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Field Museum
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FIELD MUSEUM
OF
NATURAL HISTORY
GENERAL GUIDE

1930 ed

CHICAGO, U. S. A.
1930

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In addition to this General Guide to the collections, Field Museum of Natural History has a series of special guides covering in detail certain sections of the exhibits. These special guides are more than mere direction books—they include much interesting, instructive and entertaining material on the subjects with which they deal.

A revised up-to-date edition of the Manual of Field Museum of Natural History, containing a comprehensive survey of the activities of the institution, with data on its history and organization, is now in preparation and will be published at an early date.

The Museum also publishes four series of Leaflets on scientific subjects, written in popular style. Twenty-nine such leaflets have been published in the Anthropological Series; fourteen in the Botanical Series; twelve in the Geological Series; and twelve on zoological subjects.

A Design Series is available, which is of particular value to those interested in design work, arts and handicrafts.

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FIELD MUSEUM OF NATURAL HISTORY

FOUNDED BY MARSHALL FIELD, 1893

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FOURTEENTH EDITION

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The James Simpson Theatre, the Lecture Hall, cafeteria and lunch rooms, and men's and women's lavatories are on this floor.

GENERAL GUIDE TO THE COLLECTIONS

Introduction

This handbook is designed to serve as a brief guide to the collections in the Museum.

Field Museum of Natural History was established in 1893. The founding of an institution of this importance and character was made possible by the late Marshall Field, who, in addition to his original gift of \$1,000,000, bequeathed on his death in January, 1906, a further sum of \$8,000,000, of which \$4,000,000 was allotted toward the erection of the present building and \$4,000,000 toward endowment.

The Museum is incorporated under State Law, and its active control rests in the Board of Trustees, with President, Secretary and Treasurer. The executive of the Museum is the Director, under whom there are five Curators and many divisional Associate and Assistant Curators, preparators, etc.

The Museum building is 700 feet long, 350 feet wide, 90 feet high, and, with the terrace and grounds surrounding it, occupies an area of about eleven acres. The central hall, Stanley Field Hall, which is 299 feet long and 68 feet wide, rises to the entire height of the building; the rest of the structure is divided into four floors. Of these, the main and second, and a portion of the ground floor, are devoted to exhibition purposes; the remaining space serves as working quarters for the administrative and scientific staffs and the maintenance force. The exterior, which is of white Georgia marble, is treated in monumental manner based on Greek architecture of the Ionic order. The principal fronts are divided into a large pedimented central pavilion, with two long wings terminated by a smaller pavilion at each end. A notable feature is the terrace, which is sixty feet wide, and completely surrounds the building at a height of six feet above the surrounding level.

In this structure, the architects, D. H. Burnham and Company and Graham, Anderson, Probst and White, have given to Chicago and the nation a masterpiece of monumental building possessing distinction and dignity appropriate to its purpose and origin.

The main hall, which is dedicated to Stanley Field, President of the institution, contains four statues, designed by Henry Hering, which symbolize the aims and purposes of the Museum. The figures flanking the north archway represent Natural Science and the Dissemination of Knowledge, while those at the south archway typify Research and Record.

Many of the halls in the Museum are named in honor of some of the persons who have made notable contributions or rendered valuable service to the institution.

STANLEY FIELD HALL

Occupying the Nave of the Building

The exhibits in Stanley Field Hall, into which the main entrance opens, are intended to illustrate the activities of the Museum as a whole and to serve as an introduction to the systematic collections assembled in the exhibition halls. Some of the exhibits in this hall are changed from time to time to show new acquisitions or the results of recent expeditions. The exhibits shown, as listed below, at the date of publication of this Guide, are typical of the contents of this hall.

In the center of the hall are two African elephants mounted in fighting attitude. They were secured on a Museum expedition to British East Africa in 1906. This group is the work of the late Carl E. Akeley.

Toward the south end of the hall three bronze groups, also the work of Mr. Akeley, illustrate lion spearing by native Africans. These groups are the gift of Richard T. Crane, Jr.

Case 1. Prehistoric American gold ornaments from Colombia and Ecuador, South America, presented by William Wrigley, Jr.

Case 2. Ancient Roman bronze bathtub, from Boscoreale, Italy.

Case 3. Prehistoric races of man, illustrated by restorations of the *Pithecanthropus erectus*, the Neanderthal man of La Chapelle-aux-Saints, and the Cro-Magnon man.

Case 4. Embroideries, chiefly women's dresses, from western India, presented by Cyrus H. McCormick, Martin A. Ryerson, and Homer E. Sargent.

Case 5. Marine fauna. Various types of beautiful and characteristic marine animals, such as sponges, precious corals, sea urchins, and shells.

Case 6. Pottery and porcelain of the Sung period (eleventh to thirteenth century), China, collected by Marshall Field Expedition to China, 1923.

Case 7. Selected examples of Chinese art, represented by ancient ceramics, bronze, cloisonné enamel, the figure of a zebu in cast solid silver, two clay figures of women engaged in a polo match, and an inscribed fossil turtle.

Case 8. Gold and silver jewelry, India.

Case 9. Amber and amber-like resins. This case, together with two others in Hall 28, Department of Botany, contains one of the finest collections of resins known.

Case 10. An iron meteorite, weighing 3,275 pounds. It is remarkable for its large size and symmetrical form. It was found in 1908 near Tonopah, Nevada.

Case 11. Antiquities of the early Sumerian period (about 3500 B.C.) excavated from the ancient city of Kish, Mesopotamia. A copper rushlight, copper implements and vessels, bowls of alabaster and other stones, necklaces and shell beads. Secured by Field Museum-Oxford University Joint Expedition under the patronage of Marshall Field.

Case 12. A scepter of good luck carved from sandalwood presented by Grow and Cuttle; two lacquered cabinet doors painted with scenes in gold lacquer and a painting representing a ladies' garden party in China, obtained by Marshall Field Expedition to China, 1923.

Case 13. Varieties of quartz. The remarkable range of colors and forms of this mineral is illustrated.

Case 14. A group of tropical epiphytic and parasitic plants growing about a termite nest. Reproduced from nature in the Stanley Field Plant Reproduction Laboratories of the Museum.

Case 15. Passenger Pigeons in a characteristic and natural setting. These birds, once common, are now extinct.

Case 16. Chinese tapestries and cut velvets, secured by Marshall Field Expedition to China, 1923.

Case 17. Modern and ancient allied plants and animals. They are shown in both modern and fossil forms. Types known as "immortal," "persistent," "dwindled," etc., are illustrated.

Case 18. Chilean Pudu. The pudu is the smallest of all true deer, standing only seventeen inches high. It is here shown in a typical natural setting.

Case 19. Birds of Paradise. Selected examples of the most curiously and gorgeously plumaged group of birds from the Island of New Guinea.

Case 20. Selected antiquities from Kish, Mesopotamia, secured by Field Museum-Oxford University Joint Expedition under the patronage of Marshall Field.

Case 21. Panels of the three principal varieties of mahogany.

Case 22. The history of the horse family, showing the evolution of the horse from a four-toed animal to a one-toed animal.

Cases 23 and 24. In these cases in the south corners of the hall are displayed New Guinea feather masks on life-size cast figures.

Examples of exhibition cases used by the N. W. Harris Public School Extension of Field Museum of Natural History are displayed at the south end of the hall.

DEPARTMENT OF ANTHROPOLOGY

First Floor:—Halls 2-10

Second Floor:—Halls 23, 24, 30, and 32

Ground Floor:—Halls A, C, D, E, F, G, H and J

First Floor

Hall 2: Edward E. Ayer Hall. Archaeology of Etruria, Greece, Italy, and Ireland.—The main section of this hall is occupied by exhibits of Etruscan, Greek, and Roman antiquities in stone, bronze, iron, pottery, and glass. Eighteen reproductions of antique furniture are openly displayed on bases along the sides of the hall. There are two cases containing reproductions of notable Irish antiquities, including secular and ecclesiastic art.

Hall 3: Mary D. Sturges Hall. Eskimo and Tribes of the Northwest Coast of America.—Eskimo culture is illustrated in its wide geographical range, extending along the Arctic shores of America from Labrador to northeastern Siberia. The dependence of the Eskimo on hunting and fishing is well brought out, being particularly elucidated by four life-size groups showing the chase and capture of the seal, preparation of skins, and winter fishing through a hole in the ice. A single case, illustrating the life of the northern Athabascans of the Yukon Valley, deserves special mention because of the excellence of the garments and the decoration in porcupine-quill work. The east section of the hall is given over to the Indian tribes of the Northwest Coast in the following order: Tlingit, Tsimshian, Haida, and Kwakiutl. The religious and ceremonial aspect of life, which dominates the activities of these people, is well represented, notably in three life-size groups illustrating several stages in the Hamatsa dance of the Kwakiutl.

