parts of the water to attack me. I vanquished him at last with a mop, placing it between his shoulders and poking him under water; after a few fights he threw up the sponge. I saw this same bird have a fight of long duration with a drake, when he struck at the drake with his wings, or beak, the drake dived and came up close under the swan's body, and endeavoured to mount on his back; this at length he succeeding in doing, and held on tight by the lower part of the swan's neck, pulling out lots of feathers; in short, he completely wore the swan out, and remained master of his position and the field. Swans have a great aversion to, and fear of dogs. At Rudall, an old family mansion of the Rudhalls near Ross, Herefordshire, built in the time of Henry VII., there was a piece of water of pellucid brightness, on which swans were kept; there was also there, a breed of Blenheim spaniels, very small but very handsome; for generations they had been bred there. The only safeguard from the attacks of the male swan during the period of incubation, was one of these little dogs. They would boldly attack the bird even in the water, and though repeatedly struck at, contrived to escape unhurt, driving the swan clean away. A lady of my acquaintance was in the habit of feeding the swans on the piece of water in the park at Bath; on one occasion, having forgotten to bring any biscuits, the cock bird deliberately attacked her behind, to her great astonishment and terror. In short, the swan is wholly destitute of gratitude, for I have seen Old Billy, as our Monmouth boatmen call the old swan, take bread from the hand accustomed to feed him, and the next moment, when the boatman was engaged doing something to the side of the boat, come up full tilt and deliver a pretty hard blow at the head of his friend. The beauty of the swan's form scarcely makes up for the deformity of his character, but with all their faults they are attractive birds.—W. H. HILL.

THE AFRICAN RHINOCEROS.

By T. BAINES, F.R.G.S.

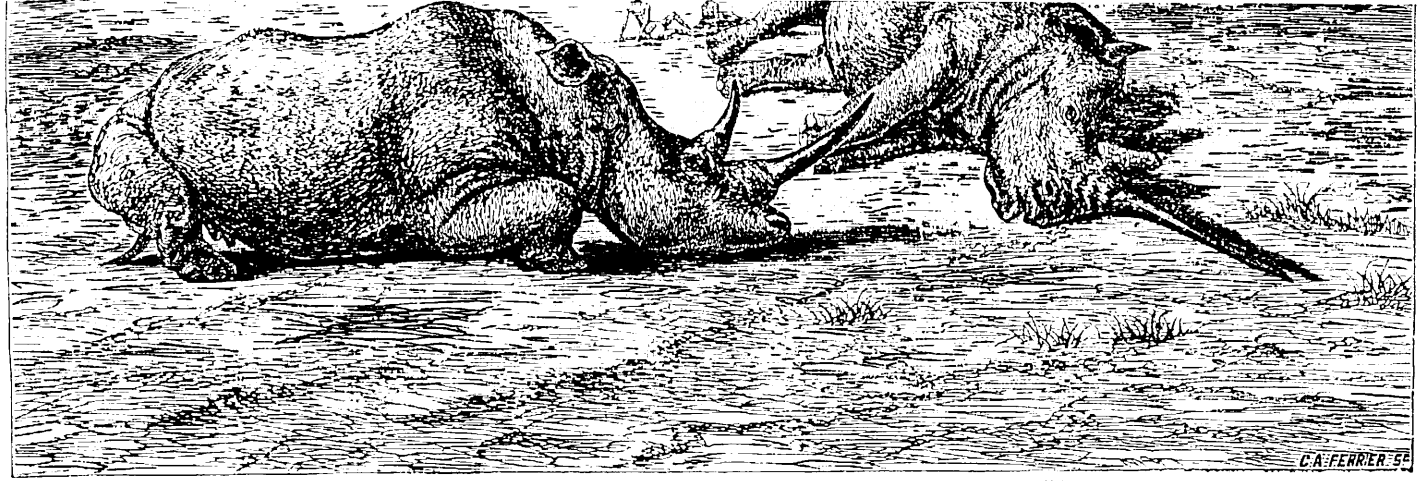
THE armed rhinoceros as represented in our old school-books of natural history, was a huge misshapen beast, a veritable "hog in armour," covered with a hide impenetrable by anything less hard than an iron bullet, hanging in

The head of the white rhinoceros is large, the nose square, and the upper lip straight across, as in the ox or other creatures that feed on grass. In the mahoohoo, or common white rhinoceros, the anterior horn curves back like the blade of a sabre, the resemblance being increased by a slight flattening of the sides, the posterior, which is shorter, curving back also; while in the kobaaba the anterior is much longer and straight, or even inclined a little forward; while the other, in the only specimen I have seen, was much split and disfigured by age, but also curving backward. In a print, however, given by Mr. C. J. Andersson, in his "Travels to Lake Ngami," it is represented as smoothly pointed, and nearly upright. It has been remarked that, in consequence of the forward inclination of the foremost horn in the kobaaba, it less impedes the vision, and allows the animal more readily to detect the approach of the hunter, should he happen incautiously to appear in front of his intended victim—an indiscretion, however, which few who know the animal would be guilty of.

The white rhinoceros is the larger of the two, being fully equal to the hippopotamus, and inferior in size only, but hardly in strength, to the elephant. Andersson states its length, including the tail, which is less than two feet at nearly sixteen feet, its girth at ten or twelve, and its weight of carcase at four or five thousand pounds.

