

many expeditions were sent into the field, the exhibits were all completely revised, and many new collections were purchased.

Under Dorsey the department had rapidly expanded; but under Laufer's leadership it became distinguished more especially for scholarship and research.

In previous regimes, some of the leaders of expeditions had been wont to collect furiously and without much thought or selectivity. In a way, this is understandable, because the department was young and had many gaps to close and large halls to fill. But under Laufer, things were different. Collecting was done on a more judicious basis, and emphasis was not on collecting *per se*. Laufer believed that specimens without complete documentation and history were valueless, and that collectors who failed to achieve at least these minimal requirements were no more professional than stamp or arrowhead collectors. They were merely antiquarians.

To Laufer goes credit for placing the department on a scientific basis, for bringing great distinction and honor to the Museum both because of his own high scholarly achievements and because of the work he inspired his staff to accomplish; and for creating a tradition in museology and anthropology. His premature death in 1934 was a blow to the Museum.

The last nine years have brought about profound changes in our outlook concerning the Museum and the place of anthropology in the world today.

For one thing, we are no longer interested in expeditions which collect well-documented materials. We are interested in obtaining information about the totality of a given culture—tangible and intangible facts; material and non-material aspects of a culture; data on language, physical types, ecology, arts and crafts, religion, mythology, history, techniques, and economy.

And why are we interested in studying past and present cultures?

Anthropology, although a young science, is one of the most important to the world today. So much is known of the world apart from man, while comparatively little is understood about man himself and his psychological makeup. And it is about his relation to other men that the average man knows least—a fact which is responsible for most of our present world difficulties.

The anthropologist, using psychology and other helpful disciplines, is interested in investigating and clarifying man's social relationships. What happens when two races and two differing cultures meet? No proper solution of the world's problems and psychoses can be made without the aid of anthropological studies.

GREAT STRIDES MADE IN BOTANY DURING FIFTY YEARS

By B. E. DAHLGREN

CHIEF CURATOR, DEPARTMENT OF BOTANY

At the World's Columbian Exposition many nations were represented by displays of agricultural and forestry products that constitute their main natural wealth. The aggregate of



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such material was very great. There were woods, rattans, lacquers, dyes, gums, resins, starches, oils, and medicinal plants of India, Johore, and Siam; agricultural products, and an exemplary collection of the woods of Japan; the agricultural products of Russia; Spanish olive oil and cork; grains, oils,

waxes, gums, fibers and woods from Mexico, Costa Rica, Jamaica, Trinidad, Colombia, Ecuador, and almost all other South American countries. Brazil alone sent a thousand specimens of its tropical woods and almost as many other botanical items from its immense rain-forests, plains and semi-deserts. In addition there were products exhibited by the United States Department of Agriculture—crop-plants, cotton and other fiber plants, tobacco, and a great variety of woods.

The assembling and preparation of these many items had obviously cost much time and planning, and the work of hundreds of men. When the idea of a permanent depository and exhibit was realized with the founding of Field Museum, all this material was freely contributed. The new Museum was thus provided with a huge nucleus for botanical collections. Perhaps never before had such an array of diverse vegetable material been brought together under one roof.

The vast accession, much of it perishable, brought an immediate problem of care and

preservation. Dr. C. F. Millspaugh, well known for his *Medicinal Plants of the United States*, assumed, as Curator of Botany, the responsibility for technical organization.

Such is briefly the origin of the Department of Botany. The first and provisional arrangement preserved the original collections intact, and was thus geographical. With a scarcity of exhibition cases, the installation required much work and ingenuity. It soon became apparent that the collections left much to be desired, both as to quality and accompanying data. For example, it was evident that only a new and authentic collection of North American woods could be satisfactory, with material of definite size and proportions accompanied by botanical data, photographs, and herbarium specimens. The Curator accordingly initiated a program of collecting later carried on by a special forestry assistant, out of which grew the present Hall of North American Woods.

