

ture of Pliocene horses by J. Charlton should also be noticed as a very spirited and excellent composition (p. 167).

They are still confined to mammalian forms, and this being the case it would perhaps have been possible to give these volumes a more original title than that adopted by Waterton for his famous essays published in the first half of the last century. But Mr. Renshaw's essays are decidedly original in the treatment of the subject. They deal not merely with the natural history of animals, but also with the history of our knowledge of them. Thus the history of the Addax antelope, inhabiting the great desert, is traced from the time of the ancient Egyptians and of Pliny to its modern re-discovery early in the last century; and that of the extinct northern sea-cow in connection with the adventures of the searchers after the North-west Passage.

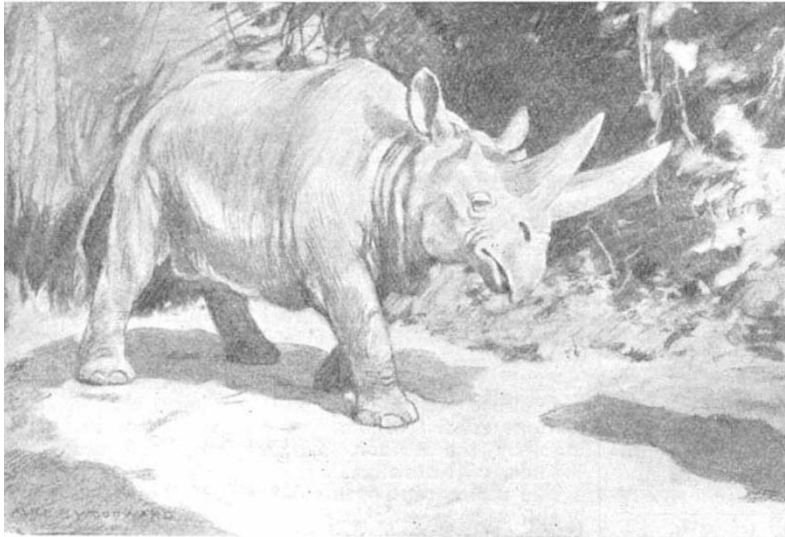


FIG. 2.—*Arsinoitherium* (probably from 8 to 9 feet in length). From remains found in the Upper Eocene of Egypt. Preserved in the British Museum (Natural History) and in the Survey Museum, Cairo. Reduced from "Nebula to Man."

Never before, indeed, has the history of mammalian forms been more attractively presented to the public. The history of the discovery of some of these grand forms of life is often a true romance of natural history, which, appealing strongly to the author, is graphically re-told by him; and his enthusiasm enables him to

The following is Mr. Knipe's dedication of his work:—

TO NATURE.

How fair, O Nature, are thy looks  
 In these thy matron days:  
 And with what light a heart thou seem'st  
 To tread thy thorny ways.  
 Man sees thee joying in thy life,  
 So full, so fresh, so free,  
 As if thy toil in ages past  
 Had nothing been to thee.  
 And well may he beneath thy spell,  
 Forget thy inner life,  
 The waste and suffering in thy breast,  
 And never ceasing strife.  
 Or if so be he needs must think  
 Of all the tumult there,  
 He knows at least one end it has,—  
 To make thee grow more fair.

carry the reader with him to see in his mind's eye the country inhabited by the beasts he describes, and to feel some of the keen delight experienced by the hunter-naturalist when some such beautiful trophy as the sable antelope rewarded him for all his toil. He excels in describing the natural scenery—the setting—of the subjects of his essays; and writing of the Malay tapir, of "antediluvian appearance," conjures up a most realistic mental picture of the home of the Palæotheres, their ancient representatives, when in far-off days they roamed over swamps covering the present site of Paris.

It is not so much a matter of serious importance whether one reads patiently the carefully executed text in verse or turns with a disdainful smile from such lines as:—

"The whale-like Zeuglodonts that off these coasts,  
 In Eocene times pursued the finny hosts,  
 Are seen no more: but forms in tooth allied,  
 Though skulled more as the Dolphin, swim the tide."  
 \* \* \* \* \*

The misconceptions which hang about the vampire bat in the popular mind are here cleared away, and the statement that it is difficult to stop the bleeding set up by it suggests a search of the salivary glands for any ferment that might hinder the coagulation

Suffice it to say that the book, as a whole, is admirably illustrated and must have cost the author a very large sum to produce. The pictures alone form an excellent guinea's worth, and will prove a real joy to the younger generation as well as to some of the elder, and there is no single picture in the book which has not been drawn expressly for the present work.

SOME MAMMALIAN TYPES.<sup>1</sup>

MR. RENSHAW, whose pleasant essays on African mammals are fresh in our memories, has in his new volume taken a wider field, and selected his types from the fauna of the whole world.

<sup>1</sup> "More Natural History Essays." By Graham Renshaw, M.B., F.Z.S. Pp. 243; illustrated. (London and Manchester: Sherratt and Hughes 1905.) Price 6s. net.