The black rhinoceros is fiercer, and owing, perhaps, to its restlessness and ill-temper, as well as to the nature of its food, its flesh is coarse and dry, and by no means equal to that of the white, which, contentedly browsing on the grassy plains, grows fat, well flavoured, and indolent, and is therefore more easily shot, and more sought after by the hunter. In both varieties of the black, the upper lip is elongated almost to the shape of the beak of a tortoise, but it is soft and prehensile, and is used for pulling down the branches of the shrubs, on which the animal feeds. The horns in the keitloa are more nearly of equal length, and it is somewhat larger, and probably even fiercer and more ready to attack a passing traveller than the boriete, though both are sufficiently morose and dangerous.

Although the fact is well known to African travellers, it may be necessary to mention that the "horns" of the rhinoceros bear no resemblance whatever to those of cattle, deer, or other horned animals; there is no bony core in them,



MAHOOHOO. KOBAABA.

THE AFRICAN RHINOCEROS.

loose festoons and overlapping folds about his clumsy body and ungainly limbs, and capable of defying not only all the other denizens of the wilderness, but most of the weapons even man could bring against him.

A holiday glance at the creature which saunters leisurely round the paddock in the Regent's Park, while it dispels many of our preconceived errors, can still only convey an idea of the Indian variety, the African being as yet unrepresented by a single living specimen in England. Of the three kinds known in India, *Rhinoceros Indicus*, *R. Sondaicus*, and *R. Bicornis Sumatrensis*, it is only necessary to say that the hide is coarse, hanging in large folds and covered with studs and tubercles, not inaptly suggesting the idea of a coat of mail, and that the two first have but one horn, while the third, as its name indicates, has two. The African, on the contrary, has a tolerably smooth though thick skin, destitute of any very prominent folds or wrinkles, and all the varieties have two horns. The colonists most commonly speak only of the two great and most easily recognisable varieties, the "white" and "black," or "witte" and "zwart" Rhenoster, the epithets being understood to indicate not literally the colour of the animals, but only that the grey of the first appears much lighter than the colour of the surrounding bush, while that of the other is so deep as almost to justify them in calling it black.

The white is again divided into the mahoohoo (*Rhinoceros simus* of Burchell), and the kobaaba (*Rhinoceros Oswelli*), described by Dr. Gray from a pair of horns obtained by Mr. Oswell; and the black into the boriele (*R. bicornis*), and the keitloa (*R. keitloa*), beside which I believe the Bechuanas recognise a small variety called borieleâná; and, during my stay at Tete, I heard of another kind in the country inland from Sofala (I think of the white variety), possessing horns, some of which obtained the enormous length of six feet,* but whether to consider these as a distinct species, or merely as individuals which, undisturbed by hunters, had been allowed to live peacefully to a venerable age, I cannot tell.

It may be as well in the beginning to state, as briefly and clearly as possible, the chief distinctions of the known varieties, and then to refer to my journal for the description of such animals as I have had the good fortune personally to inspect.

* A horn, apparently of the mahoohoo, may be seen at a window in the Strand. Its length said to be four feet, wanting an inch.

nor are they in any way based upon, or connected with, the skull; neither when detached from the head are they hollow or separable into thin flakes or veneers like those of oxen. No one would think of making either a lantern or a powder-horn of them. They are, in fact, perfectly solid, and composed of compressed and agglutinated hair, as is shown by the manner in which the bristles on the outside separate and split off as the surface becomes dry.

They are based only on the skin, and may be, and generally are removed with it, a piece sufficiently large being left to retain the pair in their proper relative position. Once while I was trying to preserve a head during the rainy season, at Logier Hill, on the Zambesi, the dampness of the rainy season prevented the drying of the skin, and caused them to fall off, leaving numberless little indentations no deeper than would have been produced by the pulling out of so many bristles; and these, I believe, to have been formed, or at least increased in size by partial decomposition of the surface.

It has been commonly said, that the rhinoceros has the power of moving his horns at pleasure, and Mr. Andersson refers even to a belief that when the creature is at rest "*the horns themselves become soft and pliable*;" but that when on the move they again *resume their hardness and solidity*. Moreover, that it can move and turn the posterior horn while the other remains erect and firm. Of course he gives no credit to those assertions; but I can believe it possible that when the two horns are nearly of equal length, growing closely together, or even, as I have seen them, crossing each other, they may, owing to some trifling relaxation of the skin, rattle against each other as the animal moves, or by contraction of it become stiff and rigid when he desires to use them either for uprooting or splitting young trees for food, or as weapons of attack or defence.

The horn supplies material for many ornamental and useful articles. The natives pride themselves in possessing a keerie, or heavily knobbed club made of it. I have heard of a farmer who made a "span of jeuk skeis," or cross pieces by which the yokes are keyed upon the necks of the draught oxen, and I know that Chapman once contemplated making a span or set for himself as soon as he should obtain a sufficient number of horns of his own shooting. Riding switches, or walkingsticks, very beautiful, from their slightly cloudy semi-transparency, are much esteemed in the colony; and I once saw a good-sized rifle stock made of rhinoceros horn.