

## The Fossil Galleries of the Indian Museum.

### History and Recent Improvements.

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#### INTRODUCTION.

SINCE the publication of the report on "Museums in India", and the recent Museums' Conference held as a result of it, public attention has been focussed on the various aspects of improvements of the museums in this country. It has been recognised that a museum, in addition to its scientific value, should serve an important educative function and therefore it must possess a high popular appeal. A museum should, in fact, be not merely a repository of the nation's art or natural history treasures or its archæological wealth, but it should constitute what has been aptly termed a "University for the masses".

For this purpose it is essential, as was properly emphasised by the Museums' Conference, that museum collections should be divided into reserve study collections, for advanced research, and display collections, for the benefit of the lay public. It is with this object in view that the Fossil Galleries in the Indian Museum, which belong to the Geological Survey of India, are being reorganised and various improvements have recently been effected therein.

#### HISTORICAL REVIEW.

Before giving an account of the popular improvements recently initiated in the Fossil Galleries of the Indian Museum, a brief review of their origin and growth, which are intimately connected with the origin of the Geological Survey of India, may be of some interest.<sup>1</sup>

Over a century ago (about 1817) the Government of India realised the importance of obtaining coal supplies from India for the steamers navigating the Ganges and other rivers. Later, in 1836, a "Coal Committee" was appointed during the time of Lord Auckland, which continued to function till 1845, when they recommended to the Government of India the formation of a "Geological Survey of the Coal Formations of India". This recommendation

was given effect to and in the same year an officer of the Geological Survey of Great Britain was sent as Geological Surveyor to the East India Company. The first official report of the Geological Survey of India was submitted for 1848-49.

Although the Geological Survey of India may be said to have been established in 1845,<sup>2</sup> it had no permanent office till many years later and of course there was no Museum. But certain collections that had been made earlier were deposited at the premises of the Asiatic Society of Bengal in 1835. Previously to this, the Asiatic Society (founded in 1784) had considered (1796) the formation of a Museum. The outcome was that an important collection offered by Dr. Wallich to the Society in 1814 was amalgamated with the 1835 collection, and in 1840 the Government of India appointed a Curator to look after it.

This collection, then, formed the nucleus of the collections that now find a place in the Fossil and Economic Galleries of the Indian Museum. Before, however, these collections were lodged in their present abode, they underwent a number of vicissitudes, having been transferred first from the Asiatic Society's Office to 1, Hastings Street (1856), then from there to the Indian Museum, 27, Chowringhee (1876). A third transfer of part of the collection took place in 1896 to the present Offices of the Geological Survey of India.

During the past ninety years or so the collections in our Fossil Galleries have been supplemented by exchange and presentations from foreign museums, as well as by the specimens collected by the officers of the Geological Survey Department, so that we have now one of the finest collections in the world.

The Fossil Galleries of the Indian Museum are divided into two sections, the Invertebrate Gallery and the Siwalik Gallery, the latter containing mostly Tertiary and Pleistocene vertebrate fossils. The name

<sup>1</sup> A more detailed history of the Geological Survey of India and its Museum is given by Dr. C. S. Fox in *Trans. Min. Geol. Inst.*, 1936, 26, 13-37.

<sup>2</sup> This date has now been officially accepted.

Siwalik Gallery is perhaps a misnomer, for it contains not only the priceless fossil vertebrates from the Siwalik formation of India, but also many foreign Tertiary species. This has been inevitable on account of the shortage of space. But it is the ultimate aim of the reorganisation scheme now in hand to make the Siwalik Gallery representative of the Siwalik vertebrate fossils only, and to transfer the other fossils to a Foreign Vertebrate Gallery, when more space is available. Likewise the few vertebrates now shown in the Invertebrate Gallery, owing to want of space, will be transferred either to the Siwalik Gallery or to the proposed Foreign Vertebrate Section.

#### RECENT IMPROVEMENTS.

##### *Pictorial Exhibits.*

To the average person the skeletal remains of animals exhibited in the show cases do not convey much. They are to him merely dead bones without any understandable relation to the interesting and often awe-inspiring forms of extinct life that once clothed them. The absence of pictorial restorations was therefore keenly felt. This deficiency has to a certain extent been remedied, for enlarged restorations of some of the more important Indian and foreign fossil genera have been prepared from authoritative works and are now exhibited in the Siwalik Gallery (Fig. 1). On account of their popular appeal these have attracted considerable attention.

Notable among these are the serial wash drawings illustrating various stages in the evolutionary history of the elephant and the horse (Fig. 2, top, right). Such facts that the earliest known elephant, the *Moeritherium*, looked more like a pig than like its modern representative, that extinct forms like *Tetrabelodon* possessed four instead of two tusks, while the African species *Loxodonta africana* possessed four tusks in its upper jaw alone, are better appreciated by drawings than from actual specimens, which are generally imperfectly preserved.

