

2. The diffuse stage of the placenta of some of the anthropoids is apparently directly comparable to that of the lemurs.

3. There is no fundamental distinction between a large free allantois and one which is rudimentary; it is merely a matter of degree and not one of kind.

4. There is no paleontological evidence as yet deduced which proves that apes and lemurs have arisen independently and that these two phyla were distinct as early as the Mesozoic.

5. The Santa Cruz beds of Patagonia in which *Homunculus* occurs are probably as late as the Lower Miocene.

6. *Anaptomorphus* of the Lower Eocene is much more closely related to the lemurs than to the apes, but it has certain anthropoid characters which indicate that some of the latter may have been derived from this genus.

7. Our present paleontological knowledge indicates that the Old World apes have been derived from a lemurine stock as late as the Oligocene.

8. Synthetic types as *Adapis*, *Tarsius* and *Mesopithecus* demonstrate that apes and lemurs are genetically related.

It remains to be seen whether naturalists in general will be willing to accept Professor Hubrecht's views as to the systematic position of *Tarsius*, depending upon the connection of placenta with the embryo (bauchstiel) and also on the histological details of the former. It seems probable that in forming an opinion as to the affinities of any animal the only judicious course to pursue is to consider the whole organization as well as the development. As far as I can learn from Professor Hubrecht's paper he has not followed this method, but wishes us to accept his conclusions hardly referring to the structures of *Tarsius* which are identical with those of the lemurs and which occur in no other mammalian group except the lemurs.

In conclusion I would like to call Professor Hubrecht's attention to the following passage from Burmeister's Monograph, which shows that he considered *Tarsius* to be a lemur, although Professor Hubrecht does not mention this fact in his memoir: "Aber *Tarsius* ist

nicht mal ein Affe, er ist vielmehr nur ein Halbaffe, ein Mitglied jener Gruppe * * * *; Darin unterscheidet er sich von allen übrigen Halbaffen und steht eben desshalb so isolirt unter ihnen da." It would be of interest if other morphologists would enter into this discussion and give their opinions as to the systematic position of *Tarsius*. If I did not state Professor Hubrecht's case thoroughly it was an oversight on my part.

CHARLES EARLE.

NEW ROCHELLE, NEW YORK, April 7, 1897.

THE COMING ICE AGE.

TO THE EDITOR OF SCIENCE: In SCIENCE of March 19th Professor G. Frederick Wright, in his notice of the Coming Ice Age, says that "he is not sure that he has comprehended the author's meaning." And it seems that such is the case where he writes that "the theory of the author is that a land connection between Patagonia and the Antarctic Continent, or a great diminution of the channel between these lands, would produce an effect upon the ocean currents favorable to the glaciation of both hemispheres." This description is so inadequate that it may produce a wrong impression, and so prevent a clear apprehension of what follows in the review. One of the main objects of my explanations has been to show that the closing or diminution of the channel south of Cape Horn would cause the tropical currents to enter the southern seas in sufficient volume to cause an age of mildness in the high southern latitudes which would spread over the globe, and the warm climate would continue until the southern oceans through a slow process retained water sufficient to greatly enlarge the channel south of Cape Horn, and so cause conditions favorable for the glaciation of lands situated in the high southern latitudes, such as is being performed to-day. Consequently, my prognostication of a coming ice age is based on the present enlarged condition of the Cape Horn channel, which affords sufficient space for the strong prevailing westerly winds of that latitude to force the surface waters of the southern oceans through the wide channel and so onward around the globe. Therefore, the

tropical surface currents setting southward are largely turned away from the antarctic regions, so only a scanty portion of the water from such currents reach the frigid latitudes. And through this cause the antarctic lands have become heavily glaciated, and the glaciers are constantly flowing into the sea. This process chills the waters surrounding the antarctic shores and causes them to sink and find their way to the temperate and tropical latitudes in under currents. In this way all of the under-waters of the oceans have acquired a low temperature, and there is much to show that their coldness is being slowly increased, and in consequence a cold epoch is being brought about. There is nothing hypothetical concerning the vast operations of nature which give support to this view of the subject. For it is well known to the navigators of the southern oceans that the belt of strong westerly winds which sweeps the southern seas causes a cold drift current to move around the Antarctic Continent. And it is also well known to science that the chilly waters of the antarctic seas find their way to the temperate and tropical latitudes in cold under-currents.

C. A. M. TABER.

THE SMITHSONIAN TABLE AT THE NAPLES STATION.

IN view of the necessary delay in connection with several applications which have recently been made for the use of the Smithsonian Table at the Naples Station, it may be well to call the attention of zoologists and botanists to the 'Report on the Memorial presented to the Smithsonian Institution regarding an American Table at the Naples Zoological Station,' printed in *SCIENCE*, XXI., No. 641, June 16, 1893, pp. 328-329.

Candidates will avoid delay in the consideration of their applications if they will bear in mind the following suggestions:

1. Applications should be addressed to Professor S. P. Langley, Secretary of the Smithsonian Institution, Washington, D. C., and *not* to the Secretary of the Advisory Committee.

2. The candidate should state his entire educational history, give a list of the papers he has pub-

lished, and if possible send reprints of the same to accompany his application.

3. He should apply for a definite period of time, not exceeding six months, and state the time of year which will be most convenient for him to occupy the table.

4. He should give some definite statement as to the general line of investigation he wishes to pursue while at Naples.

5. If a recent graduate and a person not thoroughly known as an author, he should request his former instructors to write in his behalf to the Secretary of the Smithsonian Institution.

If the professors of zoology and botany in the various universities will bear these suggestions in mind they will greatly lessen the correspondence and delay in connection with the consideration of the applications from their students and will at the same time forward the interests of the applicants.

CH. WARDELL STILES,
Secretary Advisory Committee.

SCIENTIFIC LITERATURE.

An Introduction to Geology. By WILLIAM B. SCOTT. The Macmillan Co. 1897.

The author of this class-book has attempted, and we think successfully, to provide a brief but complete and sufficiently detailed treatment of geology for the ordinary college student.

He has used as a basis the fuller standard treatises on Geology, has taken as his model Sir Archibald Geikie's 'Class-book,' has written it for American students, selecting examples from American geology; has illustrated the work with reproduced scenes taken by American geologists, and has had help and suggestions from other workers in special fields. The result is, in general, a satisfactory book to put in the hands of a class of students, and particularly well adapted, as it seems to the writer, to supplement a course of lectures in a general college curriculum.

The arrangement of the chapters is not altogether such as a teacher would naturally use, and that some license is given to readjust the chapters is suggested by the remark in the preface: "The order in which the different sections of the book are taken up should depend somewhat upon the season of the year in