrusts its tongue into the midst of the terrified insects, and swallows them; for it has the power of making its tongue very long, and this tongue is covered with a thick glue, which causes the ants to stick to it.

Many animals of this order have no teeth of any kind, and live entirely upon white ants and other insects. They have long, narrow muzzles, with a very small mouth; a long tongue, covered, like that of the aard-vark, with a thick glue; and strong claws, with which they break down ant-hills. These creatures walk very slowly, and have no means of defending themselves except by their powerful arms, with which they grasp and strangle their foe.

There are several kinds of ant-eaters, some of which live in trees. Most of them are covered with thick, coarse hair. The hair of the large ant-eater is so thick at the tail that it looks like a plume. They are found in South America and Guinea.

The manis or pangolin belongs to this family of animals. It is a native of Ceylon, and, instead of hair, is covered with pointed, horny scales. But it has the same long tongue and strong claws of the other ant-eaters, and like them has no teeth. When attacked it tries to escape by burrowing, or else rolls itself into a ball, so that the sharp points of its scales stick out and protect it.

XI.

ANIMALS WITH A POUCH OR BAG.



ALL the animals I have described to you, my dear Frank, belong either to America or to what is called the Old World—namely, Europe, Asia, and Africa. Many of them have been taken to Australia ; but none of them, except the dingo dog and a few bats, were found in that country when it was first discovered by Europeans.

The animals I am now going to tell you about are called pouched animals, because they have a pouch, or bag, in the lower part of their stomach, in which they place their young. Most animals make a nest of some kind or another, in which they put their little ones ; but the young of these creatures are so utterly helpless that they cannot leave their mother for many weeks after they are born, and therefore are carried about by her until they are strong enough to move about by themselves ; and even then, on the least alarm, they fly and hide themselves in this pouch in their mother's body.

This order is, like others, divided into families. The opossums, which form one family, are found only in America; all the other pouched animals are found nowhere but in Australia. There are about twenty different kinds of opossums, and they are remarkable for



VIRGINIAN OPOSSUM.

having fifty teeth. The most common is the Virginia opossum.

It is about the size of a cat, with whitish-gray fur. Like pussy, it has a rough tongue; and being an expert climber, it prowls about at night in search of prey, and

is a very dangerous neighbour to poultry-yards. It has five toes on each foot, all armed with strong, sharp, curved claws. The inner toe, or thumb, of the hind foot is like that of the monkeys, opposable. The tail is long and scaly, and of great use to the animal in climbing. It is easily tamed, but has such a disgusting smell that few people would like to have it as a pet.

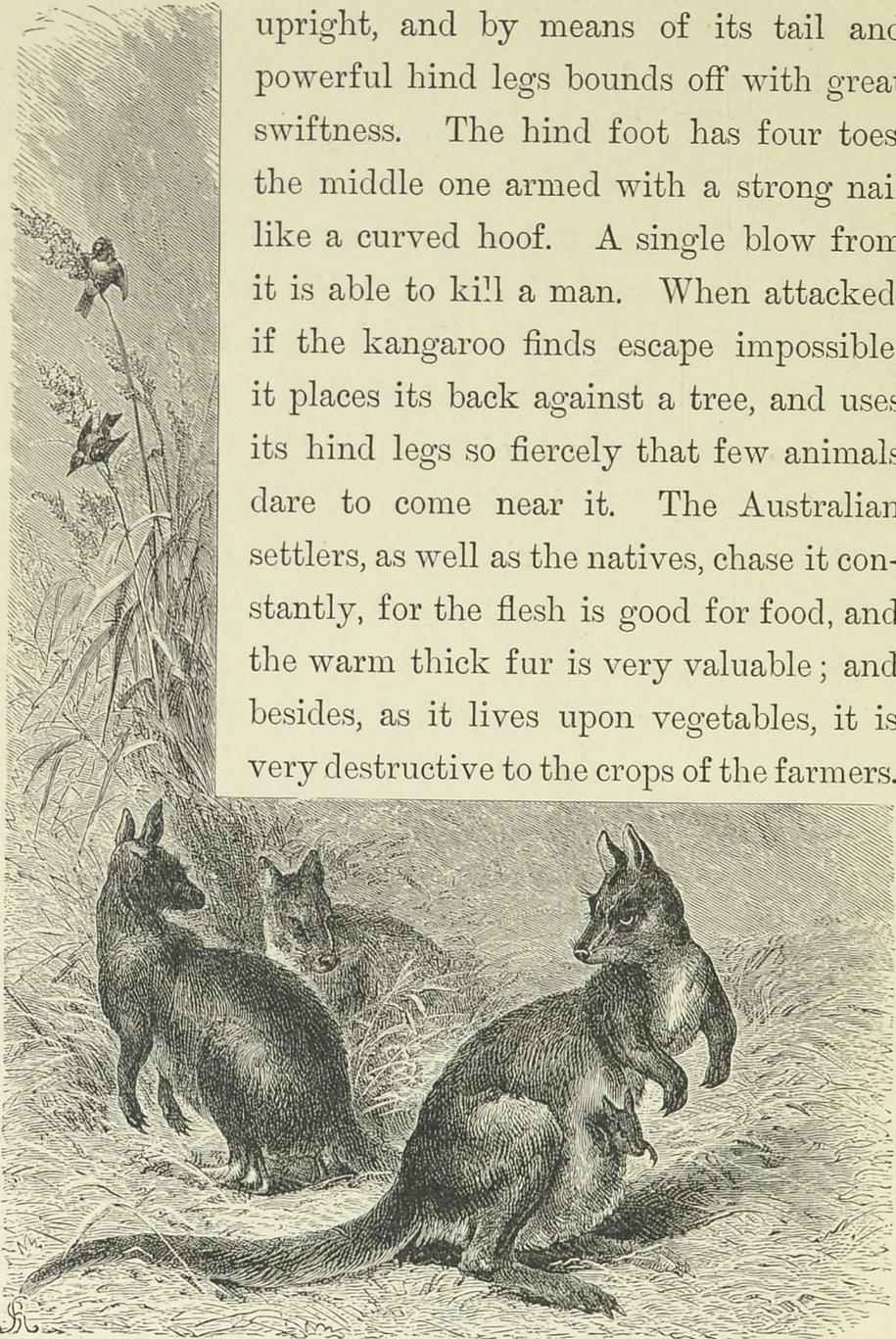
Another of the opossums, called the yappoch, lives near the small streams of Brazil. All its feet, though they look very like hands, are webbed. It has cheek-pouches, too, like a monkey.