Hall 4: James Nelson and Anna Louise Raymond Hall. Tribes of the Eastern Woodland and North American Archaeology. Salish and Plateau Tribes.—The southwest quarter of this hall shows the life of the Woodland tribes with two miniature groups illustrating the summer and winter life of the Sauk and Fox. The interior Salish tribes occupy the northwest quarter. The tribes of the Rocky Mountain Plateau are shown in the southeast quarter with noteworthy collections of costumes and woven bags. The collections in the northeast quarter connect with those at the east end of Mary D. Sturges Hall and show the life of the southernmost tribes of the Northwest Coast and the Coast Salish. The latter are introduced by a life-size group showing their home life and industries. An exhibit in three cases illustrates the life and religious practices of the Potawatomi, a central Algonkian tribe which formerly inhabited the Chicago region and is of much interest in connection with the early history of Chicago. This collection was made under the auspices of Julius and Augusta N. Rosenwald.

Hall 5: Indian Tribes of the Great Plains.—The life of the tribes of this region centered about the horse and the buffalo. The collections are introduced by a life-size group showing a Crow woman and horse with full trappings. The southern half of the hall is devoted to the Cheyenne, Arapaho, and Crow, and fully illustrates the arts and industries of the nomadic tribes. Their principal religious observances are typified by exhibits of the paraphernalia of the Arapaho men's societies and by an original Sun Dance altar. The northern half illustrates the life of the Blackfoot and Dakota and of some of the agricultural tribes on the eastern edge of the area. The exhibits of Dakota bead and porcupine-quill work are especially noteworthy. A large collection of Pawnee ceremonial objects is shown in the northeast quarter, and the principal rites of the tribe are illustrated by miniature groups showing the Thunder Ceremony, Morning Star Sacrifice, Medicine-Men's Ceremony, and Purification of the Sacred Bundles. Exhibits in this hall have been reinstalled on buff-colored screens with buff labels in black type. The other halls on this floor will be reinstalled in the same manner.

Hall 6: Indian Tribes of California and Nomadic Tribes of Arizona and New Mexico.—The California tribes occupy the west half of the hall, being adequately represented by exhibits of ordinary and ceremonial costume, dance skirts and aprons, ornaments, implements, weapons, baskets, and games. Life-size figures of two Pomo medicine-men, one conjuring seed, another holding a ceremony over the deceased, stand in the west entrance of the hall. A remarkable collection of Navaho blankets is on view in the southeast section of the hall.

Hall 7: Sedentary Tribes of Arizona and New Mexico.—The chief representative of this group is the Hopi of Arizona, whose religious and ceremonial life is represented with great care and detail. At the west entrance are placed a life-size group showing the interior of a Hopi home with various domestic pursuits, the figure of a Hopi bride, and a Hopi boomerang thrower, followed by two life-size groups representing Katsina dancers in costume. Accurate reproductions of Hopi altars, as erected in the yearly ceremonies of the tribe, are displayed in a number of cases. Models of the pueblos of Walpi and Hano are also noteworthy. The series of Hopi tihus (images representing deities and given to girls) is no less remarkable and instructive.

Hall 8: Mexico and Central America.—In this hall are shown collections from Mexico and Central America, both archaeological and ethnological. The material is arranged, as far as possible, in geographical order. Case 1 in the northwest corner supplies the link to exhibits in Hall 7 by showing a collection of pottery from Casas Grandes, Chihuahua. The civilization of this region is closely allied to the Pueblo cultures in the Southwest of the United States. A part of this collection was presented to the Museum through General Pershing. The rest of the north side of the hall is occupied by exhibits illustrating the archaeology of Mexico. Particular attention is drawn to the very fine smaller stone-work attributed to the Toltecs and

Aztecs (Case 5). The Toltecs were a highly civilized people, who preceded the Aztecs and built up an empire rivaling in extent the mighty empire of the Incas. In the southeast corner of the hall is shown a Zapotec collection from Oaxaca, southwest Mexico. The Zapotec culture supplies a link with the Maya civilization of Guatemala, British Honduras, and adjacent areas. The Mayas achieved the highest level of culture reached in the New World. Objects illustrating their civilization are exhibited in the adjoining cases. The casts displayed in the center of the hall were made from Maya monuments extant in Guatemala, Yucatan, and Honduras. Farther on are shown collections from the areas lying between the ancient home of the Mayas and Panama. The southwest corner of the hall is occupied by collections illustrating the everyday life of the present Indians of the whole middle American region. In many cases these peoples are the lineal descendants of the tribes represented in the archaeological section. Despite more than four centuries of religious and political oppression, much of the old culture still remains, notably in wearing apparel.

Hall 9: South America.—In this hall are represented the Indians of South America of the past and present. Exhibitions representing the various modern tribes of South American Indians occupy the northeast section of the hall. Among the important collections are those from the Chaco Indians, the nomadic and equestrian warriors of the plains of northern Argentina; the Jivaro tribe in the forests of eastern Peru, represented by four examples of the artificially shrunken human heads; and a large collection illustrating the culture of the northwest Amazon, Orinoco Basin, and Guiana tribes. Among the most interesting exhibits are those showing the preparation of food from the poisonous mandioca tuber and the sacred trumpets used in initiation rites, which no Indian woman may see under pain of death. The remainder of the hall is devoted to South American archaeology, and illustrates the high culture of the inhabitants of the west coast of South America in pre-Columbian days. The archaeology of Colombia is very well illustrated by fine collections of gold, pottery, and shell and stone-work. There are several cases of artistic pottery dating from pre-Inca times, dug up in the Chimu and Nazca districts on the Peruvian coast. The southeast section of the hall is devoted to the Inca culture, both as it was developed in the highlands and as it was on the coast. This collection includes a number of so-called mummies, which in fact are desiccated bodies, and fine textiles from the ancient cemetery at Ancon. The southwest section of the hall is given over to a representation of the little-known Calchaqui culture which flourished in early times in northwestern Argentina.

Hall 10.—This hall is temporarily closed for reinstallation of Eskimo and Northwest Coast Indian collections, which at present are located in Hall 3.

Second Floor

Hall 23 (at north end of East Gallery) contains the Edward E. Ayer collection of pewter comprising several hundred objects of pewter of European, Chinese, and Japanese origin, of all periods.

Hall 24: East Gallery, second floor.—The collections from China, secured by two expeditions, the Blackstone Expedition (1908–10) and the Marshall Field Expedition (1923), both under the leadership of the Curator, Dr. Berthold Laufer, are intended to illustrate the development of Chinese civilization from its beginnings to the present time. There are two main divisions: the ancient, original culture of China prior to the intrusion of Buddhism (Cases 1–38), and Buddhistic China, as influenced and modified by religious and artistic currents coming from India from the third century A.D. onward (Cases 39–59). In each division, the principle of arrangement of the material is strictly chronological. The collection is particularly strong in archaic bronzes, jade, cast iron, mortuary clay figures, armor and weapons, as well as in Buddhistic and Taoistic sculpture. A collection of beautifully carved rhinoceros-horn cups on exhibition is a gift of the late John J. Mitchell.

South Gallery: A collection of eighty-four models of Chinese pagodas, made by Chinese orphans in the Jesuit Institution of Siccawei.

North Gallery: A fine carved lacquer screen of twelve panels from China, eighteenth century, deposited by Mrs. Marshall Field, Sr.

Hall 30.—Temporarily closed for installation of collection of jade.

Hall 32: West Gallery, second floor.—The north part of the hall contains collections from Tibet (Cases 44–80), secured by the Blackstone Expedition of 1908–10. Weaving and textiles, clothing in a series of costumed figures, and jewelry are fully represented. Images, paintings, sculpture, musical instruments, and other objects used in worship in the Lama temples are displayed in twelve cases. At the north end there are two cases illustrating the process of printing and wood-engraving in China and Tibet. In the central portion of the hall are shown various Chinese industries, such as wood, bamboo and root carvings, lacquer, fans, bone and ivory carvings, basketry, musical instruments, tobacco, and a remarkable collection of beadwork presented by Mrs. George T. Smith. The south section of the hall is occupied by Chinese and Tibetan dramatic performances on which a special guide entitled *Oriental Theatricals* has been issued.