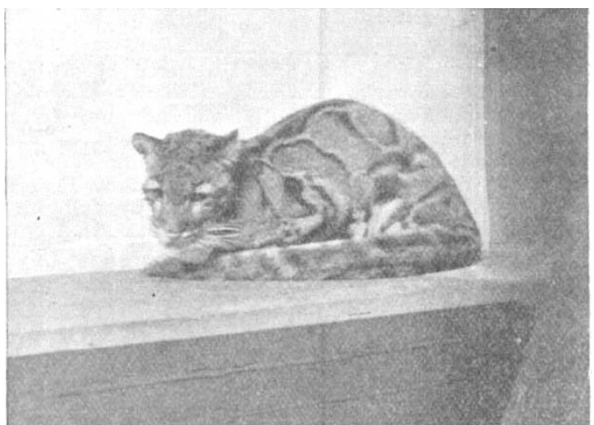


FIG. 1.—The Clouded Tiger. From "More Natural History Essays."

of blood, and some interesting remarks thereon. Although it was discovered by Columbus, few people perhaps realise that a seal inhabits the warm waters

of the Caribbean Sea. The account of the Jamaican seal is all the more interesting because it seems likely to become extinct, possibly partly because it is one of those animals which, to preconceived ideas at all events, seem out of place. But in this connection we are reminded that there is also a Mediterranean seal, and that the leopard is actually as European as the brown bear. Another extinct animal which we are glad to have an account of is the Antarctic wolf of the Falkland Islands, finally exterminated by the sheep-farmers in self-defence; its possible introduction to the Falklands is discussed, and the question whether it was really distinct or merely a modified form.

These extracts will serve as a fair sample of the score of essays in the new volume. In the case of rare or extinct forms there is an indication of the known specimens now or formerly in collections. The value of photographs from life of rare, and especially of "threatened," species is emphasised by the author, who illustrates his essays with eighteen photographic plates. Even in the London "Zoo" it is not always easy to photograph an animal. The clouded tiger was under observation for five years before a satisfactory picture (which we are enabled to reproduce) could be obtained.

O. V. A.

#### MINERS' WORM.<sup>1</sup>

THE dreadful disease known as ankylostomiasis, "tunnel disease," "cachexia of miners," or "miners' worm," is definitely known to be caused by the nematode worm *Ankylostoma duodenale*. The alarming spread of the disease in the mines of Hungary, France, Germany, and Belgium, and its recent introduction into some of the mines of this country, have necessitated a thorough investigation of the anatomy, development, and life-history of the worm. Already some 750 papers treating of the disease have been published, but only a few of these deal with the parasite itself, and still fewer with the details of its anatomical structure.

The splendid work before us now gives in full detail the gross and minute structure of the adult worm, but a second part is yet to come from the pen of the same distinguished parasitologist in which the development and life-history will be described. If the second part is as full of detail and as well illustrated as the first, the monograph will be the most complete account of any single species of animal that the world possesses.

The *Ankylostoma* was first discovered by Dubini in 1838 in the intestine of a peasant woman who died in the hospital at Milan, but it was not until some years later that he associated the worm with disease and published an account of it. Soon after Dubini's discovery the worm was found in Egypt by Pruner and by Bilharz. Dr. Looss considers carefully the suggestion that has been made that the worm Heltu mentioned in the Ebers papyrus of ca 1550 B.C. was *Ankylostoma*, and that the disease was known to the ancient Egyptians, but he comes to the conclusion that there is not sufficient evidence to support this suggestion.

The discovery of *Ankylostoma* in Brazil by Wucherer, and in other warm and tropical places, led to the belief that ankylostomiasis was peculiar to such climates, but the epidemic of "tunnel disease" among the workers in the St. Gothard Tunnel, and the recognition by Perroncito of its identity with

ankylostomiasis, was the first indication of the serious part this worm was to play in the medical history of the present day.

Dr. Looss devotes some pages to a full discussion of the systematic position of the species and of the generic characters of this and the other genera of the family Agchylostominae. I must confess to some disappointment that, influenced by the writings of Stiles, of Washington, the author has come to the conclusion that the genus must be written *Agchylostoma*.

"I freely confess," he writes, "that I find the term *Agchylostoma* abominable," and throughout the monograph he uses the spelling *Ankylostoma* in roman letters and *Agchylostoma* in italics. It is extremely inconvenient, in any case, to restore an ancient and "abominable" spelling of a generic name, and it is to be especially deplored in a monograph of such value and importance as this one; but no rules of nomenclature can justify the course adopted of spelling a generic name in two distinct ways on almost every page.

The text consists of 140 pages of elaborate details of microscopic anatomy and histology, and the illustrations consist of ten plates of very beautiful drawings by the author, lithographed by Werner and Winter, of Frankfort.

The monograph was originally written in German, but has been translated with very great skill into English by Mrs. H. M. Bernard.

SYDNEY J. HICKSON.

#### THE ROYAL COLLEGE OF SCIENCE.

MR. HALDANE and the other members of the departmental committee who for the last two years have been considering the important questions referred to them have earned the nation's gratitude. If the scheme they propose be carried out (and there is reason to believe that it will be, and at once) a great step forward will have been made towards providing that complete higher education the absence of which has made us the laughing stock of those countries the Ministers of which are more intelligent than our own. As the reporters are careful to show in their general review, many of our scientific industries are an easy prey in international competition as it is carried on to-day.

We give below extracts from the recommendations made in the final report, just issued, which will sufficiently indicate the proposals of the committee; many paragraphs have been omitted which deal with details.

The unification of the teaching which already exists or is already provided for at South Kensington, and the additional buildings, teaching and research suggested, will certainly provide an institution admirably designed to meet modern needs. But we are grateful to the reporters for more than this; they tell us with no uncertain sound that technical education must crown, and not replace, a general education, so the resources of the Royal College in the future will not be frittered away in trying to teach those who have not learned how to think and in turning out incomplete men. A sufficiency of professors is also postulated, so we may hope that researches as well as teaching will be intensified, both for professors and students.

Messrs. Wernher, Beit and Co. are happy endowers; it is not often that such munificence as theirs, which set the inquiry going, leads to such a rapid and satisfactory result. Their 100,000*l.* is now supplemented, roughly, by the interest of a million from the State, of another from the County Council, perhaps

<sup>1</sup> "The Anatomy of *Agchylostoma duodenale*, Dub." By A. Looss. Records of the Egyptian Government School of Medicine. Vol. iii. (Cairo: National Printing Department 1905.)