

'My saying has come true, I think,' the generous mill-owner continued. 'You have lived to repent what you have done against us?'

'I have, indeed,' the man replied.

'Yes, you know us better now,' his benefactor said. 'But what are you going to do?'

The man explained that he had offers of help when his certificate was completed, and he hoped to start in business again.

In the meantime, having given to his creditors nearly everything which he possessed, he had the utmost difficulty in providing the barest necessities for his family.

'That will never do,' the kindly mill-owner replied. 'Will you take this ten-pound note to your wife from me? It will help you at this moment. And, pluck up your spirits, and set to work; and I venture to predict that you will soon be able to hold up your head once more, and take your place by the side of the best of us.'

W. A. A.

### THE BEASTS OF PRE-HISTORIC BRITAIN.

#### I.

**T**HOSE of us who love Nature often find a keen enjoyment, if tinged with regret, in comparing the wild life of to-day with what was to be seen in this country say three hundred or four hundred years ago. Then, on the fens and meres, the bittern boomed, and harriers, buzzards, kites, the great osprey, and the otter hunted all day long. On the lonely moorlands the peregrine, the merlin, and the raven found a secure retreat. The forest glades harboured deer, wild cat, foxes, badgers, the beautiful marten, and the polecat. Trackless heaths formed the chosen dwelling-place of the great bustard, the stone curlew and the dotterel, and the sea-girt cliffs gave a home to the great auk and the chough. All these creatures have been more or less completely exterminated by man, some unintentionally, some designedly. But from whatever cause, this blotting out of living things has left the world the poorer. It is easy to take life, it is another matter to restore it.



The Mammoth.

But I am thinking, just now, of the world as it was when man first came into his inheritance. And I am going to try and trace for you, at least in outline, the history of the animal life of our islands during these early periods of their being. But the records of these early days are hard to read, for

they are but fragments which only experts are able properly to interpret. Thus, at best, we can form but a shadowy picture of any given period of this ancient past. These fragments we call fossils, and while some are found beautifully perfect, others are broken and twisted and flattened; often, indeed, not more than a few bits of the whole animal can be found. But we are fortunate in finding even these: for only by an accident were they preserved from complete destruction, and only by another ac-



The Woolly Rhinoceros.

cident are they to be discovered. Of all the myriads of creatures which have lived and died during the early history of the world, only a very, very few have become fossilised and thus preserved for us to see. Most of the lowlier forms of life had soft bodies, so that when they died they quickly decayed and vanished. Only creatures with bony skeletons like fish, reptiles, birds, and so on, or with hard shells like ammonites and oysters, sea-lilies and sea-orchis, for example, could have any chance of preservation; and these only in the case of land animals when they died near swamps and were quickly buried before they were crushed or decayed, or were washed into the rivers by great floods and were car-



The Irish Deer.

ried out to sea and covered up by the mud which the rivers carried down with them. Of these victims only a few would get buried whole; the rest would gradually drop to pieces and be scattered over the sea-floor, or would be eaten by other animals. In course of time, we know, these ancient seas vanished and the sea-floor became dry land; then, ages afterwards this dry land sank and was covered once

again by sea. And changes of this kind took place many times. Each new sea harboured new kinds of animals whose remains were buried in mud made up of the earth washed down into the rivers of the period and carried out to sea as it is to-day. Since each of these seas lasted thousands and thousands of years, a vast accumulation of soil took place, and these sediments of successive seas piled one on the top of the other by their weight crushed the earlier fossils out of shape; and still further damage has been done in many cases by movements in the crust of the earth since it has become dry land.

The chalk cliffs of Old England are but a part of a mass of evidence showing us that the land which we hold so dear has been built up, in the course of ages, by the work of piling one sea-bed on another. And these beds contain signs of the creatures which lived on the land, and in the sea, at the time they were being formed.

