

modern museums, but does not enlist the full support of the people if the endowment is drawn from a single individual. The fourth is a reasonably satisfactory source, but subject to the usual weaknesses of governmental activities. The most successful foundation for the modern museum, broadly speaking, seems to be the combination of private endowments from many sources for the creation of the museum and municipal support for its operating expenses—the Charleston plan.

About fifty per cent. of American museums are devoted exclusively, or chiefly, to natural history; about twenty-five per cent. to history, and about ten per cent. to art. Approximately thirty-eight per cent. of these museums derive their financial support from schools, colleges and universities; thirty-five per cent. from societies or associations; fifteen per cent. from city governments; seven per cent. from private individuals or endowments exclusively; four per cent. from state government, and one per cent. from the national government.

These statistics do not indicate the relative importance at the present time of the subjects treated by museums, or the importance attached to museums by the various organizations that support them. It is not those museums that reflect past conditions, but those that hold promise of future service that are most significant. The half century in which we live may be confidently expected to see the expansion of the museum ideas that germinated during the second half of the Nineteenth Century. It should be our goal and our determination to secure national recognition of the sentiment expressed ninety-nine years ago in the editorial in the *Charleston Courier*, previously quoted: "A public museum is as necessary an appendage to a city as a public newspaper or a public library."

PAUL M. REA

CLEVELAND MUSEUM OF NATURAL HISTORY

FIELD EXPLORATIONS OF THE AMERICAN MUSEUM DURING THE YEAR 1922

THE American Museum of Natural History, deeply concerned with the rapid disappearance of the natural life and beauty of the world, among both the native races of men and the

mammals of land and sea, is pushing exploration very hard at the present time, especially in Africa, Australia, southern and northern Asia and Polynesia. In the fifty-fourth annual report, issued May first, there is set forth a statement and summary of the scientific achievements and expenditures of the museum during the year 1922 which is recast in condensed form for the readers of *SCIENCE*.

These expeditions of 1922 represent an expenditure of more than a half million dollars for purely scientific work and about a half million for the extension of the results to educational institutions of the city and country; they represent 194,475 miles of travel during the single year; above all, they represent devotion and self-sacrifice in the interests of the museum on the part of the explorers and collectors which are beyond all praise. The work was made possible through extreme generosity on the part of members and friends of the museum, who in some instances financed the entire cost of an expedition and in others supplemented the funds of the museum which are devoted to this work.

The Third Asiatic Expedition, now in its third year, started in the spring of 1921 under the leadership of Roy Chapman Andrews, and results obtained thus far have exceeded expectations. In April of 1922 the expedition left Kalgan for Mongolia to continue work in zoology, geology, paleontology and geography as far as Urga, westward to the eastern extension of the Altai and Tian Shan Mountains and south to the frontier of Chinese Turkestan, a region including the most arid section of the Gobi Desert and rolling meadow-lands and foothills at the base of high mountains, some of which are covered with perpetual snow. On the way to Urga, about 200 miles northwest of Kalgan, fossil remains comparable to fossils found in Wyoming were unearthed—an epoch-making discovery because it throws light on the migration of animal life from Europe to America via Asia. While the fossil hunters were studying these beds, leader Andrews and the zoological branch pushed on to Urga and completed arrangements for the journey west of Urga into the region which was to occupy them for the summer.

In India two parties are enthusiastically

making collections of great value for the museum; in the historic fossil-bearing formation of the Siwalik Hills Barnum Brown, under great difficulties, has secured fossil material, including mastodon and elephant skulls, of such importance as to raise the museum collection to the third position in this respect in the world. In the southwest the big game animals are being hunted for the museum by Colonel J. C. Fauntleroy, an A. D. C. to King George and a resident commissioner at Lucknow, and Mr. Arthur S. Vernay, who are responsible for the Fauntleroy Indian Expedition. The museum has provided a taxidermist, John Jonas, of Montana, and will defray the expense of transporting the material collected.

Carl F. Akeley's fourth expedition to Africa, from which he returned in March of 1922, yielded five specimens of gorillas of the Kivu country, the largest weighing 360 pounds, which will be mounted in a habitat group for the African Hall. James L. Clark, with Kenyon V. Painter, visited the Tanganyika country to procure material for a rhinoceros group, and R. T. Burge, of Los Angeles, is also expecting to collect for the museum on his present trip to Africa and India.

Extensive exchanges with various museums in Australia are enriching the museum collections through relations established by William K. Gregory during his visit to Australia. Among such material are a collection of skulls of Australian aborigines, a cast of the skeleton of the marsupial elephant *Diprotodon* and a rare nectar-eating phalanger *Tarsipes*. The field collecting was continued by Harry C. Raven, who with the cordial cooperation of government officials and museum and university men secured a representative collection of Australian mammals—kangaroos, wallabirs, native bear, etc. Mr. Raven also collected mammals and marine birds in Tasmania.

During the year N. C. Nelson spent several months in western Europe studying prehistoric collections in the museums and in private hands and collecting material of the Paleolithic period. He also visited a number of new archeological sites in England, France and Belgium, making some excavations. Through previous journeys of Mr. Nelson, three journeys of President Osburn and one of Dr. McGregor, beginning

in 1913, the museum has secured splendid collections of the archeology and prehistory of man in Europe, which will be displayed in the Hall of the Age of Man and the Hall of the Prehistory of Man.

The museum is hunting in Württemberg for the ancestors of the dinosaurs; in southern Württemberg Dr. F. von Huene is excavating for fossils at Trossingen and his results will be shared jointly by the Tubingen Museum and the American Museum.

Through field work conducted in the Azores and the Cape Verde Islands by José G. Correia the museum bird collections are enriched by several hundred specimens, particularly marine birds, including petrels, boobies, tropic birds and some of the rare insular species of land birds. The bird collections also continue to benefit by the Whitney South Sea Expedition in Polynesia, under the leadership of Kollo H. Beck. In the two years that the expedition has been in the field 3,451 specimens have been collected, nearly all new to the museum collections and many new to science, with 562 photographs and extensive field notes.

Southern Alaska was visited by P. E. Goddard, accompanied by Lieutenant G. T. Emonds and Dr. C. F. Newcombe of Victoria, B. C., for the purpose of collecting Indian totem poles and wood carvings for the Jesup Hall and for obtaining first-hand information for a handbook on the tribes of that region. A number of interesting specimens were secured.

South America contributed largely during the year to the museum collections and information. Herbert Lang made an extensive study of the fauna of British Guiana and later went up the Mazaruni River as far inland as Mount Roraima, making comparisons between the South American forests and savannas and those of Africa, which he had previously studied. G. H. H. Tate and Herbert E. Wickcheiser collected mammals in Ecuador, where also Messrs. Chapman, Cherris and O'Connell made a successful reconnaissance of the coast and mountains, collecting several species new to science and about a dozen not hitherto recorded from this locality. About six hundred specimens were collected and arrangements were made with native collectors to secure other birds from little-known parts of eastern Ecua-

H. F. Osburn

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