

## LETTERS TO THE EDITOR.

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**Progress of the Natural History Museum.**

THE admirable survey of scientific progress published in the jubilee number of NATURE on November 6 has received the most cordial appreciation of your numerous readers. May I be allowed to direct attention to one or two omissions, without being supposed to dissociate myself from the universal chorus of approval?

The removal of the natural history collections of the British Museum from Bloomsbury and the increase in their importance afterwards are events which deserve notice, even though the South Kensington branch of the museum was perhaps omitted from your survey on the ground that it was a new home for existing collections, and not an institution which originated during the period under review. The actual removal took place in 1882-83, and the years which have followed have been marked by an extraordinary growth in the collections, associated with a record of scientific research which is equally remarkable. It must not be forgotten that the accurate discrimination of the species of animals, plants, and minerals is a fundamental part of the respective sciences. Even though the philosophical biologist is sometimes inclined to underrate the work of the systematist, he is frequently obliged to turn to him for information with regard to the facts from which he derives his results. The far-reaching conclusions which are based on the study of geographical distribution lose their value if they depend on erroneous determinations of species, while the study of evolution is equally dependent on the labours of the systematist. In bringing together an unrivalled collection of specimens and in publishing a notable series of memoirs dealing with it, the naturalists of the British Museum have taken their full share in the scientific progress of the last fifty years.

The number of specimens in the department of zoology (including entomology), omitting those regarded as duplicates, has been estimated as having been about 1,400,000 at the time of the removal to South Kensington in 1882-83. Successive estimates have been 2,245,000 in 1895, 3,060,000 in 1904, 5,960,000 in 1917, and about 6,000,000 at the time of writing. The other departments of the museum have also increased at a rapid rate. Thousands of forms new to science have been described, and the type-specimens are preserved in the collection. In spite of the magnitude of the task, the specimens have been arranged so carefully that most of them can be found without difficulty when they are required for study.

In addition to this side of its activities, the museum has done much for scientific education by the way in which a part of its treasures have been exhibited in the public galleries. The requirements of visitors who are principally interested in the systematic arrangement of natural history objects are amply provided for; and, to take a single instance, the exhibited series of large mammals is not equalled in any other museum. Other exhibits of a more general nature are shown in the central hall, where may be seen illustrations of the principal types of structure found in the several classes of vertebrates, inaugurated by the late Sir W. H. Flower, a former Director; a series of cases containing objects bearing on the theory of evolution; models and specimens of insects and Arachnids instrumental in carrying diseases; and other exhibits of general interest. The evolution of animals, as illus-

trated by their geological history, can be studied in the palæontological galleries, and particular attention may be directed to the series of elephants and their presumed ancestors to be found among the treasures of the gallery of fossil mammals. The series of nesting-birds and eggs, arranged on a system which was itself a new departure, deserves special mention. Attention may also be directed to the great development of the collection of domesticated animals, and to the wonderful series of specimens in the mineral gallery.

In noting the progress of the Natural History Museum it is appropriate to refer to the fundamental alteration which has taken place during the last fifty years in the conception of the functions of museums in general. It is now admitted that the museum is a place which ought to exercise an educational influence, and there is an increasing desire to arrange the exhibits in such a way as to teach some definite lesson. It has, moreover, been recognised that the biological sciences are of great economic importance, as is shown, for instance, by the extraordinary advances which have been made in preventive medicine by the discovery that the parasitic organisms giving rise to certain diseases are transmitted by blood-sucking animals. In this field of research the work of the systematic zoologist is of special importance, since it is essential to be able to distinguish the species of insect or other carrier of the pathogenic organism from its near allies which are harmless in this respect. In dealing with economic questions of this kind, and of many others, the Natural History Museum has done its full share, and its function as a consultative body capable of giving valuable information on matters of practical moment has become an important side of its activities.

The action of the then Secretary of State for the Colonies in calling a meeting in 1900 for placing entomological research in our tropical Possessions in Africa on a proper basis is an event which ought not to pass unrecorded. The immediate result was the establishment of the Entomological Research Committee (Tropical Africa), now the Imperial Bureau of Entomology. Short as its life has been at present, the Bureau has fully justified its existence, and it has become an important centre of research, the utility of which is cordially recognised in all parts of the Empire. It already possesses a wide influence, and it may fairly be anticipated that it will become increasingly important in promoting researches tending to reduce the ravages of sleeping sickness, malaria, and many other diseases which have taken a heavy toll of the life of man and domesticated animals in the past. The Trustees of the British Museum associated themselves from the first with this new departure, and provided such accommodation at the Natural History Museum as they were able to spare for the Director of the Bureau and a part of his staff.

May I, in conclusion, direct attention to another side of biological activity which deserves notice? The foundation of the Marine Biological Association in 1884 led to the erection of the Plymouth Laboratory, which has had a most successful career, in spite of the difficulties due to insufficient funds, in promoting the study of marine biology, including practical questions of great importance connected with the fishing industry. Although not the first institution of this kind to be founded in this country, the Plymouth Laboratory, with those on the Clyde, in the Isle of Man, and at St. Andrews and Cullercoats, has become an indispensable part of the biological equipment of Great Britain.

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