Ground Floor

Hall A: Joseph N. Field Hall. Melanesia, South Pacific.—This hall contains ethnographical material from Melanesia and New Guinea, chiefly obtained by the Joseph N. Field Expedition (1909–13) under the leadership of Dr. A. B. Lewis, and regarded as the most comprehensive Melanesian collection in this country. At the north end are collections from New Britain and New Ireland, including large ceremonial masks and elaborately carved wooden figures. Next come New Hanover and St. Matthias with their peculiar types of decorated spears, clubs, clothing, and ornaments. The Admiralty Islands are represented by large wooden bowls, baskets, drums, carved figures, ornamented weapons, clothing, and personal ornaments. The central part of the hall is occupied by exhibits from

New Guinea. Here may be seen a great variety of wood-carvings, human and animal figures, masks, shields, bowls, and large wooden drums. Interesting types of ornamental designs can be seen on pottery, string bags, spears, and many other objects. Next come the island groups of the Solomons, New Caledonia, and the New Hebrides. Of special interest are the inlaid work in shell from the Solomons, the New Caledonian stone clubs, and the ancestral skulls from the New Hebrides.

Hall C: Frank W. Gunsaulus Hall. Japan.—This room contains a collection of sword mounts (presented by Dr. Gunsaulus), armor and weapons, costumes of women, Nō masks, ivory carvings, metal mirrors, tobacco-pipes, and musical instruments. A set of dolls used for the Girls' Festival is placed on the north side of this room. A model of a pagoda occupies the center. On the walls are shown a wood-cut reproduction of a famous landscape by Sesshu, a large tapestry representing the dedication of the temples of Nikko, and a painted screen of the Tosa school (the last-named being a gift from Dr. Gunsaulus).

Hall D: Africa.—The exhibits in this hall are arranged in geographical order, beginning with the Cameroon region of West Africa and extending through the Congo area and South Africa, thence along the east coast of the continent up to Somaliland. The section illustrated in greatest detail is that of Cameroon (Cases 1-14, on the north side of the hall), where skill in wood-carving, bronze-casting, and beadwork attain a standard unsurpassed in any other part of Africa. The finest examples of the woodworker's craft are displayed in the large wall case at the west end of the hall. This exhibit includes a series of doorposts and window frames, along with such objects of household use as wooden beds and stools. In the center of the hall are three life-size figures of Cameroon medicine-men. These symbolize the main current of African thought, for they represent witch-doctors engaged in magical ceremonies which are deemed necessary to cure the sick, to make rain, and to appease the ghosts of ancestors. Cases 16 and 17 contain an excellent collection of bronzes as well as wood and ivory carvings from the West African city Benin, testifying to the high development of Negro art. Along the south side of the hall are exhibits representing warfare, handicrafts, and domestic articles of Congo Negroes, Zulus of South Africa, the warlike Masai of Kenya Colony, and the Somali tribes of Abyssinia. Numerous photographs in the cases illustrate the way in which the objects exhibited were made and used in the country of their origin. Other pictures have been selected for the purpose of giving an accurate impression of the many physical types represented by the races of Africa. A guide entitled *Ethnology of Africa* has been published by the Museum, and is on sale at the north entrance.

Hall E: India, Siberia, Korea, Madagascar (temporary arrangement).—The ancient civilization of India is represented by a small, but well-selected collection of early Buddhistic sculpture of

the Gandhara period (first and second centuries A.D.); a few examples of later Indian and Jaina sculpture have been added to this exhibit. The ethnology of India is illustrated by copper, brass, and bidri ware, as well as by carved and painted Singhalese masks from Ceylon. A tall brass temple-censer from Benares, symbolizing the seven worlds according to the Indian system of cosmology, occupies the center of the hall. The very primitive culture of the Andamans and Nicobars is shown in detail. The Ainu of both Yezo and Saghalin, and the Gilyak and Tungusian tribes of eastern Siberia are well represented with their characteristic fur and fish-skin garments and many good examples of their highly developed decorative art. The civilization of Korea is well illustrated by a unique series of magnificent court costumes, suits of armor, weapons, an iron mortar, two copper cannons, dresses of the people, household articles, and pottery.

The west half of this hall is occupied by a collection from Madagascar obtained by the Marshall Field Expedition to Madagascar 1925-27, under the leadership of Dr. Ralph Linton. The natives of Madagascar are of mixed Asiatic and African origin, and the exhibit forms a link between the African exhibits in Hall D and the Polynesian and Malayan exhibits shown in the adjoining halls to the south. This is the only Madagascar collection of any importance in the United States, and is believed to be the most complete in existence. It includes implements and utensils of all sorts, weapons, jewelry, wood-carvings, ornamental iron work, textiles, and paintings. Much of the work has considerable artistic merit. The jewelry, wood-carvings, and textiles are of especial interest. The textiles are woven from silk obtained from both wild and domestic silkworms, cotton, hemp, raffia, banana fiber, and the inner bark of trees. There is on exhibition a unique collection of raffia cloths decorated with elaborate designs made by the warp-dyeing process.

Hall F: Polynesia and Micronesia.—This hall contains collections from Fiji, Samoa, Tonga, the Cook Islands, Hawaii, New Zealand, and the Society and Marquesas Islands in Polynesia, and from the Gilbert, Caroline, and Marshall groups and various outlying islands in Micronesia. Of especial interest are the fine collections of painted bark-cloths and weapons from Fiji, Tonga, and Samoa. Noteworthy are carved ceremonial paddles and adzes from the Cook Islands. The New Zealand material illustrates well the culture of the ancient Maori. Jade implements and feather robes are prominent features of this exhibit which may be regarded as the best in the United States. The eastern end of the hall is occupied by a complete Maori council house from New Zealand, the only one in America and one of six in existence. This structure is sixty feet long and fourteen feet high. The front and all the wooden parts in the interior are covered with carvings and paintings in the best style of ancient Maori art. Among the objects from Micronesia the armor and tooth-edged weapons of the Gilbert Islanders and the curious weapons and implements from Matty Island are of especial interest. A guide entitled *Ethnology of Polynesia and Micronesia* has been published by the Museum, and is for sale at the north entrance.

Hall G: Malay Peninsula and Malay Archipelago.—The exhibits in this hall are partly the results of the Arthur B. Jones Expedition to Malaysia in 1922–23, in charge of F. C. Cole; partly acquisitions from the World's Columbian Exposition of 1893, and partly gifts of individual donors. In the west section of the hall are illustrated the cultures of the Island of Sumatra, chiefly represented by the Batak and Menangkabau (on the north side of the hall), the ethnology of Nias, a small island off the west coast of Sumatra, and of the Semang, Sakai, and Malay of the Malay Peninsula (on the south side of the hall). Exhibits from the Menangkabau are continued in the east portion of the hall, which in addition is devoted to the cultures of Java, Madura, Borneo, and Formosa. The entire process of making batik-cloth is illustrated and supported by many fine examples of batik fabrics. Puppets, masks, actors' head-dresses, actors' costumes, and the musical instruments of an orchestra accompanying performances testify to the high development of dramatic art in Java. Four notable ancient stone sculptures from Java are the gift of the Java-Chicago Syndicate of the Columbian Exposition. There is a remarkable collection illustrative of the life of the Dyaks of Dutch Borneo, presented by the late Dr. William Krohn, who gathered it in Borneo. The center of the hall is occupied by three groups—a miniature model of a Menangkabau village, a life-size Semang pigmy making fire, and a life-size Dyak hunter. Attention should especially be called to the numerous fine wood-carvings and textiles in this hall.

Hall H: Philippine Islands.—The collections in this hall, gathered between 1906 and 1911 by three members of the staff, William Jones (deceased), Stephen C. Simms, and F. C. Cole, under an appropriation provided by the late Robert F. Cummings, are so arranged as to emphasize the outstanding characteristics of the principal pagan groups throughout the archipelago. Comprehensive exhibits illustrate the economic and ceremonial life of the Tinguian. A miniature village of this people stands on the south side in about the center of the hall, while a life-size group pictures their most noteworthy industry—the forging of head-axes and spear-points. The Igorot are represented by two groups—one, a miniature village illustrating the daily life and activities of the people; the other, a life-size group showing the making of pottery. Suits of armor, cannon, and other weapons from the Moro are worthy of particular attention. At the east end of the hall is a group of Bagobo weavers consisting of six life-size figures engaged in preparing and weaving Manila hemp.

