An Introduction to the Study of the Mammalia, Living and Extinct by William Henry Flower
Review by: J. G. G.

The Journal of the Anthropological Institute of Great Britain and Ireland, Vol. 23 (1894), pp. 258-262

Published by: [Royal Anthropological Institute of Great Britain and Ireland](#)

Stable URL: <http://www.jstor.org/stable/2842227>

Accessed: 14/06/2014 02:43

Your use of the JSTOR archive indicates your acceptance of the Terms & Conditions of Use, available at
<http://www.jstor.org/page/info/about/policies/terms.jsp>

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.

Royal Anthropological Institute of Great Britain and Ireland is collaborating with JSTOR to digitize, preserve and extend access to *The Journal of the Anthropological Institute of Great Britain and Ireland*.

<http://www.jstor.org>

ANTHROPOLOGICAL MISCELLANEA AND NEW BOOKS.

An introduction to the Study of the Mammalia, living and extinct. By William Henry Flower, C.B., D.C.L., LL.D., F.R.S., &c., and Richard Lydekker, B.A., &c. (London: Adam and Charles Black, 1891.)

Man being, as regards his bodily structure, at least, essentially a member of the great group of mammalia, and subject to the same laws which govern the development and life history of the other members of the group, it is requisite that the anthropologist, in order to enable him to study his subject to advantage, should possess a knowledge of vertebrate anatomy generally, and especially of that of the mammalia. Hence the appearance of this new work on the mammalia by Sir William Flower and Mr. Lydekker has a special interest in relation to anthropology. The want of a modern English manual, treating not only of the skeleton and its modifications in the different living and extinct mammalia, but which also contains a description of the anatomical characters of the soft parts of the body, has been felt of recent years by anthropologists, and is, we think, now supplied by this work, so far as can be done within the limits of an introductory study of the mammalia.

In the first chapter the general characters of the mammalia, the development of their young, their size, and their uses and products are briefly described. The next chapter deals with their general anatomical characters, arranged under seven headings—namely, tegumentary structures, including the hair, colour, scales, nails, claws, hoofs, and odour-secreting glands; the dental system; the skeleton; the digestive system; the circulatory, absorbent, respiratory, and urinary systems; the nervous system and organs of sense; and lastly, the reproductive organs. Although the chapter extends to seventy-four pages, the description of these different systems of the body is as much condensed as possible. A desire to keep this part of the work within due limits probably accounts for the absence of any section on the developmental history of the mammal and its various systems, although a subject of the utmost importance in a general account of its anatomy, and necessary even to understand the description given subsequently; as, for example, we notice that two of the embryonic layers are referred to in the account of the development of the teeth, but, without a pre-

vious knowledge of general embryonal development, such references would not be intelligible to the reader. The authors have apparently presupposed such knowledge, and have also assumed some previous knowledge of vertebrate anatomy on his part, as we notice in the description of the thigh and leg the terms pre-axial and postaxial are used, without explanation, regarding the primitive and unmodified positions of the tibia and fibula.

The third chapter deals with the origin and classification of the mammalia. The view taken of their origin, namely, that they have all come from the same ancestral stock at the time the amphibian type was passing into the reptilian, will probably be accepted generally by zoologists, notwithstanding the diversity of opinions which exist as to details. The portion of the chapter dealing with the classification of the mammalia is very important, being the key to the arrangement of the subsequent part of the work. It is frankly admitted by the authors that all attempts to form a classification, embracing living as well as extinct specimens already known, must be of a temporary and provisional nature owing to the changes of ideas consequent upon our rapidly advancing knowledge of extinct forms. Whatever means may hereafter be taken to express the natural relationships of the various groups of the mammalia, it is certain that in systematic descriptions and catalogues, and probably also in the arrangements of specimens in museums, a linear series, though necessarily artificial and arbitrary, must ever be followed. The vast experience of Sir William Flower in museum work, as well as his universally admitted knowledge especially of this particular class of the animal kingdom, gives great weight to the arrangement which he here proposes, and to the reasons set forth which have led him to adopt it. Doubtless, as he states, "equally good reasons might be given for almost any other combination of the various elements of which the series is composed," but it may be assumed that the arrangement he has adopted is the outcome of much careful consideration of all sides of the question, as well as mature experience, and may therefore be accepted, without hesitation, as the most convenient classification for practical purposes, of this important class of animals. Adopting Huxley's three sub-classes of the mammalia of prototheria, metatheria, and eutheria, the prototheria are divided into the monotremata and a group of extinct animals termed multituberculata; the metatheria include one order, the marsupialia, and are subdivided into two sub-orders and twelve families. These sub-classes being well defined, give little trouble. It is to the arrangement of the different animals of the third sub-class, eutheria, that most people will look with interest. Space, however, prevents us from doing more than mention them in the order in which they are placed—namely, edentata, sirenia, cetacea, ungulata, rodentia, carnivora, insectivora, chiroptera, and primates.

