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THE
EVOLUTION OF MAN

ESSAYS

BY

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PREFACE

THE need for a book giving a consistent and coherent account of the essential factors in the Evolution of Man has been strongly impressed upon me for many years. When in 1912 I delivered the address (at the meeting of the British Association) that forms Chapter I of this book, I began to make more intensive investigations of the Spectral Tarsier, the structure of which provides such crucial evidence for the interpretation of Man's distinctive features. Some of the specimens of *Tarsius*, which my friend Dr. Charles Hose had sent me from Borneo, I handed over to my former assistant Dr. F. Wood Jones with the request that he should examine the reproductive organs; and four years later he published a remarkable book, *Arboreal Man* (1916), in which, starting from my Address of 1912, he amplified the argument and introduced certain modifications of his own. Two years later (1918) he emancipated himself more definitely from any influence my views may previously have had, and issued his remarkable speculations in the form of a brochure called *The Problem of Man's Ancestry*, in which he attempted to exclude all the Apes and Monkeys from Man's ancestry and to derive the Human Family directly from a *Tarsius*-like animal.

I refer to these facts, and the 'Discussion on *Tarsius*' (*Proceedings of the Zoological Society of London*, 1919) which arose out of the events I have mentioned, because they provide the reason why I had to abandon for a time my intention of getting a series of specialists to collaborate in studying the crucial stages in Man's

ancestry, which is now being carried out by Dr. H. H. Woollard and Mr. W. E. Le Gros Clark. When their investigations upon the Tarsier and the Tree Shrew are published, I hope to be in a position to prepare a fuller exposition of the Evolution of Man in the form of a text-book. During the last five years I have attempted to keep alive the interest in these studies by means of courses of lectures in many of the medical schools and colleges of the British Isles, as well as in Paris, Utrecht, and Gröningen; and am now about to develop this teaching still further in the University of California and as Herter Lectures in New York University and Johns Hopkins University.

But, above all, I should express particular gratitude to the Royal College of Surgeons in Ireland, and the Royal College of Physicians of Edinburgh, because the Montgomery Lectureship which I held in the former for three years, and the Morison Lectureship in the latter, provided the chief stimulus that impelled me to develop the views on the importance of the cultivation of vision in the evolution of Man's intellect, which is the essential theme of this book.

I have not yet been able to find the leisure to prepare these lectures for publication. But the demand on the part of students for some guidance in this subject has become so insistent that, pending the preparation of such a text-book as is needed, I have collected three addresses for issue in this little book. They will perhaps elucidate the general principles, without which most of the excellent works dealing with various aspects of the study of Man are apt to be very bewildering to the student.

At the present time there is no book that explains these general principles in the only logical way they

are susceptible of interpretation, namely, as an historical inquiry into the circumstances of Man's origin and descent. It is essential that the student should aim at understanding Man's pedigree: for until some clear conception of the sequence of changes through which the ancestors of the Human Family passed in their progress toward the attainment of Man's estate it is useless to attempt to understand how the distinctively human powers of intelligence emerged.

Hence in the Foreword I have attempted graphically to express the present state of our knowledge concerning the tentative grouping and degrees of kinship of the various genera and species of the Human Family, and in a second diagram to indicate the position of the Human Family in the Order Primates. In the Foreword I have also discussed the concrete example of a much-disputed member of the Order to illustrate the value of such schemata, tentative though they be, in helping us to define the issues, when we have to restore to its proper place in the Order or Family a long-lost member, whose former existence has been made known to us by a few fragmentary fossils. I refer to the status of the newly created genus *Hesperopithecus*, of which nothing is known except two teeth found in Pliocene beds in Nebraska.

For permission to reprint Chapter II I have to thank the Council of the British Academy, in whose *Proceedings* this address, delivered in 1916, was originally published. The reference to the Rhodesian skull in that Chapter is taken from an article that I wrote for *The Atlantic Monthly* (April 1922), the Editor of which has kindly permitted me to reproduce it here. The aim of Chapter II is to give a general survey of

what is known of the extinct members of the Human Family, and to guide the reader amidst the jungle of detailed information provided in the well-known works by Sollas, Osborn, Keith, Smith Woodward, and Boule. Elsewhere (in the article 'Anthropology' in the first of the three supplementary volumes to the *Encyclopaedia Britannica*, 1922) I have surveyed this field in a somewhat different manner and given fuller bibliographical references.

