

district is, however, the site of a large number of faults, adjustment along some of which would adequately explain the recent shocks. One of these faults runs through both Stannington and the northern part of the city of Sheffield, while both Bamford and Endcliffe are near associated faults. The earth-tremors were thus very probably due to fault movement and not to floods.

The suggestion that the floods were responsible is interesting because it at once recalls the theories of the Greek philosophers



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FIG. 2.—SEISMOGRAM OF MEXICAN EARTHQUAKE, JUNE 3, 1932.

The length of the curved line measures the intensity of the shock at the particular moment.

to explain earthquakes. They believed that the earth was a disc floating upon water, and Thales (620-560 B.C.) attributed earthquakes to the turbulence of the underlying waters, which forced open fissures in the earth and occasionally even passed through to the surface. Anaximander, a pupil of Thales, held that in times of drought or of floods the surface of the ground cracked open and the air above forced its way into the fissures with violence. Again, Anaximenes, who was the pupil of Anaximander, thought that when the ground became softened by persistent rains and floods great blocks fell into the waters beneath.

Now, in a more enlightened age, the causation of earthquakes

is not the concern merely of the philosophers, but is a subject of interest to the ordinary individual. It may therefore be of interest to mention that a great London Store, that of Selfridge & Co., Ltd., has installed a seismograph in one of its departments. Here the machine can be seen in action at any time the store is open. Already several earthquakes have been recorded and the seismograms are also on view. The seismograph is a comparatively simple one and clearly shows the method of recording (Fig. 1). It is a horizontal seismograph, somewhat similar to the Omori horizontal pendulum. The boom is swung from the pillar on the left and its excessive movement is damped and the effect of friction of the recorder is lessened by the suspended weight, or bob, of three hundred pounds. The boom is connected with an axle which in turn manipulates a light aluminium rod which gently traces a path upon the smoked paper on a revolving drum. The drum revolves slowly and a time marker, connected with a clock, marks off measured periods of time upon the edge of the paper nearer the observer. The duration of a tremor can thus be accurately noted. This type of machine records only the shock component of one direction. As the rod or boom is orientated in an E.-W. direction it follows that the N.-S. component is recorded. Normally the pointer traces on the smoked paper a thin white line but a shock causes oscillation, producing a record like that in figure 2, which was obtained from the Mexico earthquake of June the 3rd.

## EXHIBITION OF THE GAME ANIMALS OF THE EMPIRE.

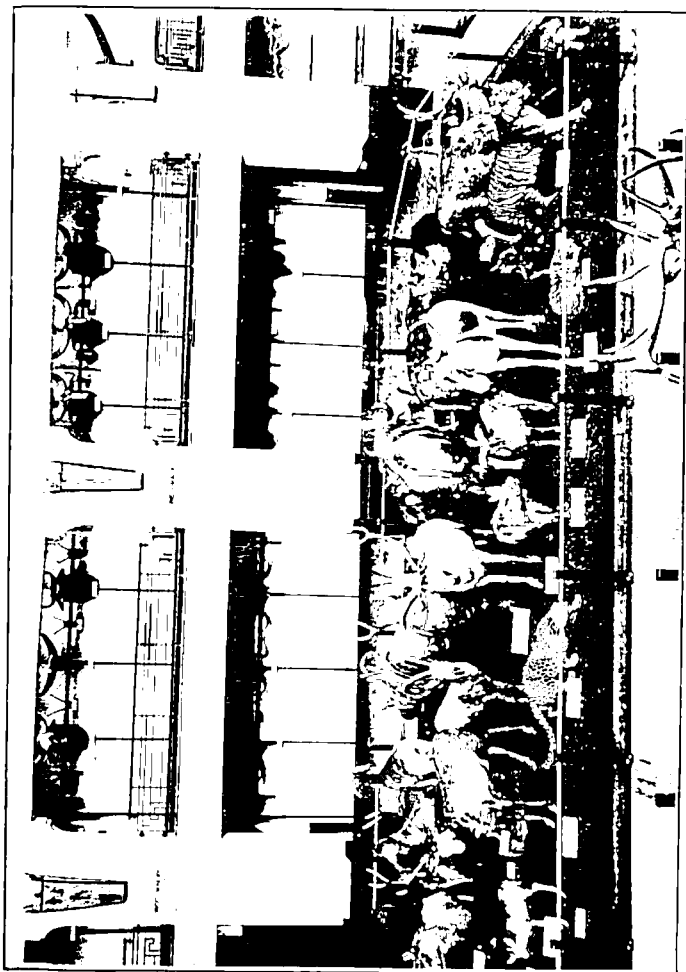
By J. GUY DOLLMAN, B.A., Assistant Keeper, Department of Zoology.

ON May 31st the exhibition of the Game Animals of the Empire in the new Whale Gallery was opened to the public; on the preceding day a Private View was held, which was attended by some distinguished sportsmen and others.

Owing to the economic situation it was not found possible to instal the whales into the new gallery recently built for their reception, and it was therefore decided to use the gallery for a temporary exhibition of the game animals of the Empire, the specimens for the most part to be drawn from the permanent collection without seriously depleting the exhibition series.

As space was strictly limited, it was obviously impossible to deal with the game animals of the whole Empire, and accord-

ingly the countries where the most attractive animals are found were selected. Thus, Canada and Newfoundland, the African



INDO-MALAY SECTION OF THE EXHIBITION AT THE BRITISH MUSEUM

parts of the Empire, and the Indian and Malayan countries are alone represented, each of these areas being dealt with as a separate unit.