The fourth chapter is devoted to the geographical and geological distribution of mammals. The division of the globe into six zoological regions proposed by Mr. P. L. Sclater has been

followed, and a sketch is given of the chief mammalian types characteristic of each. In dealing with the distribution of aquatic mammals, we are glad to observe that the "right" whale of the North Atlantic, *Balæna atlantica*, *B. australis* of the South Seas, and *B. japonica* of the North Pacific, all of which show no differences in anatomical structure or external appearances, are considered to be but one species and not three as they are usually made, for no better reason apparently than because they are found in regions of the ocean very widely separated. In regard to the appearance of mammals in geological time, the earliest date at which they are at present known to exist, is in the upper part of the Triassic period which forms the base of the Mesozoic epoch, these mammals, as we have seen, are placed with the sub-class prototheria, but it is not till the Eocene period of the Tertiary epoch that the earliest known eutheria are found, though probably in some part of the world they had made their appearance before that period.

In the fifth and succeeding chapters to the end of the book, the various orders of the mammalia are dealt with more in detail, the plan adopted being to give first a general description of the chief characters of each order, and then to deal with the families and genera which are included under it. In many instances also certain of the better known, or more interesting members of a group, are described at some length, while the others are treated with greater brevity. Readers of a journal devoted to anthropology, as this is, will naturally be most interested in the last chapter, which deals with the primates, and particularly with that part of it which treats of the family *Hominidæ*. For this reason we propose to devote the rest of our remarks to that section of the work.

The primates are divided into two sub-orders, the *Lemuroidea* and the *Anthropoidea*, the former consisting of the lemurs, tarsier, and aye-aye, while the latter includes the remaining members of the order—namely, those animals commonly known as marmosets, monkeys, baboons, and apes, together with man himself, and is divided into five families. The general description of the families of the *Anthropoidea* will be found extremely useful by anthropologists as containing a comparative survey of the anatomical characters of the group and the variations which occur in it. In treating of the families individually, the *Hapalidæ* and *Cebidæ*, which are confined in their geographical distribution to the New World, are dealt with more cursorily than the *Cercopithecidæ* and *Simiadæ* which contain better known species, and have special interest in relation to man, such as the baboons, gibbons, orangutan, gorilla, and chimpanzee. In going through the higher forms of apes, one is painfully struck with the absence of extinct species, *Pliopithecus* and *Dryopithecus*, from the middle Miocene of France, and *Anthropopithecus sivalensis*, from the Pliocene of the Punjab, being the only representatives known to us. As the countries which are the habitats of the higher apes become

better known to us, it is sincerely to be hoped that some of the intermediate forms which have at one time existed will be discovered.

Since man differs from the apes most resembling him in bodily structure less than some of the other universally acknowledged members of the group do from one another, and as zoological classification has never taken into consideration the psychological characters of animals, but only their tangible and physical structure, he must be included amongst the primates. The authors consider the best exposition of the order as we now know it, is to regard man as representing a fifth family of the *Anthropoidea*, though this does not imply that such families are equivalent to one another, or that the intervals by which they are separated are of equal importance; all that the authors commit themselves to is that "there are five perfectly distinct groups, all branches from a common stem, and, in the present state of nature, not united by any intermediate types."