Chapter III is a discourse delivered at the Royal Institution on February 22, 1924, of which a slightly curtailed version was published in *Nature* (March 15). It aims at correlating the two lines of approach to the essential problem of the nature of Man's intellectual pre-eminence, the study of Man's pedigree and its implications discussed in Chapter I, and the nature of the Human Family and its achievements, which are examined in Chapter II.

In attempting to attain conciseness of expression I have used teleological phraseology in many places merely as a matter of convenience, and not from any idea of accepting Teleology.

The reissue of addresses upon essentially the same problem delivered under very different circumstances to such diverse audiences as the British Association, the British Academy, and the Royal Institution provide, makes a certain amount of repetition unavoidable; but a long experience of the ways of students has convinced me that it is not without its uses to repeat and re-emphasize important points in an argument.

G. E. S.

UNIVERSITY COLLEGE,
LONDON,
March 31, 1924.

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CORRIGENDA

PAGE

- 35, line 17, *for near read* clear
95, line 13 from bottom of page, *for littora read* littoral
138, line 12 from bottom of page, *delete comma from* Hughlings,
 Jackson
144, lines 4-5, *delete comma from* Sharpey, Schafer
145, line 6, *for convergence read* accommodation

Elliot Smith: *Evolution of Man*

FOREWORD

MAN'S PEDIGREE

BEFORE we can attempt to discuss the factors that were responsible for the emergence of the distinctive characters of Man, it is essential that we should make some attempt to reconstruct his pedigree, for it is only when the relationships one to the other of the different races of men and the extinct members of the Human Family are defined that one can begin to consider what were the sequence of changes and what the essential conditions of progress within the Family. Moreover, without some definite scheme of the position in time and the relationship one to the other of the members of the Order Primates, to which Man belongs, it is impossible to form any idea as to the nature of the factors that determined the emergence of the qualities of mind and body that are distinctive of the Human Family.

I have therefore attempted to construct two diagrams to give graphic expression to the present state of our knowledge regarding these questions of pedigree. In the first figure the relationships of the Human Family itself have been tentatively plotted out. All of the existing members of the Human Family belong to the species *Homo sapiens*. The most primitive race now living is undoubtedly the Australian, which represents the survival with comparatively slight modifications of perhaps the primitive type of the species. Next in order comes the Negro Race, which is much later and, in some respects, more highly specialized, differing profoundly in many respects from the Australian, but sharing with it the black

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As this little book will be used as a guide by many students not familiar with anthropological literature, perhaps I should indicate where fuller particulars concerning the evidence discussed here can be obtained. The most generally useful book of reference is the English version of Marcellin Boule's *Fossil Men* (Edinburgh, 1923), although the views expressed by the distinguished French savant are not in all cases in agreement with those set forth here.

Other useful works are :

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Gregory's and Sonntag's works contain extensive bibliographies.

The information he acquired of the world included a knowledge of his own body and the estimation of the aesthetic qualities of his fellows, for vision came to acquire an increasing influence in his selection of sexual mates ; and it is possible that in the case of the Human Family Darwin's claim for sexual selection may find much ampler confirmation than most biologists are inclined to attach to it in the case of other organisms. No one can question the appeal of physical beauty to mankind, and it is difficult to believe that an attraction so universal and deep-seated could possibly have been devoid of effect in the process of transmuing the uncouth form of an Ape into the graceful figure of a human being.

But Man did not examine merely the physical form of himself and mankind in general ; he studied the behaviour of his fellows, and by introspection examined his own thoughts and feelings, and constructed his conceptions of time, space, and materials. In his attempts to interpret what he saw and learned by experiment he tried to understand such of the forces of nature as seemed to affect his welfare. Out of such gropings there emerged the earlier theories of physics and biology, which became stereotyped by tradition. At every stage of his progress toward a fuller enlightenment such speculations became for the vast majority of mankind a simple device for escape from the necessity of thinking. But if such traditional evasions were a source of comfort to the many, they have ever been a hindrance to the real thinker striving after a consistent and really satisfying explanation of natural phenomena and human history.

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