Hall J: Archaeology of Egypt.—Human mummies and coffins ranging in date from the tenth dynasty to the Roman period (i.e. from about 2300 B.C. to A.D. 200) are assembled in built-in cases along the north wall of this hall. X-ray photographs of some of the mummies are shown in a case near-by. Painted linen shrouds from late Egyptian mummies occupy the ends of the north wall cases. The backs of these cases are covered with textiles, large hangings, and parts of decorated garments of the Coptic period. Other Coptic

garments and ornamental tapestries and embroideries occupy a built-in case on the south wall. East of them are mounted manuscripts on papyrus. On the east wall and the wall north of the west stairway are displayed tomb-sculptures and paintings. This exhibit includes a statue of the goddess Sekhmet. Two complete tomb chapels of the Old Kingdom have been erected in the northwest corner. There also stand three late sarcophagi of red granite, black granite, and marble, respectively. The largest case in the hall, under the west stairway, contains a wooden boat almost four thousand years old, found buried beside the pyramid of King Sesostri III at Dahshur. A prehistoric Egyptian body, buried long before mummification was practised, is shown in a burial pit, surrounded by pottery. Other exhibits in cases with indirect lighting are devoted to statuettes in stone, bronze and wood, ushebtis, offering-tables, tomb and memorial tablets, alabaster and other stone vases, pottery, faience and glass, jewelry, toilet articles, charms, beads, tools, weapons, wooden furniture, mummified animals, etc. All the foregoing are original objects. Reproductions shown include only the famous Rosetta Stone, the elegant papyrus of Ani, and certain important tomb and temple sculptures the originals of which are still in place in Egypt.

DEPARTMENT OF BOTANY

Second Floor:—Halls 25-29

The installations in the halls of this department are designed to show forms of plant life and the products yielded by vegetation for the use of man.

Hall 25: Palms and Plant Economics (Food Plants).—The north side of this hall is devoted to a unique and comprehensive display of the botany and the economic products of the palms, with some cases of bamboo. The south side is occupied by food products of vegetable origin, particularly the small grains and corn with their products; breads, including ancient Egyptian bread more than 3,000 years old; starches, sugars, oils and fats, legumes, tea, coffee, spices, and nuts.

Hall 26: Charles F. Millsbaugh Hall. North American Trees.—The cases in this hall present monographic displays of the principal woods of North America. They show the trunks and wheel sections; photographs of the trees in summer and winter; the woods in plain, quartered, and figured boards; branches in leaf and flower; maps, colored to show the area of distribution; and a descriptive label giving such other information as the specimens themselves fail to convey.

Hall 27: Foreign Woods.—The cases in this hall are grouped geographically and contain specimens of the woods of Russia, Korea, Japan, Formosa, Australia, Philippines, Ceylon, India, Johore, Jamaica, Trinidad and various countries of Central and South America. The Japanese series is one of the most valuable and comprehensive ever brought together. The exhibits in this hall are being revised and the present installation must be considered as only provisional.

Hall 28: Plant Economics (Raw Materials and Products).—On one side of this hall are displayed fiber plants such as cotton, hemp, flax, jute, Manila hemp, sisal hemp, and their products. On the other side are shown varnish gums, lacquers and lac, wood distillation products, resin and turpentine methods, paper pulp products, cork, tanning materials, dyewoods, rubber, and a variety of crude drugs. These displays are at present in process of reinstallation.

Hall 29: Hall of Plant Life.—The exhibits here are designed to furnish a general view of the range of plant life. Beginning at the northeast corner of the hall, the lowest order of plants, the bacteria, are followed by the algae, fungi, mosses, and other flowerless plants; next are the conifers, and then the flowering plants, which occupy the greater part of the hall. Most noteworthy of the exhibits are the flowering and fruiting top of a coconut palm, at one end of the hall, and at the other a trunk of the curious cannon-ball tree, with flowers and huge fruits. Other interesting plants represented are pepper, breadfruit, the giant waterlily known as *Victoria regia*, pitcher-plants, citrus fruits, pineapple plant, mahogany, poison ivy, mango, cacao, cacti, mangrove, chicle or sapodilla, coffee, banana, vanilla and other orchids, and wild flowers of the United States. The hall is not complete, and new exhibits are being added continually.

Third Floor: The Herbarium.—In rooms over Hall 25 are installed the large study collections, consisting of an herbarium of the plants of Illinois, the famous Harper collection of fleshy fungi, and a general herbarium containing in all more than 610,000 specimens. The herbarium is especially rich in plants of tropical America. These collections are accessible on request to persons particularly interested in botany.

Wood Collection.—In this division, on the third floor, is a classified study collection of named woods, mainly tropical, including more than 6,000 specimens. This may be consulted by persons interested in woods.

DEPARTMENT OF GEOLOGY

Second Floor:—Halls 34–38

Hall 34: Minerals, Crystals, Meteorites.—The east half of the hall is occupied by the systematic collection of minerals. In this collection the specimens are grouped according to their chemical composition. Beginning at the east end of the hall, the minerals which are native elements are shown first, then follow mineral sulphides, haloids, oxides, carbonates, silicates, phosphates, etc., in order. The series ends with the hydrocarbons. Large specimens are for the most part installed in separate cases among which are dispersed pyramidal cases used for smaller specimens. Minerals such as realgar, proustite, etc., which fade or change color on exposure to light, are covered by boxes which can be raised for examination of the specimens by pressing a button situated just outside of and below the sash.

Since quartz and calcite are among the most abundant of minerals, five cases are devoted to quartz and its varieties and three to calcite. A single case at the east end of the hall contains specimens illustrating a number of the characteristic features of agate. The various species of mica occupy a single case. At the end of the series is shown a large collection of pseudomorphic minerals. These are minerals which by substitution or alteration assume the forms of other species. There is also an exhibit of radiographs made by a number of different species of radio-active minerals. The William J. Chalmers Crystal Collection follows. This collection illustrates, by means of carefully selected mineral specimens, the systems according to which minerals crystallize, and the varying development of crystal form in each system. Several types of twin crystals and other crystal groupings are illustrated, as well as various features of crystal growth, such as zone structure, inclusions and phantoms. Many of the crystals are of gem quality and would have been cut for gems but for their preservation in this collection. The series of tourmalines is especially remarkable for the variety of colors and forms shown. A case of amber and one of ornamental minerals supplement the mineral collection.

Following these, thirteen cases are devoted to the exhibition of one of the largest collections of meteorites in the world, in fact the largest as regards the number of falls represented. More than two-thirds of all known meteorite falls are represented by specimens in this collection. Some of the specimens are in the form of polished or etched slabs, which display the interior structure of meteorites, while others are unbroken and show how the meteorites appeared when picked up immediately after their fall. The larger specimens are installed in individual cases, the meteorite of greatest size thus shown weighing 3,336 pounds. Over two tons of meteorites from the famous locality at Canyon Diablo, Arizona, including one weighing 1,013 pounds, are shown in one case. Etched faces on many of the specimens of iron meteorites illustrate the peculiar figures which distinguish these meteorites from terrestrial iron.

Hall 35: Clarence Buckingham Hall. Physical Geology, Rocks, Relief Maps.—The collections at the east end of this hall illustrate various phases of physical geology. These include specimens showing wear or erosion of rock by ice, wind and water, a great variety of forms of concretions and such important groups as volcanic products, dendrites, tufas, veins and vein structures, faults, folds, joints and cave formations. Contorted and ropy lava surfaces from the Mount Taylor volcanic region, in New Mexico, from Vesuvius and other well-known volcanoes and also volcanic bombs from France and New Zealand, are conspicuous among the volcanic specimens. There are also shown many examples of such oft-mentioned substances as volcanic ash, lapilli and tufas.

Many of the dendrites, which are branching, moss-like forms deposited by water seeping through cracks in rocks, are objects of delicacy and beauty. In the case illustrating rock structure, large specimens illustrating slaty cleavage are worthy of attention. Welsh

quarrymen have split these great pieces of slate along the cleavage into many thin leaves. In another case are specimens of ripple-marked sandstone, which display large surfaces ripple-marked by wave action, exactly as the sands of lake and sea shores of the present day are scored.