Similarly, pictorial restorations showing that the *Platybelodons* possessed shovel-shaped lower jaws, that *Stegodon ganesha* from the Siwalik formation is one of the giant predecessors of the living Indian elephant, that some of these extinct elephants probably represent successive stages in the

evolutionary history of the Proboscideans, better illustrate the family history of the



Fig. 1. Restoration of interesting extinct Indian fossil species (*Giraffidae*) after Colbert.

race than disjointed portions of fossil jaws and bones.

The various genera of the fossil horse of America, *Eohippus* (four-toed horse), *Mesohippus* (three-toed horse), *Merychippus* (three-toed horse with the middle toe stronger than in *Mesohippus*), the Indian three-toed fossil horse, *Hipparion*, and the modern horse, *Equus*, are similarly illustrated.

Other pictorial restorations of the more important and interesting forms are under preparation and will be exhibited in due course.



Fig. 2. A general view of the Siwalik Gallery after rearrangement.

#### GENEALOGICAL TREE OF MAN AND THE APES.

Another exhibit in the Siwalik Gallery which has created general interest is a pictorial chart by the writer in the form of a 'tree' showing the evolution of the human race and of our near relatives, the apes (Fig. 3). An attempt has been made to show at a glance the origin and probable relationship of the various fossil men—*Pithecanthropus erectus* (Java ape man), *Eoanthropus dawsoni* (Pitldown man), *Sinanthropus pekinensis* (Peking man), *Homo heidelbergensis* (Heidelberg man), *Homo neanderthalensis* (Neanderthal man), etc., as well as their relative antiquity, as compared with our own species—*Homo sapiens*. The 'tree' brings out further the relationship not only between the different ape lineages—the Lemurs, the Tarsiers, the New and Old World monkeys and the tail-less or Anthropoid apes, like the Gibbons, Chimpanzees, Gorillas, etc., but also their relationship with modern man and his early progenitors.

Almost the first question that a visitor asks about a fossil exhibit is its age. The

