water I collected the soft red mass swimming on the surface, washed it with distilled water and shook it in a mixture of ether and absolute alcohol. The red color left the soft mass being extracted by the ether. The solution of the color in ether did not keep the purple tint of the soft mass, but showed a fine brownish coloration, the soft mass itself appearing now as a gray yellowish substance, reminding one of blood fibrine. It could be reduced to ashes and is, therefore, of organic composition. When the lake water was directly exposed to the mixture of ether and alcohol without having passed through acetic acid no result was obtained. Concerning the osmotic property of the red organic mass it is to be noted that it did not pass through a membrane of so-called parchment paper, such as is used for covering jars.

The experiments show that the water of the lakes contains an astonishingly great quantity of organic red substance and that it is this which gives the red color to the water.

The question now arises what the origin of the red organic substance is. My supposition is that the substance must be the product of bacteria. Each drop of water taken from the lakes will be found full of them. The bacteria in all the lakes are uncolored, but I found that the cocci exhibit a red color.

According to 'Baedeker' (Egypt, French edition, 1898) there existed another spot in Egypt, near Suez, where red salt water is found. On page 162 of the guide book I read the following note: "La coleur rouge des marais salants entre des collines des Bédouins et le canal, provient d'une petite écrevisse (de l'ordre des phyllopodes) presque microscopique qui y fourmille à certains moments. Le matin ils exhalent un parfum semblable à celui des violettes." Unfortunately, when I was at Suez I did not visit the 'marais salants,' and I, therefore, wish to call this note to the attention of the biologists visiting that part of Egypt. It would be very interesting to ascertain whether the water there contains bacteria and the same red organic mass which I found in the lakes of the Natroun Valley.

J. DEWITZ.

SCIENTIFIC BOOKS.

Man: Past and Present. By A. H. KEANE. Cambridge Geographical Series. Cambridge, University Press. 1899. 12mo. Pp. 184. Plates 12.

This volume is the sequel to Mr. Keane's 'Ethnology,' which appeared as the first of the series in 1896, and the two must be read together. The author has devoted his life to ethnology, and he has lived for many years in London, surrounded by the best resources of libraries, museums and men. Every authority worth consulting has been within his reach. Mr. Keane is a zealous systematic workman and loves his calling. Let us, therefore, hear what he has to say about man, past and present. The author is an evolutionist who thinks that the genealogy of man is made out. For him the ascent of the Hominidæ is in an independent line from some long-extinct, generalized form, from which the other families of anthropoidia sprung in independent lines. This precursor first appeared in the Indo-Malayan area. Indeed, Dubois's *Pithecanthropus erectus* is assumed as typifying nearly enough the first man.

The time when the precursor became man was in the Pliocene Tertiary, and a million years, more or less, would suffice for all human history. Four sub-species, or varieties of the percursor, were developed in as many separate areas, namely, *Homo Ethiopicus*, *Homo Mongolicus*, *Homo Americanus* and *Homo Caucasicus*.

The centrifugal Pleistocene precursor, erect in posture, but not differing greatly from his nearest ape-like kin in other respects, physical or mental, spread himself over the whole habitable globe. In four separate zones, the four varieties above named were evolved as independently as was the Pleistocene precursor himself. This view has led some to rank the author with the polygenists, but he denies this

and vigorously espouses monogenism. The first chapters are devoted to this generalized man and to the beginning of the historic period. But the bulk of the work treats of the four varieties in detail, and traces with much particularity how each became specialized in its own environment, giving three chapters to *Ethiopicus*, four to *Mongolicus*, two to *Americanus* and three to *Caucasicus*.

I. *Homo Ethiopicus*, developed in two areas, Papuasia and Africa south of the equator. The two sets of peoples, however, are fundamentally one, and the likeness extends to the details of sub-varieties. *Ethiopicus* was the first to branch off from the Pleistocene precursor and develop three sub-varieties. No difficulty is encountered. in these early migrations across an Indo-African continent now submerged.

II. *Homo Mongolicus* developed on Central Asian plains and plateaux into three sub-varieties, Mongolo-Tartar, Tibeto-Indo-Chinese and Oceanic Mongols.

III. *Homo Americanus* developed in the New World in Pleistocene times from Indo-Malaysia, whence he came in the primitive state, prior to all cultural developments, by two separate routes, giving rise to two zoological varieties, the Eskimo-Botocudo long-head, who migrated by way of now submerged lands across the North Atlantic; and the Mexican-Andean round-heads, who found their way in the new stone age from eastern Asia by the Bering waters.

IV. *Homo Caucasicus*, whose original home as variety of the Pleistocene precursor was Africa, north of the Soudan, where the Caucasic type was constituted in all its features. He arrived by way of trails across the now submerged Indo-African continent. Thence he occupied the Nile Valley, western Asia, western and central Europe, and worked backward to become Toda in India, Ainu in northeastern Asia, Indonesian in Farther India and Polynesian in the archipelagoes of the Pacific.

Each one of these primitive zoological groups is traced downward, mainly on biological lines to the present ethnic groups. The author has spared no pains in preserving his references in foot notes, thus setting the work away above such general treatises as that of Ratzel. He finds in *Homo Caucasius* the most debatable field, because, he thinks, of the more complex character of the subject. Is it not just possible, however, that our profounder knowledge of this variety makes it more difficult to play the game of synthesis with its parts?

There are three points at which the work could be improved. The publisher has maltreated the author's well selected photographs shamefully. In these days of cheap and excellent graphic processes there is no excuse for this. Some faces are worse than others, but the Toda and the Yezo Ainu, in Plate XII, must have been nearest the cannon cracker when it exploded.

A second weakness also must not be ascribed to the author, for it lies at the door of those who gave him information. For instance, if the members of the National Academy of Sciences agree that Bowers's 'crust,' which was 'busted, falling down a shaft in Calaveras county,' is the cranium of a Pleiocene precursor, Mr. Keane is not to blame for repeating it. Or, if the writer who calls attention to a pair of snow goggles found in a gravel bank at Point Barrow, twenty-six feet beneath the surface, should omit to say that they had been made of driftwood, with a steel knife, and that the same pattern was worn there last winter, who blames Mr. Keane for finding the palæolithic man from the Arctic to Fuegia? Though, we must say that this is the first information of his using snow blinkers.

But, thirdly, the author has marred his book by prejudicial selection of authors. It will certainly grieve some of Mr. Keane's admirers on this side of the Atlantic to find writers quoted seriously who have no standing, while he omits all reference to such distinguished authorities as Daniel G. Brinton, Wm. H. Holmes, Garrick Mallery, Washington Matthews, Charles Rau, Everard M. Thurn and Jeffries Wyman.

O. T. Mason.

The Story of the Mind. By James Mark Baldwin. New York, D. Appleton & Co. Pp. x + 236.

Skill is needed to present psychology in popular form. There is imminent danger of either unreadable technicality or of superficial