There are some fossils, however, which were not preserved after the fashion first outlined. These are represented by the remains of animals which lived on the soil which now forms Great Britain and Ireland, but which, at the time these creatures lived,



Skulls of Common Ox (left), and Extinct Wild Ox (right), in proportion.

formed one great area joined to the mainland of Europe. It is of these that I propose to speak first.

If, by the touch of some magician's wand, we could have a vision of England as it was just before it was cut off from the mainland of Europe, we should see a land very different from the England of to-day; there would be no fields, no hedges, no roads, and no houses. Mankind would be represented only by a few wandering tribes of savages using stone axes and spear-heads, and living by their prowess as hunters; as yet they had made no mark on the land. Mighty forests would cover all the drier ground, while the rest of the country would be covered by vast stretches of water, more or less completely masked during the summer with water-lilies; and this water would be surrounded on every side by enormous swamps, reed-covered, and studded with clumps of alder and willow trees, which, in turn, on the outer margin of the swamps, when they approached the drier ground, would give place to oak and other forest trees.

It is not very difficult to shut one's eyes and conjure up such scenes as these: scenes of silent

grandeur, broken only by the songs of birds and the cries of the various beasts, which then swarmed over the land. But it requires a greater effort to picture England as a part of the mainland of Europe, and Father Thames as a tributary of the Rhine! Yet so it was. Where now is the North Sea was then dry land, extending northwards beyond Scotland, though separated from the southern shore of Scandinavia by a deep gulf. The Rhine ran along the middle of this now submerged area, and emptied



The Sabre-toothed Tiger.

into the sea almost midway between the Shetlands and Sweden. The Thames, the Trent, and the Ouse were tributaries of that mighty river, and much of the land along what is now the bed of the North Sea was covered by great forests, in whose glades roamed great herds of elephants, of the kind known as mammoths. These were evidently nearly related to the Indian elephants of to-day, from which they differed, however, in the enormous size and great curving of the tusks, and in having the body clothed in long black hair, with an under-covering of red woolly fur. But besides the mammoth, herds of other elephants, related to the African elephant of to-day, and a giant which stood some fourteen or fifteen feet high, also ploughed their way through



Skull of Cave Bear.

jungles where now lies the dreaded Dogger-bank! No other elephant, before or since, has ever attained such vast proportions as this, known as the 'Southern Elephant' from the fact that its remains are never found in the far North, as are those of the mammoth. Whole carcasses of mammoths, it is to be noticed, have been found within the Arctic Circle embedded in ice, and from such remains we have learned all that is known about their hairiness and their colour. More than once the wolves of to-day

have feasted on the flesh of mammoths which died thousands of years ago! Just nine years ago the whole carcase of a mammoth was exposed by a landslip on the banks of a river in the government of Yakutsk, in Siberia, which had died in a sad way. Evidently, when feeding, it had fallen into a hole, and in attempting to scramble out had broken a blood-vessel, for the chest was found filled with clotted blood, and the jaws at the moment of death had closed on a mouthful of grass. This specimen is now to be seen in the museum in St. Petersburg. A piece of the long hair and woolly under-fur of a mammoth is preserved in the British Museum.

What days these must have been for the primitive tribes of people who were now beginning to make their influence felt in the world! But these early hunters must often have suddenly found themselves the hunted; and there must have been many fatal accidents before man discovered that there are many things you must not do when hunting elephants, or rhinoceroses, or bears!

No less than three different kinds of rhinoceroses haunted the British jungles of those far-off days. One of these, at any rate, like the mammoth, wore a woolly coat, though much less thick. How widely they were distributed may be guessed from the fact that their bones are dredged up from the bottom of the North Sea, where once stood a forest, as well as in the heart of London. Not long ago, while the foundations were being dug for new offices for the Daily Telegraph, in Fleet Street, London, a magnificent skull of a rhinoceros was dug up.

