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THE PYGMIES.

The Pygmies. By A. de Quatrefages. Translated by Frederick Starr. (London and New York : Macmillan and Co., 1895.)

SOME surprise was expressed when Prof. de Quatrefages was appointed, in 1855, to the chair of Anthropology in the Museum of Natural History at Paris. He was then forty-five years of age, and had acquired a considerable reputation as a zoologist, but his published original researches related only to the lower marine forms of animal life. Thenceforward, however, he devoted himself with great energy and success to the cultivation of the subject under his special charge, and the great development of the collections in the Museum and the numerous contributions to the literature of the natural history of man, which he continued to make almost up to the time of his death, three years ago, at the age of eighty-two, abundantly justified his selection for the post. It is true, that during the greater part of this time he had the advantage of the assistance and harmonious co-operation in much of his work of M. E. T. Hamy, who has naturally succeeded to the chair.

The work now under notice, which has just appeared in an English form, was originally published in 1887, as one of the "*Bibliothèque scientifique contemporaine*," and is essentially popular in its character. It commences by giving an account of the wide-spread belief among the more cultivated nations of antiquity in the existence of a race or races of human beings of exceedingly diminutive stature, who dwelt in some of the more remote and unexplored regions of the earth. The scattered notices of these people, called *Pygmies* by the Greeks, found in the writings of Homer, Aristotle, Herodotus, Ctesias, Pliny, Pomponius Melo, and others, are cited and commented upon. Aristotle places his pygmies in Africa, near the sources of the Nile, and Herodotus gives a circumstantial account of their existence near a river now generally identified with the Niger, while Ctesias describes a race of dwarfs in the interior of India. Whether these legends were merely the offspring of a fertile imagination, or whether they had a solid foundation in fact, may be still an open question. Our author is convinced that the latter view is correct, and devotes the greater part of the work to the task of collecting all the reliable information upon the existing races of people of diminutive stature who inhabit the regions of the earth in which the pygmies of the ancients were supposed to dwell, and to the endeavour to harmonise the scanty notices of those old writers with the facts as now shown by scientific investigation.

A considerable portion of the book is given to an account of the characteristics and culture of that singularly interesting race, the natives of the Andaman Islands, which is naturally taken mainly from the observations of Mr. E. H. Man. These people Quatrefages persists in calling "*Mincopies*," although it has long been shown that the name is quite unknown in their own language. A chapter is then devoted to showing that people having the general physical characters (small stature, black colour,

frizzly hair, and roundish heads) and many of the habits and customs (especially the dexterous use of the bow) of the Andamanese, form a groundwork of the native population of many of the islands of the Malay Archipelago, living mostly in the mountainous regions of the interior. To this race, Quatrefages has given the name of "*Negrito*." But it is not only in the islands that the Negrito race dwell. Traces of them are found also on the mainland of Asia, but everywhere under the same conditions ; in scattered tribes, occupying the more inaccessible mountainous regions of countries otherwise mainly inhabited by other races, and generally in a condition more or less of degradation and barbarism, resulting from the oppressive treatment they have received from their invading conquerors ; often, moreover, so much mixed that their original characters are scarcely recognisable. The Semangs of the interior of the Malay Peninsula, the Sakays from Perak, the Moys from Annam—all show traces of Negrito blood. In India proper, especially among the lowest and least civilised tribes, not only of the central and southern districts, but almost to the foot of the Himalayas, in the Punjab, and even to the west side of the Indus, according to Quatrefages, frizzly hair, negro features, and small stature, are so common that a strong argument can be based on them for the belief in a Negrito race forming the foundation of the whole pre-Aryan or Dravidian, as it is generally called, population of the peninsula. The crossing which has taken place with other races has, doubtless, greatly altered the physical characters of this people, and the evidences of this alteration manifest themselves in many ways ; sometimes the curliness of the hair is lost by the admixture with straight-haired races, while the black complexion and small stature remain ; sometimes the stature is increased, but the colour, which seems to be one of the most persistent of characteristics, remains. The localities in which the Negrito people are found in their greatest purity, either in almost inaccessible islands, as were the Andamans till in comparatively recent times, or elsewhere in the mountainous ranges of the interior only, and their social conditions and traditions wherever they exist—all point to the fact that they were the earliest inhabitants ; and that the Mongolian and the Malay races on the east, and the Aryans on the west, which are now so rapidly exterminating and replacing them, are later comers into the land. We now see what constitutes the great interest of the Andamanese natives to the student of the ethnological history of the Eastern world. Their long isolation has made them a remarkably homogeneous race, stamping them all with a common resemblance not seen in the mixed races generally met with in continental areas. They are the least modified representatives of the people who were, so far as we know, the primitive inhabitants of a large portion of the earth's surface, but who are now verging on extinction.

