Field Museum of Natural History

Founded by Marshall Field, 1893

Roosevelt Road and Lake Michigan, Chicago

Field Museum is open every day of the year during the hours indicated below:

Nov., Dec., Jan., Feb., Mar.	9 A.M. to 4:30 P.M.
April, September, October	9 A.M. to 5:00 P.M.
May, June, July, August	9 A.M. to 6:00 P.M.

Admission is free to Members on all days. Other adults are admitted free on Thursdays, Saturdays and Sundays; non-members pay 25 cents on other days. Children are admitted free on all days. Students and faculty members of educational institutions are admitted free any day upon presentation of credentials.

The Museum's natural history Library is open for reference daily except Saturday afternoon and Sunday.

Traveling exhibits are circulated in the schools of Chicago by the N. W. Harris Public School Extension Department of the Museum.

Lectures for schools, and special entertainments and tours for children at the Museum, are provided by the James Nelson and Anna Louise Raymond Foundation for Public School and Children's Lectures.

Announcements of free illustrated lectures for the public, and special lectures for Members of the Museum, will appear in FIELD MUSEUM NEWS.

A cafeteria in the Museum serves visitors. Rooms are provided for those bringing their lunches.

Chicago Motor Coach Company No. 26 buses go direct to the Museum.

Members are requested to inform the Museum promptly of changes of address.

MEMBERSHIP IN FIELD MUSEUM

Field Museum has several classes of Members. Benefactors give or devise $100,000 or more. Contributors give or devise $1,000 to $100,000. Life Members give $500; Non-Resident Life and Associate Members pay $100; Non-Resident Associate Members pay $50. All the above classes are exempt from dues. Sustaining Members contribute $25 annually. After six years they become Associate Members. Annual Members contribute $10 annually. Other memberships are Corporate, Honorary, Patron, and Corresponding, additions under these classifications being made by special action of the Board of Trustees.

Each Member, in all classes, is entitled to free admission to the Museum for himself, his family and house guests, and to two reserved seats for Museum lectures provided for Members. Subscription to FIELD MUSEUM NEWS is included with all memberships. The courtesies of every museum of note in the United States and Canada are extended to all Members of Field Museum. A Member may give his personal card to non-residents of Chicago, upon presentation of which they will be admitted to the Museum without charge. Further information about memberships will be sent on request.

BEQUESTS AND ENDOWMENTS

Bequests to Field Museum of Natural History may be made in securities, money, books or collections. They may, if desired, take the form of a memorial to a person or cause, named by the giver.

Cash contributions made within the taxable year not exceeding 15 per cent of the taxpayer's net income are allowable as deductions in computing net income under Article 251 of Regulation 69 relating to the income tax under the Revenue Act of 1926.

Endowments may be made to the Museum with the provision that an annuity be paid to the patron for life. These annuities are tax-free and are guaranteed against fluctuation in amount.

BUSHMAN HUNTERS

By WILFRID D. HAMBLY
Assistant Curator of African Ethnology

In the Kalahari desert of South Africa live several tribes of Bushmen having similar languages, appearance, and hunting culture. They belong to Negroid stock, but at some unknown remote time they branched off and formed a new type. Bushmen are on the average several inches taller than Pygmies, and apart from the general resemblance of hunting cultures among Pygmies and Bushmen, very little ground for comparison remains.

The Bushmen have a peculiar click language, and a word may have several distinct meanings according to its utterance on a high, middle, low, rising, or falling tone. The vocabulary is meager except in reference to hunting and associated animals and objects.

Agriculture is not practised, but vegetable produce is collected from the veld by women who are provided with pointed digging sticks. An example of the stone weight used at the upper end of the stick is shown in a case in Hall D. Here several articles presented by Arthur S. Vernay, of New York and London, are exhibited; they were collected by the Vernay–Lang Kalahari Expedition (1930).

The collection includes bows and poisoned arrows, beads made of ostrich eggshell, tobacco pipes of soapstone (steatite), and several ostrich eggshells engraved with simple geometric designs. Apart from the rock paintings and engravings made by Bushmen, which are famous for their realism in portraying animal life, the arts and handicrafts of these people are poorly developed. In disguising themselves, in the making of traps, and in the finding of water in apparently waterless country, the hunters excel. Yet their lives are simple. Huts are only temporary shelters, magic and religious beliefs are of an elementary kind, and social organization is simple. Within the memory of persons now living the Bushmen were making arrowheads of stone, and their simple hunting culture is comparable to that of stone-age man in Europe, 50,000 years ago.