The mounted animals are arranged in three enclosures on the floor of the gallery, while on the walls around hang a large collection of heads and horns together with pictures and photographs of various game animals. The Indo-Malayan section was found to be the most difficult one to arrange, on account of the great number of large animals occurring in this area. It was not found possible to exhibit whole mounted specimens of the Indian Rhinoceros, the Markhors or the Banting, but heads and skulls of all these are on the walls. As the Museum collection does not contain a mounted specimen of the Indian Lion, this species had to be omitted from the exhibition. The following are among the animals exhibited in the Indo-Malayan enclosure: Sumatran Rhinoceros, Javan Rhinoceros, Gaur, Seladang, Kiang, Tapir, various Sheep, Gazelles and Deer, Nilgai, Yak, Takin, Serow, Goral, Blackbuck, Four-horned Antelope, Pigmy Hog, Tigers, Snow Leopard, Chita, Bears and Cats. On the walls surrounding this enclosure are some of the finest heads in any collection, the series containing many record specimens, such as the record Shou, Yak, Chiru, Indian Buffaloes, Indian Rhinoceros, Javan Rhinoceros and Sumatran Rhinoceros.

The African section, naturally the largest in the exhibition, has for its centre-piece a white variety of the East African Giraffe lent by Messrs. Rowland Ward, Ltd. The animals are arranged in this enclosure, as far as possible, according to the map, but obviously in cases where an animal is distributed all over Africa, only a single specimen is exhibited. The following well-known animals are exhibited in this section: Lion, Leopard, Serval, Caracal, Civet, Hyæna, Hunting Dog, Buffaloes, Hartbeests, Bastard Hartbeests, Gnu, Duikers, Klipspringers, Oribis, Sunis, Reedbucks, Waterbucks, Kobs, Lechwes, Roan Antelope, Gemsbuck, Bushbucks, Nyala, Situtunga, Giant Eland, Wart-Hog, Bush-Pig, Forest-Hog, Zebras and Rhinoceroses. On the walls around and on the wall at the west end of the gallery are grouped together a magnificent collection of African trophies, containing many record heads and other fine specimens. Among these may be noted some fine buffalo heads and the record nyala. Of special interest is a rhinoceros horn lent by Lord Rothschild, which would appear to be as much like the horn of a Black Rhinoceros as it is like that of the White species.

The Canadian and Newfoundland enclosure is rather more empty than that of Africa or the Indo-Malayan section, owing to the fact that game animals are less numerous in these western areas. Here we have grouped together the Grizzly, Alaskan and

Black Bears, the Puma, Lynx, Bay Lynx, Wolves, Foxes, Raccoon, and from the far north, the Polar Bear. The ungulates are represented by the Bison, Big-horned Sheep, Rocky Mountain Goat, Pronghorn, Moose, Caribou and Mule Deer. On the walls are very fine collections of American and Newfoundland trophies, including the record specimen of Newfoundland Caribou.

The pictures exhibited are, for the most part, the work of J. C. Dollman, R.W.S., and have been kindly lent by the artist, and the photographs are those taken by Lady Broughton, Mr. Marcuswell Maxwell and Mr. Marius Maxwell.

#### NOTE ON THE STATUETTES OF THE RACEHORSES "PERSIMMON" AND "CLOISTER."

By J. C. DOLLMAN, B.A., Assistant Keeper, Department of Zoology.

Two interesting statuettes of racehorses were recently presented to the Museum by Captain Adrian Jones, the eminent

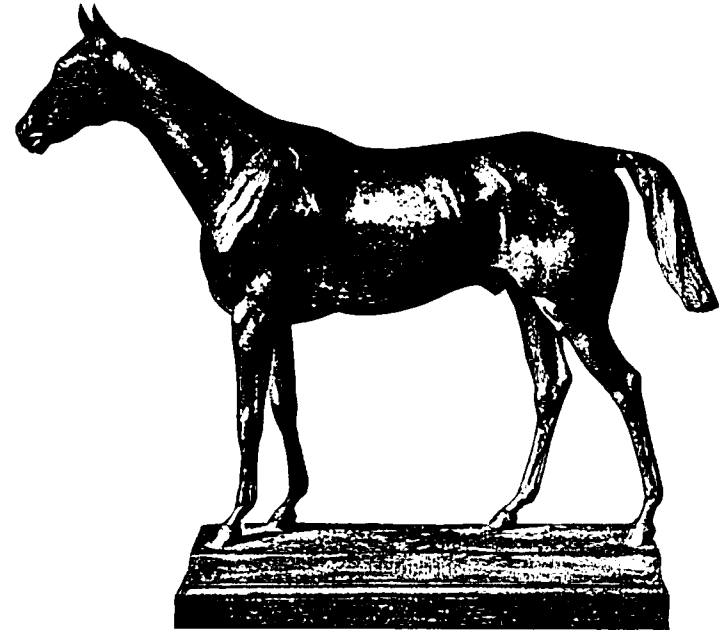


STATUETTE OF "PERSIMMON."

sculptor. The statuettes, which are the work of Captain Adrian Jones, are of the late King Edward's horse "Persimmon,"

winner of the Derby in 1896, and of "Cloister," winner of the Grand National in 1893.

The statuette of "Persimmon" is of exceptional interest, as it represents the horse at the zenith of its racing career. The Museum already possesses a plaster figure of "Persimmon" made by Captain Adrian Jones during the latter part of its life



STATUETTE OF "CLOISTER."

and presented by King Edward in 1905. King Edward also presented the skeleton of this famous horse in 1910.

"Persimmon" was not only a Derby winner, but the same year as it carried off the "blue ribbon" of the turf it also won the St. Leger, and the following year (1897) captured the Ascot Gold Cup and the Eclipse Stakes.