The next portion of the book is devoted to an examination of the so-called "*pygmy*" races of the African continent. These are the well-known Bushmen or "*Sân*" of South Africa, to whose religious beliefs a whole chapter, derived mainly from the observations of Hahn, is devoted, and another race to which Hamy has given the name of "*Negrillos*," about which far less is known at present, who seem to hold the same relation to the larger

long-headed African negroes, among whom they dwell, that the small round-headed Negritos of the Indian Ocean do to their larger long-headed Melanesian neighbours. Scattered communities of these small negroes, all much resembling one another in size, appearance and habits, scarcely over four feet in height, and all great hunters, expert with the bow, and living on the produce of the chase, occur at various isolated spots across the great African continent, within a few degrees north and south of the equator, extending from the Atlantic coast almost to the Indian Ocean. In many parts, especially at the west, they are obviously holding their own with difficulty, if not actually disappearing, and there is much about their condition of civilisation and the situations in which they are found, to induce us to look upon them, as in the case of the Bushmen to the south and the Negritos in the east, as the remains of a population which occupied the land before the incoming of the main body of the present natives. If the account of the Nasamoniens, related by Herodotus, be accepted as historical, the river they came to, "flowing from west to east," must have been the Niger, and the northward range of the dwarfish people far more extensive twenty-three centuries ago than it is at the present time.

The translator has given, in an appendix, a list of the principal contributions to the literature of the little races of man which have appeared since the publication of the French edition of M. de Quatrefages' book. It would have been still better if he had given some epitome of the considerable advances that have been made in our knowledge of the subject, especially of the recent researches of R. G. Haliburton and Kollmann, which tend to show the former extension of dwarf races over a considerably larger area of the earth's surface than was suspected by our author, such as the whole of North Africa, the Pyrenees, Switzerland, and even Central America.

W. H. FLOWER.

AN ATTEMPT TO POPULARISE EVOLUTION.

A Primer of Evolution. By Edward Clodd. (Longmans, Green, and Co., 1895.)

THE title of this little book is hardly justified by its contents, since it nowhere defines or explains evolution, or deals with it in a systematic manner. As the author tells us in a prefatory note, the book is an abridgment of his former work, "The Story of Creation"; and he does not appear to have made any attempt to rearrange his materials, or to introduce such new matter as was required to constitute it a real introduction to the theory of evolution for those who know little or nothing about it. Such a book should give, at starting, a full statement of what is meant by evolution in modern science and philosophy; should explain how it differs from previous theories of the universe; and should clearly mark out its range of action and its limitations, showing in what way it is supposed to have "evolved" the material universe, and how much must be postulated as the materials and the forces with which it works.

But instead of any explanation of this nature, the first half of the book is devoted to a general descriptive sketch of the universe, inorganic and organic, so brief and

elementary, as to be quite unnecessary, since any one prepared to enter on the study of evolution would be already acquainted with so much of the facts to be explained. In all this portion, occupying more than half the book, evolution is not once referred to. Then, in the second part, which is headed "Explanatory," all the ground is gone over again, with explanations which assume evolution, but do not often refer to it. Some of this is interesting and well written, the chapter on "Proofs of Derivation of Species" being one of the best; and if this part had been more fully developed, and had been preceded by such an account of the principle of evolution as has been suggested, the work might have been useful to beginners.

But, besides these deficiencies of arrangement and of subject matter, there are more serious defects in numerous obscurities and misstatements, and in the adoption of very doubtful theories as if they were universally accepted. As examples of these faults, the very first sentence states that—"The universe is made up of matter and motion," as if they were things of the same nature. And on turning to the "explanatory" part, we are informed that the "materials which make up the universe" are "matter and motion." On page 3, we are told that "matter is made up of chemical units or elements," about seventy in number, and that—"These elements are named atoms." On page 91, we have force and energy defined as being respectively "motion which draws the atoms together," and "motion which drives the atoms apart." This appears to have been adopted from a well-known popular writer, but as it is quite different from what is to be found in the usual text-books it should not have been adopted in a "primer." At page 95, the friction of the ethereal medium in retarding the orbital motion of the planets, is stated as if it were a demonstrated fact. The abundance of the compounds of carbon are said to be partly due to its having "an affinity for itself" (p. 102); and among the erroneous statements of fact we are told that, among the lower races the great toe survives "as a grasping organ" (p. 127), and that there are in America certain wandering tribes who use gestures as "the sole mode of communication" (p. 157). Again, without a word of doubt or reservation, we have the statements that—"The origin of life is not a more stupendous problem to solve than the origin of water" (p. 103); and that—"mind is the highest product of the action of motion upon matter" (p. 174). These few samples are sufficient to show that this little work requires very careful revision to render it a safe guide for the elementary student.

STEEL AND THE NEW IRON-ALLOYS.

Steel Works Analysis. By J. O. Arnold. (London: Whittaker and Co., 1895.)

CHEMISTS engaged in steel works have long been wanting a trustworthy manual adapted to their special requirements, and this work is the latest attempt to meet the want. The work is undoubtedly an advance on its predecessors, for, while it retains the best of the well-known processes, many newer operations are now, for the first time, published in a comparatively handy form. Everything that a steel works analyst may fairly be called upon to examine, finds a place in this volume.