"The distinctions between the *Hominidæ* and the *Simiadæ* are chiefly relative, being greater size of brain and of brain-case as compared with the facial portion of the skull, smaller development of the canine teeth of the males, complete adaptation of the structure of the vertebral column to the vertical position, greater length of the lower as compared with the upper extremities, and greater length of the hallux with complete absence of the power of bringing it in opposition to the other four toes."

Man, as now universally admitted, is considered as a single genus, and reasons conclusive, to our mind, are adduced why he should be also considered a single species in the ordinary sense in which the word is now used, and all his different modifications regarded only as varieties or races, they never having been so far separated as not to be able to recombine and so answer to the physiological definition of species. There is ample proof to hand to show that vast antiquity must be assumed for man, during which he has been influenced by the operation of those natural laws which have produced the variations seen in other regions of organic nature. The first men may, very probably, have been all alike, but when spread over the earth and subject to diverse external conditions, racial differences began slowly to be developed. Geographical position and isolation must have been one of the chief elements in determining the formation and permanence of races, not only as regards their physical type but also their intellectual and moral qualities. "Thus for untold ages the history of man has represented a shifting kaleidoscopic scene; new races gradually becoming differentiated out of the old elements, and, after dwelling a while upon the earth, becoming suddenly annihilated or gradually merged into new combinations, a constant destruction and reconstruction, a tendency to separation and differentiation, and a tendency to combine again into a common uniformity."

The work concludes with a brief summary of the principal

results of the anthropological research on the varieties of the human species which have been attained up to the present, as set forth in his address as President of our Institute, and published in our Journal for May, 1885, by Sir William Flower.

J. G. G.

"Alone with the Hairy Ainu," or 3,800 miles on a pack saddle in Yezo and a cruise to the Kurile Islands. By A. H. Savage Landor. (Murray.) 1893. 8vo. pp. 325.

Mr. Landor travelled during the whole of his journey of 4,200 miles alone, without friends, servants, or guides. The volume is profusely illustrated and contains much valuable information. An interesting series of flint arrow heads and knives are figured, the pit dwellers' habitations are described, and the customs of the inhabitants are very fully discussed.

"A year amongst the Persians." Impressions as to the life, character, and thought of the people of Persia, received during twelve months' residence in that country in the years 1887-8. By E. G. Browne, M.A., M.B. (A. and C. Black.) 1893. 8vo. pp. 594. The author gives a valuable account of his journey in Persia, and the volume contains a large number of notes on various dialects met with. There is an important chapter on Mysticism, Metaphysic, and Magic.

"Les Émules de Darwin." By A. de Quatrefages. (Paris, Germer Bailliére.) 1894. 8vo. 2 vols. pp. 441. These volumes discuss the views of A. R. Russell, Naudin, Romanes, Carl Vogt, Filippi, Haeckel, Huxley, Owen, Mivart, Gubler and Koelliker, d'Omalius, d'Hallo, Erasmus Darwin and Quatrefages (by E. T. Hamy).

"Typee." A narrative of a four months' residence among the natives of a valley of the Marquesas Islands, or a peep at Polynesian life. By Herman Melville. (John Murray.) 1893. 8vo. pp. 301. This edition of a work originally published in 1846, gives an excellent account of the islands described. It is well illustrated and has two maps.

"Social life among the Assyrians and Babylonians." By A. H. Sayce. (R.T.S.) 1893. 8vo. pp. 126. The volume, one of the "By-paths of Bible Knowledge" series, gives a clear account of the people, their mode of life, education, marriage, and death; the market, the money lender, and the tenant; slavery and the agricultural labourer, trades and professions, and the religion of the people.

"Forty-two years amongst the Indians and Eskimo." By Beatrice Batty. (R.T.S.) 8vo. 1893. pp. 223. The book contains details of the life of the Right Rev. J. Horden, first bishop of Moosonee, and describes, in a popular manner, life among the Indians and Eskimo of his diocese.