Cave products occupy one case. While these consist largely of limestone stalactites and stalagmites, other cave products, such as floor deposits and gypsum rosettes, are also represented. Caves of an unusual type in Utah which contain huge, transparent, gypsum crystals instead of the usual limestone stalactites are illustrated by a number of crystals from such a cave which have been so installed as to reproduce its appearance. Artificial lighting of the cave serves to bring out the transparency of the crystals. A large fulgurite or "lightning tube," more than eight feet long, which was formed when lightning struck into an Indiana sand dune, occupies a case by itself. In an adjoining case smaller fulgurites from other localities show the effects of lightning on both sand and rock.

Adjoining cases contain specimens illustrating glacial markings, rock weathering and concretions. Two large rock slabs, displayed on bases, show, in unusual perfection, the effects of glacial planing and grooving of rock.

A systematic collection of rocks consisting of about 300 specimens of uniform size of all the important rock types occupies eight intermediate cases.

A model of the Natural Bridge of Virginia is shown. Besides being a faithful reproduction of the bridge with the vegetation and other features, it illustrates a number of details of rock structure which occur on too large a scale to be satisfactorily shown by specimens.

The western half and somewhat more of the hall are occupied by a collection of relief maps, which show the topography of selected portions of the earth's surface. Some of these are representations of well-known scenic areas. Others illustrate the topography of states and other political divisions. Portions of the earth's surface which are of unusual geological interest are also presented in relief. Of especial local interest is a group of relief maps of the region about Chicago, which show the distribution of land and water in this district during a number of stages following the glacial period. Against the west wall are two large relief maps of the United States. One shows the distribution of rainfall and the annual temperatures, and the other the area covered by the continental ice sheet during the glacial epoch.

Dominating the west end of the hall is a model, nineteen feet in diameter, of the visible hemisphere of the moon. It is much the largest and most elaborate representation of the moon's surface ever made. The characteristic volcanoes, plains, mountain ranges and other features of the moon are shown in their true positions and relative extent. In order to make the relief more distinct, the vertical scale of the model is about three times greater than the horizontal.

Hall 36: Petroleum, Coal, Clays and Sands.—The east end of this hall is occupied by petroleum exhibits, beginning with oil sands of the American oil fields, followed by crude petroleums, grouped geographically. A model illustrates the underground features of an oil field and the machinery by which the wells are drilled and the oil brought to the surface. A model of the original Rockefeller refinery at Cleveland is also shown. Numerous oils refined from petroleum occupy a case in the center aisle. They range in use from burning and lubricating to medicinal oils. The great variety of uses of paraffin in the manufacture of familiar objects of everyday utility is illustrated by many specimens. The uses shown range from water-proofed clothespins and shotgun shells to flowers for women's hats, chewing gum and candles. With these familiar derivatives and uses of petroleum products are shown other important products and uses which are not so well known.

Near the center of the hall, the leading varieties of coal are shown in a series of cases, and there are also exhibited specimens of coal from many of the most important coal fields of the world. A complete vertical section of a coal seam, five feet thick, shows the appearance of the coal before it is mined. The source of coal is illustrated by a stump of a tree from a forest of the time of the coal formation, and the origin of coal and the relation of the several kinds to each other are shown by a synoptic collection. Accompanying the coal collection is a case showing the numerous substances obtained as by-products from coal. The products shown are obtained by the gas company of the city of London, England, in the manufacture of illuminating gas. Although this case necessarily contains only a few of the thousands of coal by-products, the diversity and the brilliant colors of those shown make it well worthy of attention. In the adjoining case is a less highly colored but interesting series of the more important coal by-products obtained in this country. A synoptic collection illustrates the kinds of mineral fuels and some of their relations. Adjoining the coal collections are cases containing oil shales and specimens illustrating important uses of asphalt.

In the center aisle is a case containing diamonds and specimens of rock in which diamonds are found, as well as specimens of the minerals associated with diamonds. Two cases illustrate the occurrence and uses of peat. These demonstrate that peat may be used for many purposes besides fuel. In a near-by case a model of a lake in which peat is forming illustrates the subject in great detail. A collection of graphite contains numerous specimens illustrating the uses of this mineral. Of general interest also is a group of specimens showing all stages in the manufacture of the common lead-pencil.

The west end of the hall is occupied by exhibits of clays, soils, sands, and other earth materials. Two cases are devoted to specimens which show how soil is formed, of what it is composed, the plant foods it contains and the nature of the several kinds of soils, such as loams and marls, which are ordinarily recognized by farmers.

In the large clay collection, the clays are arranged according to kind. As most clays are used in the form of brick, tile, pottery or other burned ware, there appears with most of the specimens a little

brick burned from the specimen itself. The manufacture of common brick is illustrated by a large model of a brickyard which shows all stages of the manufacture from digging the clay to loading the finished brick on freight cars. There are also shown collections of clay-like and earthy minerals of industrial importance. These include fuller's earths, mineral soaps, cement rocks and mineral pigments. A collection filling three cases illustrates the uses of silica. It includes ornamental and gem varieties, such well-known substances as the common plastering and building sands, such comparatively little known things as a flask for chemical use blown from pure, melted quartz, and a specimen of smoky quartz which the Chinese make into dark spectacles. The manufacture of Portland cement is illustrated by a large and elaborate model of a modern plant. Full details of the work are represented, from the mining of the constituent limestone and clay to the storing of the completed product.

Hall 37: Frederick J. V. Skiff Hall. Ores, Marbles and Alkalies.—The east half of the hall is occupied by a collection of ores of the precious and base metals. The ores of each metal are grouped separately, except that gold, silver and lead ores are shown together. Under each group the specimens are arranged in geographical order according to country, state and mining district. In a case against the east wall, examples of those minerals which are frequently mistaken for gold are shown, and with them for comparison, gold from a variety of occurrences. Interspersed with the groups of ores are models which illustrate the methods of mining and treating ores of the more important metals. Among these a model of a gold mine shows ordinary methods of mining vein ores. Treatment of gold ore for extracting the gold is illustrated by two models, one of a stamp mill, the other of a simple form of cyanide plant. A model of a lead blast-furnace illustrates one common method of extracting lead and silver from the ore. A model of an iron blast-furnace and its accessories, partly in section, illustrates the fundamental process in the metallurgy of iron. With this model are shown models of two furnaces which illustrate the simple methods of iron smelting used in earlier times or by primitive peoples. One of the usual treatments for separating ore of any kind from admixed rock is shown by a model of a jig. With many of the lesser known metals, and some others, are placed small collections which illustrate the utilization of these substances. The uses of the rare metals are especially illustrated in this way. To this collection has been added a series of those minerals which have been found useful in radio communication.

As the small specimens, of which most of the ore collection is composed, do not show sufficiently well the appearance of ore in mass, several large specimens of various ores have been placed in individual cases. Near the center of the room a collection of native coppers in a separate case merits attention.

In the west part of the hall are fifteen cases filled with marbles and other ornamental stones from many parts of the world. The specimens are large enough to display to advantage the characteristic

patterns of each variety. Building stones in the form of four-inch cubes fill five cases. Collections of industrially important non-metallic minerals occupy the west end of the hall. These include barite, fluorite, asbestos, mica, phosphates, grinding and polishing materials, gypsum and borax. Included in the gypsum collection is a case which shows in synoptic form the great variety of uses of this mineral. At the end of this hall are placed soda and potash collections, including a large group of the Stassfurt potash salts.

Hall 38: Ernest R. Graham Hall. Fossil Animals and Plants.—Fossils here exhibited consist of the remains of plant and animal life which have been preserved in the earth by natural agencies. They include specimens turned to stone by petrification, specimens preserved in bogs by the antiseptic action of bog-acids, specimens preserved by being saturated with asphaltum, and natural casts, molds and tracks. An introductory case at the south end of the hall gives a comparison between fossil and recent forms of life of similar kinds.

The collections here are arranged in the order of their geological sequence. At the south end of the hall may be found examples of the oldest known fossils. Progressing to the northward are arranged series of fossils representing the plants and animals which lived in the successive geological periods. Fossils of the latest geological period will be found at the north end of the hall.

On the walls above the cases a series of twenty-eight paintings representing various types of extinct plants and animals is being installed. Each panel shows a characteristic scene in the geological period which it represents. These paintings, when all in place, are designed to extend in continuous series about the hall.