Some other kinds of opossums are about the size of a large mouse.

The kangaroo is the largest of all the Australian animals. There are about eighty different kinds, of various sizes. Some are little bigger than a rat. One is called the tree kangaroo, as it climbs amongst trees; another, the rock kangaroo. The largest of them all, the woolly kangaroo, is an immense creature; for the body and head are about four feet in length, and the tail is nearly as long. This tail is almost like a fifth leg to the kangaroo. The creature sits upright, resting on it and on its hind legs, which are enormously long and powerful. It never walks, but when not alarmed hops gently along, and then uses its fore feet, which are very small and short. Should an enemy come near, it at once raises itself

THE WOOLLY KANGAROO.

upright, and by means of its tail and powerful hind legs bounds off with great swiftness. The hind foot has four toes, the middle one armed with a strong nail like a curved hoof. A single blow from it is able to kill a man. When attacked, if the kangaroo finds escape impossible, it places its back against a tree, and uses its hind legs so fiercely that few animals dare to come near it. The Australian settlers, as well as the natives, chase it constantly, for the flesh is good for food, and the warm thick fur is very valuable; and besides, as it lives upon vegetables, it is very destructive to the crops of the farmers.



KANGAROOS.

Some of the pouched animals eat flesh. One of them, called sometimes the Tasmanian bear, and sometimes the Tasmanian devil, is, as you can suppose from its name, very savage. It is said to be so stupid and ferocious that it does not even know those persons who feed it. Like the bear, it sits on its haunches, and carries food to its mouth with its front paws. It is about the size of a badger, and with its strong claws can not only tear flesh but burrow in the ground. The colour of its fur is a dull dead black.

The zebra or tiger wolf is a still larger and more powerful animal, and exceedingly savage. The fur is yellowish gray in colour, with black stripes across the back.