PREHISTORIC PLANTS RESTORED

Restorations of the curious prehistoric plants known as "seed ferns" or "cycad ferns," which flourished about the time the first four-footed animals were beginning to appear on earth, or about 250,000,000 years ago, are on exhibition in the Hall of Plant Life (Hall 29).

Remains of these plants, although long known to geologists and paleobotanists in the form of fragments of what appear to be fern fronds, have only in recent years come to be well understood, according to Dr. B. E. Dahlgren, Acting Curator of Botany. Previously their several component parts were considered to represent forms of separate plants. In the same rock beds in which the fern-like fronds are preserved are found a variety of other plant material of the same age, consisting of fossil foliage, cones, branches, stems, and seeds. The seeds range in size from apple seeds to peach kernels, and some bear a close resemblance to those of cycads. That any of these could have any possible relation to the fern-like fronds was not at first even suspected, for modern ferns, as is well known, bear no seeds.

Recent paleobotanical discoveries in England and Germany, and most recently in China, have demonstrated beyond doubt, however, that these fern-like fronds are fragments of plants of the general aspect of tree ferns, and specimens have been found with the seeds attached. Thus the stems, foliage and seeds, formerly considered to represent parts of distinct kinds of plants, have proved to be definitely associated, and it has been possible at the Museum to reconstruct with confidence these strange plants of a past era as research in connection with their fossils now indicates they must have appeared when alive.

The restorations were made in the Plant Reproduction Laboratories under the direction of Dr. Dahlgren and Professor A. C. Noé, paleobotanist of the University of Chicago, and Research Associate in Paleobotany at the Museum. Some of the fossil specimens used as guides in the Museum reconstruction work were unearthed at Mazon Creek, Illinois.

PLESIOSAUR SWALLOWED STONES TO GRIND ITS FOOD

By ELMER S. RIGGS
Associate Curator of Paleontology

A specimen of a fossil swimming lizard, or plesiosaur, in Ernest R. Graham Hall (Hall 38), shows an interesting food habit. The specimen, belonging to the genus *Elasmosaurus*, was collected by a Museum expedition from a Cretaceous formation in southeastern Montana. Bones of the shoulders, breast and hips were found buried in a dark shale only a foot or two below the surface. Various bones had been washed out by rains and were scattered on the surface.

Lying beside the shoulder blades and the large flat bones of the breast, and partly indented in them, were found 206 granite pebbles varying from the size of a walnut to that of a golf ball. Most of them were smooth and rounded like pebbles polished by a running stream, but some show angles not worn away. No other stones were to be found in this fine-grained shale in which the specimen lay. It is known that common barnyard fowls swallow small pebbles in a similar way and many of them are usually found in the gizzard of a chicken or turkey. Crocodiles and various other modern reptiles are also known to aid the digestion of their food in this way. It seems only reasonable therefore to assume that these ancient reptiles had a similar habit.

Plesiosaurs of this and other kinds lived in the inland seas which flowed over large areas between what is now the Mississippi River and the base of the Rocky Mountains. Some specimens found in the old sea bottoms of Kansas had in their stomachs stones which are known to be found only at the northern boundary of Iowa. This observation shows that these ancient swimmers, which lived one hundred million years ago, traveled far in search of their food and the pebbles with which to grind it.

Director's Report Out Soon

Copies of the Annual Report of the Director of Field Museum to the Board of Trustees for 1933 will be distributed to all Members of the Museum at an early date. The book is being printed by Field Museum Press. It contains 136 pages and twelve photogravure plates. In it the activities of the Museum during the year are reviewed in detail by Director Stephen C. Simms.

Meteorite Collection Grows

Six meteorites have been added to the meteorite collection in Hall 34 since the beginning of the year. The collection, which is the largest in the world, now contains specimens of more than two-thirds of all known meteorites, or 723 of the 1,046 of which there is a record.