Nineteen of these paintings now on view have the following titles: (1) The Cooling Earth before the appearance of life; (2) The Beginnings of Life; (3) A Sea Beach of the Ordovician Period with the animals of 500,000,000 years ago; (4) A Coral Reef of Silurian time on the site of what is now Chicago; (5) An Armored Dinosaur; (6) Egg-laying Dinosaurs from the Gobi Desert; (7) Marine and Flying Reptiles; (8) A Plant-eating Dinosaur; (9) Horned and Carnivorous Dinosaurs; (10) Primitive Whales; (11) Primitive Camels, Horses, etc.; (12) Giant Kangaroos and Wombats; (13) The Moa, a Giant Bird of New Zealand; (14) Great South American Ground Sloths and Armadillos; (15) Saber-tooth Tiger and associates; (16) Mastodon; (17) Cave Bear; (18) Mammoth and Woolly Rhinoceros; (19) Great Irish Deer.

The Cambrian, or earliest period of known life, is represented by an extensive series of trilobites, specimens of fossil jellyfish, seaweeds, and of the controverted fossil, *Eozoon canadense*.

The Ordovician series includes a slab with scales of the earliest fishes, a number of large trilobites, and various brachiopods and cephalopods.

From the Silurian Period there are exhibited great crustaceans, cephalopods, straight and coiled, corals, crinoids, and fossil seaweeds.

The Devonian fossils shown include fishes, starfishes, sponges, corals and a variety of other invertebrate animals.

Fossils of the Carboniferous Period include a number of fine trunks, stumps, roots and branches of the large trees, *Lepidodendrons* and *Sigillaria*; a series of the great "horse-tail" rushes or *Calamites*, and a large number of fossil ferns.

The Permian Period is represented by fossil leaves of conifers and tree-ferns and by remains of fishes, amphibians and reptiles.

The Triassic fossils exhibited include fishes from South Africa, tracks of reptiles from Massachusetts, various fossil plants and shells from Germany and a series of fossil cones and branches from Patagonia of trees related to the South American pine.

Fossils of the Jurassic Period are represented by a choice series of skulls and skeletons of fish-lizards from England and from Germany; by a beautifully preserved fossil crocodile; by a large series of fossil fishes, mostly from Bavaria; by a few specimens of the rare flying reptiles; and by a comprehensive series of fossil crustaceans, cuttle-fish, crinoids, sponges, and other invertebrate animals. There are also a number of fossils of the plants known as cycads.

Of the Comanchian Period a skeleton of the great dinosaur, *Apatosaurus*, occupies a central position in the hall and dominates the entire collections. Parts of other dinosaurs from both North and South America are exhibited on pedestals or occupy adjacent cases. A series of models in miniature, designed to represent these animals in life, is exhibited in a case near by.

The Cretaceous fossils exhibited include a great skull of the horned dinosaur, *Triceratops*, which occupies a floor case; a lesser skull with nest of eggs, belonging to the related Mongolian dinosaur, *Protoceratops*; skeletons of the swimming reptiles, *Platecarpus* and *Elasmosaurus*; a shell of the great land tortoise, *Basilemys*, and a skeleton of the slender flying reptile, *Nyctosaurus*. A fossil tree trunk from Alberta, and a series of fossil leaves from Kansas, are among the fossil plants. A group of great fossil sponges, various types of fossil shells, and a series of models of the chalk-forming shells, illustrate the invertebrate life of the Cretaceous Period.

With the next period, the Eocene, the Age of Mammals begins. Fossils of this period shown include a skeleton of one of the smaller titanotheres, *Dolichorhinus*, a fine series of skulls of other Uinta mammals, and contemporary specimens of crocodiles and turtles. In another upright case may be seen a series of fossil fishes, each one exhibited in its matrix of stone. Various fossil shells, insects, palms and other Eocene plants are included in the series.

These are followed by fossils of the Oligocene Period. Most conspicuous among them are the mounted skeleton and a fine series of skulls of the great titanotheres—an extinct family of hooved mammals whose members had the general proportions of the rhinoceros, but differed from that animal in the structure of skull and of foot. A skeleton of a smaller saber-tooth tiger, and skulls and skeletons of a variety of extinct rhinoceroses, tapirs, wolves, small three-toed

horses and animals of less familiar names are shown. Of especial interest is a group of skeletons of the *Leptomeryx*, a member of the deer family no larger than a terrier dog. These skeletons, in a stone slab, are exhibited in a table-case.

Conspicuous among the exhibits of the next period, the Miocene, is the slender skeleton of a fossil North American camel. Other specimens include skeletons of the pig-like oreodonts, of extinct flesh-eaters and of rodents; and skulls and legs of a great variety of extinct rhinoceroses, horses, camels, wolves, mustellines and other less familiar kinds of extinct animals. An immense fossil pair of jaws armed with huge teeth represents a great extinct shark. A series of large spiral fossils designated as "*Daemonelix*" are probably the natural casts of an extinct plant.

A mounted skeleton, with armored shell, of the huge armadillo-like animal, *Glyptodon*; a large skull of a baleen whale; skulls of giant sloths, of *Nesodons*, of fossil horses, and of many other South American fossil animals, illustrate the peculiar life of that continent in the Pliocene and Pleistocene periods. These specimens were collected by Marshall Field expeditions to South America.

At the north end of the hall are exhibited various examples of extinct animals which lived at the same time as primitive man. Some of them were certainly known to him. A life-size reproduction of the moa, a gigantic, ostrich-like bird of New Zealand, represents one of a numerous assemblage of birds which may have been exterminated by the natives of those islands. The skeleton of the great Irish deer recalls an animal which was exterminated by civilized man. A skeleton of the mastodon, and another of the mammoth, together with skulls of other individuals, are conspicuous objects in this end of the hall. Similar species of extinct elephants were known to the cave men of western Europe. In the upright cases are skeletons of the European cave bear and of the saber-tooth tiger, two of the natural enemies encountered by primitive man. Among the specimens in another upright case is the skull of a cave man accompanied by a stone lamp and other utensils, all partially embedded in a stony cave deposit. Furnishing a climax to the series and illustrating the arrival of Man in the geologic succession, a full-size reproduction of a cave man of the Neanderthal race with members of his family and the rock shelter in which they lived is shown.

DEPARTMENT OF ZOOLOGY

First Floor:—Halls 13, 15–22

Hall 13: George M. Pullman Hall. Horned and Hoofed Mammals.—This hall, which runs north and south, and is immediately west of Stanley Field Hall, is devoted to horned and hoofed mammals—game animals from all parts of the world. Included are various representatives of the deer family, the antelopes, gazelles, wild sheep, goats, and oxen. In a case near the center of the hall are shown some of the smaller hoofed animals, the dik dik, musk deer,

mouse deer and others. Of special interest are the rare giraffe-like okapi, and the European red deer, shown in cases near the north end of the hall; and in the southern end a case with a series of American mountain sheep.

Hall 15: Mammals—Systematic.—This hall is at the right of the main or north entrance to the Museum, and is entered by passing through the north end of Pullman Hall. With the exception of those represented in Pullman Hall, it contains members of the principal groups of mammals of the world, arranged so far as practicable, according to their relationships. At the east end of the hall are certain hoofed animals related to those in Pullman Hall, such as zebras, tapirs, llamas, and wild pigs. Beginning then with the lower forms, the monotremes or egg-laying mammals of Australia and the pouched mammals or marsupials, there are shown successively various groups, as rodents, edentates (sloths, anteaters, etc.), fur-bearing mammals, the cat family, and the dog family, terminating with the highest mammals, the monkeys and man-like apes. In the northwest corner of the hall is a case devoted to the mammals of the Chicago area, and on the north side two cases contain a noteworthy series of North American cats, and black bears and their allies. In the east end of this hall are life-size reproductions of a large hippopotamus and of a white rhinoceros of Africa. These are made in cellulose-acetate by a process originated and developed in Field Museum. More lifelike results are obtained by this method than by mounting the skins of animals of this type.

Hall 16: American Mammals—Habitat Groups.—Hall 16, next on the south from Hall 15, contains habitat groups of North American large mammals. Flanking the entrance at the east end of the hall are groups of Rocky Mountain goats and Stone's mountain sheep, both of which are also seen from Pullman Hall. Thence eastward are four groups of the Virginia deer showing the difference in its appearance and habits in the four seasons. These are followed by groups of the American pronghorn antelope, mule deer, Olympic elk, Alaska moose, grizzly bear, and glacier bear. In the western half of this hall are further American groups, including the Alaska brown bear, polar bear, musk ox, bison, marsh deer, beaver, and capybara.

Hall 17: William V. Kelley Hall. Asiatic Mammals—Habitat Groups.—In the east half of this hall are some striking habitat groups of Asiatic mammals forming part of an extensive series intended to occupy the entire hall. Among those completed are Marco Polo's sheep, Asiatic ibex and Indian rhinoceros, composed of animals obtained by the James Simpson-Roosevelts Asiatic Expedition.