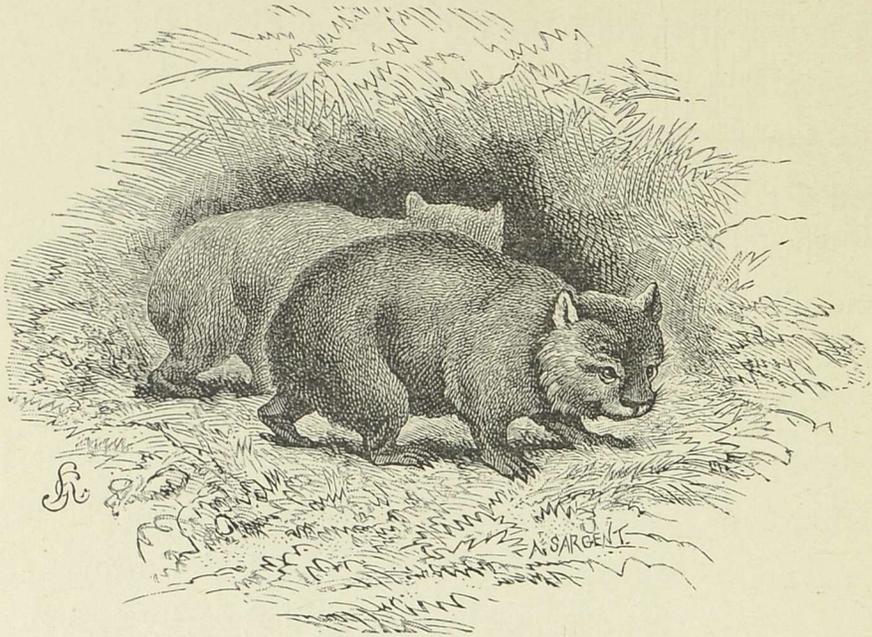
The koala, or Australian bear, is a curious-looking animal, from the tufts of long hair which are about its ears. It is said to be more like the sloth than the bear, for it moves amongst trees with its back downwards. It lives upon vegetables, and is gentle and easily tamed.

The wombat, or Australian badger, has a clumsy body and short legs, and walks in a heavy, rolling way, like a bear. The fur is gray. With its powerful claws it makes very deep burrows. It is more intelligent than most Australian animals, and is gentle and affectionate.

The bandicoots form another family of animals with pouches. They are about the size of a rat, and not unlike it in appearance.

The Australian mice, especially one called the yellow-footed pouched mouse, are extremely pretty. They live in trees, and climb amongst the branches with great rapidity.

There are also numerous animals more or less like squirrels, with the same beautiful fur of different shades



WOMBATS.

of brown, and bushy tails. They are of various sizes, but all of them, like the flying squirrel of the Old World, have a skin which stretches between the front and hind legs, and enables them to take the most wonderful leaps through the air, while their bushy tails, spread out like a fan, guide and balance them.

XII.

ANIMALS WITH SKELETONS LIKE BIRDS.

URIOUS as are the animals which carry their young in pouches, the two that belong to the twelfth and last order of the class Mammalia are still more so. They are found nowhere but in Australia. They have no bags in their stomachs for their little ones; and though you and I would not think from looking at them that they were very like each other, it has been found that some of their bones differ from those of every other animal of the class Mammalia, and resemble some bones that birds have. One of them, the echidna, or porcupine ant-eater, is about the size of a hedgehog, and like it has its body covered with spines. They are thicker, however, than those of the hedgehog. The nose of the echidna, like that of the great ant-eater, is very long and narrow, with a slit at the end for a mouth. It has no teeth. The tongue is long and slender, and with it the animal licks up insects, as other ant-eaters do. It cannot roll itself

up into a ball, but with the strong claws of its fore feet it digs up the earth so rapidly that on the approach of an enemy it is able in a few seconds to sink itself into the ground, so that nothing but its spikes are seen. It makes very deep burrows, and the hind feet are twisted backward to enable the animal to throw back the earth it digs up. At the back of each hind foot is a claw like that on a cock's.

The other animal belonging to this order, called the duck-billed platypus, or water-mole, is, if possible, still



DUCK-BILLED PLATYPUS.

more curious. It is rather more than twenty inches in length, and has a long, flattened body, like an otter's, with close, glossy fur, below which is a layer of such thick wool that water cannot penetrate it. All the feet

have five toes, with strong claws fitted for burrowing. The two front feet are stronger than those behind. These latter, besides having a sharp claw, like the echidna's, are turned backward, like the seal's, to enable it to swim. All the feet are webbed, but the webs of the front feet can be folded back, that the animal may not be hindered in digging. The head of the platypus, however, is the strangest part about it. Instead of having a mouth like other animals, it has the broad flat bill of a duck. It has no teeth, and on each side are two large cheek pouches. You can understand from what I have told you that it spends most of its life in the water, plunging its bill into the stream or into the muddy banks in search of insects and weeds, just as a duck does, or swimming about on the surface, but plunging below on the slightest noise. The burrows these creatures make are long and winding, near the banks of streams, and have two openings, one above and the other below the surface of the water. It is said to be playful and affectionate, fond of keeping itself clean, and constantly dressing its fur, which it combs with its feet and pecks at with its bill. It makes a noise somewhat like the growl of a puppy.

And now, dear Frank, I hope that what I have told you will not only help you to learn your lessons, but

will teach you to be kind to any animal that you may come in contact with, remembering that we owe most of the comforts of our lives to these our humble, dumb companions. As you grow older, I trust you will try to learn more about them; and as your knowledge increases, that you will be able to say with the Psalmist, "O Lord, how manifold are thy works; in wisdom hast thou made them all."

THE END.

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