The rivers of this far-off age similarly contained herds of unwieldy hippopotamuses, creatures which, as you know, are found to-day in the wilds of Africa. But the great forests sheltered yet other interesting animals, such as the giant ox, or urus, a huge beast, compared with which the largest oxen of to-day are small, and a bison, the descendants of which are still living to-day in the great forests of Lithuania. In the great rivers and swamps lived colonies of beavers, while among them the huge moose hunted for his favourite water-lily roots, and other water plants, to secure which he often waded till only the crest of his great shoulders remained above the water.

Nor does this exhaust the list of the strange creatures which roamed over England at this time. Along what is now known as the Thames Valley, for instance, wandered great herds of saiga antelopes and musk oxen, creatures which to-day are found only in regions of the far North, and in Eastern Europe and Western Asia.

One can only picture how vast the herds of these various kinds of deer and oxen and antelopes must have been, by recalling the myriads of bison which we know lived on the prairies of North America only a generation ago, or the enormous herds of springbuck antelopes which at about the same time wandered over Southern Africa. Firearms and 'civilisation' in a few years have practically exterminated both. But in those remote ages man hunted only with rude weapons made from flint-stones, and the few animals that he could kill made no difference to the numbers of the survivors. The hosts of lions, sabre-toothed tigers, leopards, wolves, bears, and hyaenas which also throve and multiplied in the land that has since been carved out by the sea to form the 'British Islands,' destructive as they

can be, did no more than keep the numbers of the oxen and deer, and their like, from increasing too rapidly and so creating famine.

Much of our knowledge of the animal life of those bygone ages we owe to the cave-bears and hyaenas, and this because these creatures, as is their wont, lived in caves, and thither they dragged the bones of the animals which the lions and sabre-toothed tigers had slain and abandoned, after feasting on the choicest morsels. These caves, too, tell us another story, and this concerns the dawn of man's rule. For we find that in many cases primitive man had already triumphed over the beasts of the field, and had driven the hyaenas from their dens to make a dwelling-place for himself. Rude implements, fashioned in flint, and charcoal on the floors showing where he had feasted, and where, on winter nights, he had sheltered from the cold outside to enjoy the pleasant glow of his fireside, while, probably, his wife fashioned garments of the hides of animals killed in the chase, and he chipped his spear-heads from the stubborn flint, or fashioned needles of bones. By some such fireside the more advanced men carved pictures of the creatures they hunted on the antlers of deer, or on the larger bones of oxen and deer: pictures which display a wonderful vigour of design and insight into nature. But that is another story, and must be told at another time.

W. P. Pycraft, F. Z. S., A. L. S.

### NICHOLAS CULPEPPER.

A SHORT time ago a friend showed me a queer old book which he had 'picked up' at a book-stall. It was a very ancient copy of *The School of Physic*, by Nicholas Culpepper.

This is an exceedingly curious book. Nobody nowadays believes in Culpepper's prescriptions; they only amuse us. In his mind there seems to have been no connection between cause and effect. Why, for instance, should an egg laid on Thursday have more virtue than one laid on any other day of the week? Of what possible use could it be to lay a piece of raw beef upon the forehead of a person who had lost his voice? Or, how should the burial of elder-berries send away warts?

Some of the prescriptions are cruel as well as queer. A person suffering from quinsy is directed to make a plaster of young swallows and their nest, all burnt together, and apply it to his throat. And there are worse things than that!

The story of Culpepper's life is more interesting than his book. He was born in Kent, in the year 1616. His father (who died before his birth) was a clergyman, his grandfather was a baronet. He received his early education in Sussex, whither his mother had removed, and went afterwards to Cambridge. For some years he remained at the University, spending much, and acquiring in exchange 'all manner of learning.' While still a student, he fell in love with a young Sussex heiress, whom he persuaded to run away from home for the purpose of marrying him. The lady took her most valuable jewels, Nicholas obtained two hundred pounds from his mother, and the two set out with the intention of meeting half-way. After their marriage, they were going to live quietly at Lewes, until they were forgiven by their parents.