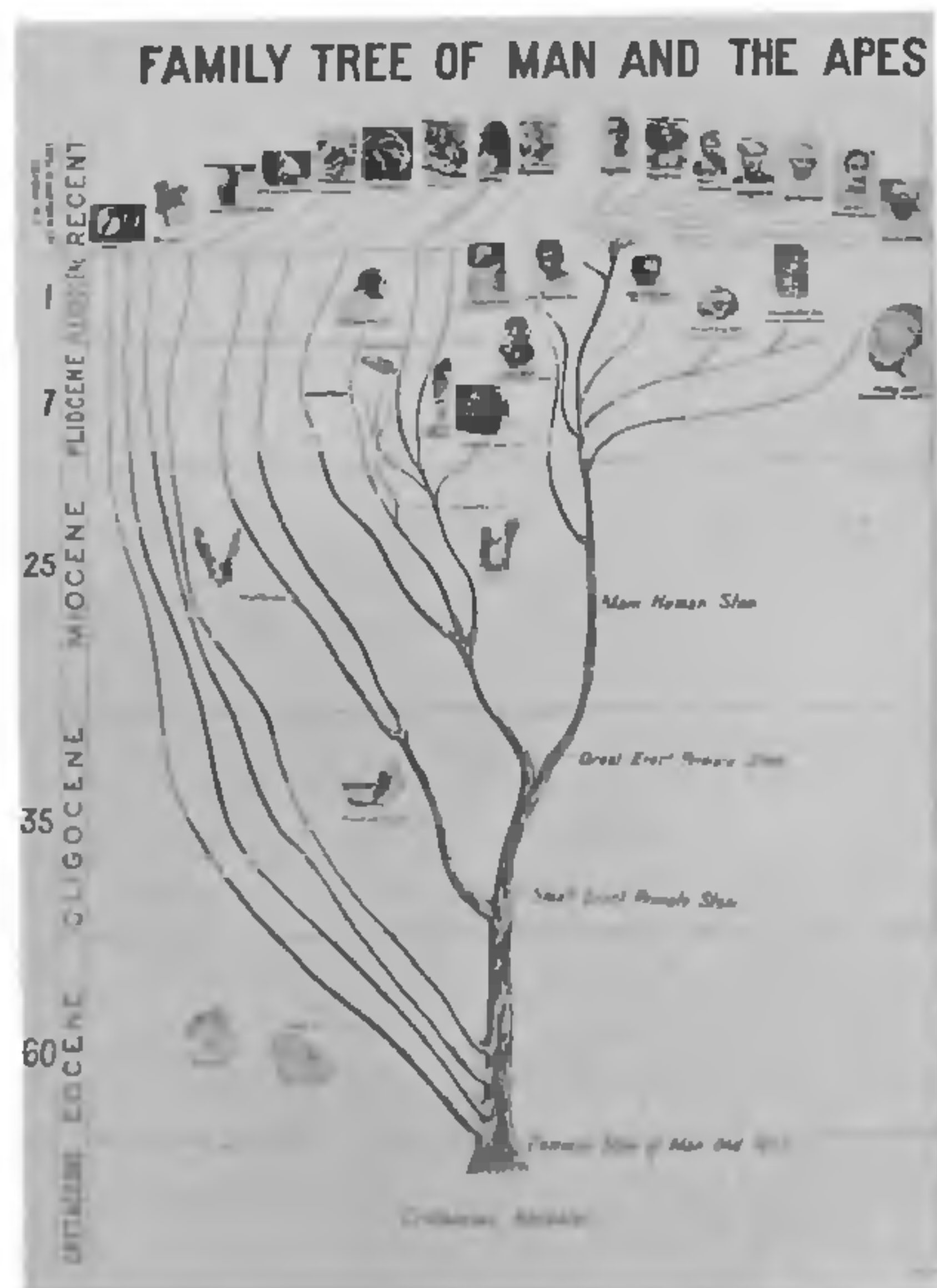


Fig. 3. A recent addition to the Siwalik Gallery.

probable ages of the geological periods in which the fossil men and apes occur, are therefore given in a separate column. It is explained that man, the most highly evolved of the Primates, is only about a million years old, and that his antiquity compared with the 500,000,000 years or more that have elapsed since the dawn of life upon the earth is but a fleeting moment.

#### DESCRIPTIVE LABELS IN THE INDIAN LANGUAGES.

It is obvious that if the exhibits are to be understandable to the lay public they should be explained by descriptive labels in the languages which they read.

In the case of the provincial museums, where the extraneous element in the population is negligible, descriptive accounts in the language of the province and in English would generally be adequate. In the case of a large cosmopolitan city like Calcutta, however, the linguistic problem is naturally an important one. Experience has shown that Hindi, Bengali and Urdu are the three languages which are most useful. Descriptive labels have accordingly been prepared in these languages. In addition to the shorter labels for individual exhibits or fossil groups a generalised account of the exhibits in the Siwalik Gallery, dealing with the evolution, distribution and migration of the Tertiary vertebrates and with the geography of the Siwalik period has also been added. This label gives, in fact, a bird's-eye view of the history of the Siwalik period and of its fauna.

It is refreshing to find groups of semi-literate visitors, endeavouring to decipher the labels in the language which they understand and explaining them to their fellows, whereas formerly most of the fossil exhibits were a puzzle to them. Judging by the spontaneous interest that it has evoked, the introduction of descriptive labels in the Indian languages is perhaps the most important and necessary item of the various improvements effected.

#### GUIDE-BOOKS.

At present there is no satisfactory guide-book for the Fossil Galleries. The existing guide-book of the Indian Museum is far too generalised to be of much use to the

average man, for none of the exhibits are adequately explained.

In order to meet this serious deficiency a short guide to the Siwalik Gallery is under preparation but it will deal mostly with the larger or more interesting specimens and is not to be considered as a detailed guide. It is proposed, when more space is available, that exhibits and show cases should undergo further rearrangement, and the preparation of a detailed guide-book at this stage would therefore mean duplication of work. The guide-book now being completed will in due course be translated into the Indian languages, like the other descriptive accounts of the Siwalik exhibits, and will be, it is hoped, of much use to the general public.

#### THE INVERTEBRATE GALLERY.

The exhibits in the Invertebrate Gallery are, for obvious reasons, less spectacular from the point of view of the general public than those in the Siwalik Gallery. Yet much can be done in the way of illustrating progressive stages of evolution in different genera or groups, for which invertebrate species, owing to their prolific occurrence, are most suited. One such series, illustrating the evolution of the Cephalopods has now been exhibited. The *Saligrams* sacred to the Hindus, a specimen of which is exhibited with the evolutionary series, contain specimens of the highly coiled ammonites (Cephalopods) in their cores. They are in fact clay nodules containing an ammonite shell as a nucleus.

Mention need hardly be made of the rearrangement, card-indexing, etc., now in hand, of our fossil collections, to facilitate exchange, presentations and palæontological research.

Finally, it is hoped that when more space is available and financial conditions permit the fine collections of fossils from different regions like Kashmir, Spiti, the Salt Range, South India, etc., will be suitably exhibited in separate sections. This will help to bring out comparisons between the stratigraphy and palæontology of different regions of India, and will constitute a valuable improvement. In respect of wealth of material our Siwalik and Invertebrate Galleries compare very favourably with the greatest museums in the world.