Hall 18: Albert W. Harris Hall. Fishes, Reptiles and Amphibians.—The east half of this hall is devoted to fishes and the west half to reptiles and amphibians.

The fishes are arranged in two series; one showing representatives of the principal orders and families of fishes, and the other showing special collections of Atlantic and Pacific food and game fishes, and also Chicago market fishes. In the west end of the hall is displayed

temporarily a habitat group with a swordfish, shark and rays; and two habitat groups illustrate the insect life of the Indiana dunes and the life history of the tomato worm moth.

The collection of reptiles includes representatives of the lizards, snakes, turtles, and crocodiles. Of particular interest are American amphibians and reptiles reproduced in celluloid. Noteworthy among these is a South American anaconda installed in a natural setting. A habitat group of American crocodiles, temporarily detached from exhibits of other reptiles, may be seen in the alcove at the side of the west entrance to Hall 19.

Hall 19: Osteology—Skeletons.—Contains skeletons of the principal vertebrates or backboned animals. These include fishes, frogs and their relatives, birds, and mammals. At the right of the east entrance are the lower forms, fishes, etc., and at the left are the higher apes and man. In the center toward the west end is the huge skeleton of a right whale. Of particular interest among the bird skeletons is an assembled skeleton of the extinct great auk. On the southeast wall of the hall is a case containing skeletons of man, gorilla, chimpanzee, and orang arranged for comparative study.

In the alcove flanking the west entrance to the hall is a habitat group of American crocodiles in which the animals are reproduced in cellulose-acetate, a material resembling celluloid.

Hall 20: Birds—Habitat Groups.—Eighteen bird groups with painted backgrounds are shown, mostly in large sectional cases with four groups to each case. The majority of the groups are of North American birds, conspicuous among which are the northern loon, golden eagle, California condor, whooping crane, wild turkey, white pelican, and ruffed grouse. Near the west end of the hall is a large case containing four groups from tropical America and including the flamingo, the jabiru stork, horned screamer, scarlet ibis, and oil bird or guacharo. At the extreme west end of the hall is a group of Alaskan water birds from the Pribilof Islands, and a group of albatrosses and other mid-Pacific birds from the island of Laysan.

Hall 21: Birds—Systematic.—A systematically arranged collection of birds including representatives of the more important orders and families. Cases on the north side of the hall are devoted to North American birds, and those on the south side to birds of foreign countries. The North American series, especially, is undergoing revision by which the birds are being arranged on natural perches or bases instead of on shelves. Among the groups for which the new installation is completed are the diving birds, gulls, terns, shore-birds, ducks, hawks, owls, and woodpeckers. Species known to occur in the state of Illinois are marked with a red star. In the alcove north of the entrance to this hall is a case of albino birds and mammals.

Hall 22: Carl E. Akeley Memorial Hall. African Game Animals. Habitat Groups.—This, the largest hall devoted to zoology, occupies the entire west end of the building and is divided in the middle by the stairway leading to the west door and the James Simpson Theatre. North of the stairway are groups of large African

mammals collected and prepared by the late Carl E. Akeley—koodoos, zebras, buffaloes, and various antelopes. In the north end also are a group of Abyssinian dassies or coneys, small animals resembling rodents but related to the hoofed mammals, and a group of one of those diminutive antelopes known as the dik diks. On the other side of the stairs are other African antelopes including a group of mountain nyala obtained by the Field Museum—*Chicago Daily News* Abyssinian Expedition, 1927. In temporary position in this hall are a family of gorillas next to the central west wall, and two groups of orangs and proboscis monkeys from the East Indies.

H. N. HIGINBOTHAM HALL

Hall 31: Gems and Jewels.—Second floor at head of staircase leading from the south end of Stanley Field Hall.

This hall contains a large and very valuable collection of gems and jewels. There are shown many examples of nearly every known gem, represented both by cut and uncut specimens. Many of the specimens are of historic interest and of high intrinsic value. Attention may be called especially to the DeVrees engraved diamond, the Hope, Tiffany and Crane aquamarines, the Russian topazes, the series of cut amethysts and the Sun God opal.

In the series of diamonds there are shown, besides the engraved diamond already mentioned, four cut Brazilian stones and rough diamonds from nearly all the important fields of the world. Emeralds are illustrated by crystals from Colombia and Brazil. There is a fine series of star sapphires, and both blue and yellow sapphires are represented by large and attractive stones, the largest weighing 99½ carats. A cut aquamarine weighing 341 carats, together with many other stones of fine quality and remarkable size, illustrate this variety of beryl. Of topazes there are to be seen a nearly pure crystal from Brazil weighing ninety pounds, and many blue, yellow and colorless cut topazes. Many cut and crystallized amethysts from Brazil and other countries show the rich, dark-purple color and other qualities of this stone at its best. A bowl, one foot in diameter, cut from one piece of rose quartz, is noteworthy for its rich color and size. Several crystal balls and various carvings of rock crystal, some of which are of historic interest, illustrate the ornamental and other uses of this semi-precious stone. Many other precious and semi-precious stones are illustrated in the collection both by cut and rough specimens. Gold and platinum are represented by nuggets and other specimens showing modes of occurrence of these metals in nature.

Nine cases in the hall are installed with mounted gems or with worked forms of gold, representing the use of these materials in jewelry among primitive and oriental peoples and in later times. Here are to be seen a large number of examples of pre-Columbian gold ornaments from South America, of Egyptian and classical jewelry, of jewelry from India, and from Algeria. Babylonian, Roman and Italian cameos and intaglios are also represented by many choice examples.

THE N. W. HARRIS PUBLIC SCHOOL EXTENSION DEPARTMENT

The N. W. Harris Public School Extension Department prepares small portable cases of natural history and economic exhibits, and lends them to the schools of Chicago.

This direct and effective way of extending the museum into the classrooms of the schools was made possible through the benefaction of the late Norman Wait Harris, who in 1911 provided an endowment of \$250,000. This endowment has been supplemented by contributions in 1919 of \$25,000 and in 1923 of \$100,000 from members of Mr. Harris's family.

More than 1,100 cases are at present available for this educational work. Other cases are being prepared. At the beginning of the school year two cases are sent to each school for a period of two weeks. At the end of that time they are taken to other schools for the same period, and two other cases are left in their stead. Deliveries to the schools are made by special motor trucks.

Examples of these cases are exhibited in Stanley Field Hall.

THE JAMES NELSON AND ANNA LOUISE RAYMOND FOUNDATION FOR PUBLIC SCHOOL AND CHILDREN'S LECTURES

Various activities combining educational and entertainment features for school children of Chicago are provided by the James Nelson and Anna Louise Raymond Foundation for Public School and Children's Lectures. An endowment of \$500,000 was provided for this purpose in 1925 by Mrs. Anna Louise Raymond, as a memorial to her husband, the late James Nelson Raymond. Since then Mrs. Raymond has made additional gifts to carry on the work of the Foundation.

During the spring, summer and autumn the Foundation provides series of programs (on Saturday mornings during spring and autumn, and on other days as announced during the summer) consisting of educational motion pictures, lectures, and story hours. These programs are presented in the James Simpson Theatre of the Museum. During the school year members of the Raymond Foundation staff are sent out almost daily to the public schools of Chicago, where they give illustrated lectures before classes and assemblies of children. As many as 500 such lectures are given during a single year. Throughout the year, classes and other groups of children from both elementary and high schools, and from various community centers and other organizations, are conducted on tours of the Museum exhibits by Raymond Foundation lecturers. By arrangement with the Board of Education of Chicago, a correlation of Museum exhibits with the curriculum prescribed for the schools has been effected, whereby teachers and children on visits to the Museum study exhibits having a direct bearing on their current classroom work.

Raymond Foundation lecturers assist these groups.

GENERAL MUSEUM INFORMATION

Location

Field Museum is located in Grant Park near Lake Michigan, the main entrance facing Roosevelt Road. Regular service direct to the entrance is maintained by the Jackson Boulevard busses (No. 26) of the Chicago Motor Coach Company, with free transfers to and from all other lines of the company. The Illinois Central main and suburban station is only two blocks from the Museum. Surface cars, elevated lines, and interurban lines provide transportation to within a few blocks of the Museum. There are fine drives for automobiles, and ample free parking space.

Hours and Rules of Admission

The Museum is open to the public during the following hours:

November, December, January	9:00 a.m. to 4:30 p.m.
February, March, April, October	9:00 a.m. to 5:00 p.m.
May, June, July, August, September	9:00 a.m. to 6:00 p.m.

On Thursdays, Saturdays and Sundays admission is free. On other days an admission fee of 25 cents is charged to adults. No return admission checks are issued.

Children are admitted free on all days. Students, professors and teachers of any recognized university, college, school or institute are admitted free upon presentation of proper credentials.

Checking

Canes, umbrellas and parcels must be checked at the entrances. Coats may also be checked. A fee of 5 cents is charged for this service.

Telephones

Public telephones will be found to the west of the main (north door) entrance.

Wheel Chairs

Visitors desiring the use of wheel chairs may obtain them at the main (north door) entrance. A fee of 25 cents per hour is charged for chairs, and attendants must be furnished by the applicants. A deposit of \$1 is required on each chair.

The Library

The Museum Library is open for reference daily, except Sunday. The Library contains approximately 92,500 volumes.

Information

Information concerning the Museum may be secured at the main (north door) entrance where the publications of the Museum and picture post cards are sold. Copies of many photographs made by the Museum photographer are also on sale there.

Lunch Rooms

There is a cafeteria on the ground floor where meals and refreshments may be obtained between 11 A.M. and 3 P.M. daily, 12 noon and 4 P.M. Sundays. Accommodations are also provided in rooms near the cafeteria for school children and parties who provide their own lunches.

Special Privileges

Sketching and photographing in the Museum are permitted only under certain restrictions, details of which are obtainable upon application to the Director.

The Research Collections and Laboratories, which are on the third floor, are not open to the public, but may be visited by students, specialists, and members of the Museum upon application to the Director and with the approval of the Curators.

Museum Tours and Guide Service

At 11 A.M. and 3 P.M., on Monday, Tuesday, Wednesday Thursday and Friday of each week, a guide-lecturer conducts tours through various sections of the Museum. Thursday tours are general; other days special subjects are covered according to a schedule, copies of which may be obtained at the north entrance or by mail on request. Each tour lasts about an hour and may be taken, without charge, by any Museum visitor.

The services of a guide-lecturer may also be engaged, without charge, by clubs, conventions, classes from public, parochial and private schools, or other parties of ten or more individuals. Written application for this service should be made to the Director of the Museum at least a week in advance of the intended visit.

Lectures

Courses of free illustrated lectures on science and travel are given for the public on Saturday afternoons during the spring and autumn months, in the James Simpson Theatre on the ground floor of the Museum. Men prominent in the fields of exploration and research are engaged for these lectures. Both motion pictures and colored stereopticon slides are used to illustrate them. Special lectures are given from time to time, and there is a series for Members of the Museum each year. Other lectures by members of the Museum's scientific staff are frequently broadcast by various radio stations. Occasionally Americanization programs are presented for the foreign-born. At these (as well as at children's programs, of which details will be found under the heading "James Nelson and Anna Louise Raymond Foundation") the Yale University "Chronicles of America" photoplays are often shown. This series of motion pictures was presented to the Museum by the late Chauncey Keep as a memorial to his son, the late Henry Blair Keep.

Membership

Field Museum has several classes of Members. Benefactors give or devise \$100,000. Persons who give or devise \$5,000 are elected to Fellowships, and may appoint their successors in perpetuity. Life Members give \$500; Non-Resident and Associate (Life) Members pay \$100; Non-Resident Associate (Life) Members pay \$50. All the above classes are exempt from dues. Sustaining Members contribute \$25 annually. After six years they become Associate (Life) Members. Annual Members contribute \$10 annually. Other memberships are Corporate, Honorary and Patron, 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.

Sets of Educational Post Cards

Field Museum has published thirty-seven sets of educational post cards illustrating subjects represented in the exhibits of the Departments of Anthropology, Geology, Zoology, and the N. W. Harris Public School Extension. These cards are printed by the photogravure process, and each one contains a brief text. The sets are in special envelopes prepared for convenience in mailing, but they also may be mailed as individual post cards if desired. They are suitable, too, for mounting in albums, and can thus be made into a pictorial natural history library. For children they are especially valuable.

Following is a list of the sets with subjects, number of cards in each, and price:

ANTHROPOLOGY

Numbers and subjects of sets	Cards in sets	Price
1. Archaic Bronzes, China	16	\$.30
2. Sung Bronze Vases, China	10	.20
3. Bronze Figures, China	15	.30
4. Ancient Pottery, China	14	.30
5. Mortuary Clay Figures. <i>a.</i> Human Figures, China	10	.20
6. Mortuary Clay Figures. <i>b.</i> Animal Figures, China	14	.30
7. Buddhist Sculpture, Buddhas, China	7	.15
8. Buddhist Sculpture, Bodhisatvas, China	14	.30
9. Buddhist Sculpture, Monks, China	6	.10
10. Buddhist and Taoist Sculptures, China	10	.20
11. Imperial Costumes, China	6	.10

Numbers and subjects of sets	Cards in sets	Price
12. Actors' Costumes, China	8	\$.15
13. Lama Mystery-play, Tibet	13	.30
14. Folk Costumes, Tibet	10	.20
15. Buddhistic Sculpture, India	14	.30
16. Ancient Sculpture, Mexico	8	.15
17. Ancient Pottery, Peru	15	.30
18. Drums, Daggers, Bags, etc., New Britain and New Guinea	11	.20
19. Household Utensils, Admiralty Islands and New Guinea	10	.20
20. Human and Animal Figures, New Guinea	10	.20
21. Ceremonial Masks, New Guinea and New Hebrides	8	.15
22. Malagan Figures and Masks, New Ireland	10	.20
23. Wooden Masks, New Guinea and New Britain	10	.20
24. Prepared Human Heads, New Guinea and New Hebrides	8	.15
25. Alabaster Jars, Egypt	12	.25
26. Bronzes and Ivory Carvings, Benin, West Africa	12	.25
27. Medicine-man, Wooden Masks, etc., Cameroon, West Africa	8	.15

GEOLOGY

Numbers and subjects of sets	Cards in sets	Price
1. Restorations of Ancient Landscapes, Plants and Animals	14	.30
2. Neanderthal (Mousterian) Man	10	.20

ZOOLOGY

Numbers and subjects of sets	Cards in sets	Price
1. Apes and Monkeys	8	.15
2. Interesting Large Rodents	7	.15
3. Marsupials, or Pouched Mammals	8	.15
4. Tarantulas, Centipedes and Scorpions	10	.20
5. Skates and Rays of American Waters	10	.20
6. Common American Moths	10	.20
7. Common Illinois Butterflies	20	.40

N. W. HARRIS EXTENSION

Number and subject of set	Cards in set	Price
1. Types of cases loaned to Chicago schools	7	.15

Post card sets on other subjects will be added to these series from time to time.

Other Post Cards and Pictures

Post cards of miscellaneous subjects selected from among the Museum exhibits are available. Two for 5 cents.

School children's card sets consisting of twenty photogravure cards $3\frac{1}{2}" \times 5\frac{1}{2}"$, and containing descriptive texts. 20 cents.

Antiquities of ancient Ireland—ten photogravures, $6" \times 9"$. 5 cents.

Field Museum album—contains ten cabinet views $5\frac{1}{2}" \times 7"$ and ten photogravure post cards. 50 cents.

Miniature set—ten interior and exterior views of Field Museum of Natural History. Cards $1\frac{3}{4}" \times 3\frac{1}{2}"$. 10 cents.

The work of Carl E. Akeley in Field Museum—forty-seven photogravures of mounted animals and sculpture. Plates are $9" \times 12"$, and packed in carton. \$1.

Large size photographs of most of the outstanding exhibits are available at \$1 per print.

All of the post cards, pictures, albums, etc., may be obtained at the information desk at the main or north entrance of the Museum.

BEQUESTS

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, to be named by the giver. For those desirous of making bequests to the Museum, the following form is suggested:

FORM OF BEQUEST

I do hereby give and bequeath to Field Museum of Natural History of the City of Chicago, State of Illinois, _____

Cash contributions made within the taxable year to Field Museum of Natural History to an amount not in excess of 15% of the taxpayer's net income are allowable as deductions in computing net income under the Revenue Law.

Endowments may be made to the Museum with the provision that an annuity be paid to the patron during his or her lifetime. These annuities are tax-free and are guaranteed against fluctuation in amount.