Serviceable exhibition cases were designed and provided, and the geographical grouping was gradually superseded—except in the section of foreign woods—by a botanically more logical arrangement according to plant families. Years of work resulted in a well-arranged exhibit of plant products with botanical features illustrated by dried material and pictures.

SPECIAL TECHNIQUE DEVELOPED

The unsatisfactory appearance of dried plants has always presented a problem in Museum technique, sufficiently troublesome in most cases to deter natural history museums from concerning themselves with plants, except incidentally and most casually. After some early experimental attempts to provide accurate and life-like replicas of plants for the exhibits, funds were supplied for this purpose during many years by President Stanley Field who thus made it possible to represent a great diversity of plant-forms. Additions to these are constantly being made by the few expert technicians and artists now occupied with this work. The coal forest reconstruction in the geological exhibits, the Illinois woodland, and the intertidal seaweed scene in the Hall of Plant Life (Martin A. and Carrie Ryerson Hall) are recent outstanding achievements.

After transfer of the Museum to its present building, a single hall was made to serve for the systematic botanical display, the remainder



MAINE COAST SEAWEEDS—HALL 29

of the space available being devoted to plant products, food materials, industrial raw materials, foreign and domestic woods.

The first opportunity for field work came in the first year of the existence of the Museum, when Mr. Allison Armour invited the Curator of Botany to participate in a cruise to Yucatan. This resulted in collection of the first specimens gathered for a herbarium and yielded material for the first Field Museum botanical publication. Other expeditions to Yucatan, the Bahamas, and the larger Antilles provided further collections. With gifts of plants—one of the earliest being credited to Mr. Martin Ryerson—and many purchases from private collections, the herbarium grew, slowly at first, then more rapidly with the acquisition of many important private American and a few European collections. The transfer to the Museum in 1907 of the University of Chicago herbarium, brought together by Professor John M. Coulter, added 50,000 to the 200,000 specimens of all kinds then catalogued. It has since become an integral part of the botanical collections that now comprise more than a million items. About half this number, perhaps the most valuable part, has resulted from Museum botanical expeditions to tropical America, Peru, British Guiana, Brazil, Venezuela, Mexico, and Guatemala. Tens of thousands of herbarium specimens have been obtained by exchanges and in return for determinations made by our own staff.

A ten-year search for type specimens in the botanical collections in Europe, almost completed by a member of the staff before the present war, furnished more than 40,000

photographic negatives and a large number of duplicates and fragments from the collections of early botanical explorers of the American tropics. These now constitute one of the most important parts of the department's reference collections. Photographic prints of these types have been supplied to many other institutions.

A special herbarium of lower plants has been organized in recent years and therewith the care of fifty years' accumulation of algae, hepatics, mosses, lichens and fungi—including the large Harper collections of fungus and lichen acquired by gift—has been placed, like the herbarium of flowering plants, in the competent hands of a specialist.

Thanks to the industry of the staff of the department, its publications are voluminous, ranging from popular leaflets to important technical contributions to scientific literature. Outstanding unfinished works in progress include a *Flora of Peru* by J. Francis Macbride, and a *Flora of Guatemala* by Paul C. Standley and Dr. Julian A. Steyermark. Both of these works, including many sections contributed by other specialists, are based chiefly on collections obtained by a series of Field Museum expeditions.

FIFTY YEARS OF MINERALOGY AND PALEONTOLOGY

By HENRY W. NICHOLS

CHIEF CURATOR, DEPARTMENT OF GEOLOGY

To a geologist, of course, a million, or even a hundred million years is only a short time—since we deal (like astronomers, and some politicians) in figures running into billions. Thus, fifty years to one in this department, regarded



Henry W. Nichols

from the purely scientific point of view, is but a fraction of a second in geological time. But to us as individual human beings, fifty years is just as long as to anyone else.

I came to Field Museum as Curator of Economic Geology in July, 1894, two months after the opening day, and eight months after the first specimens were brought into the building. The department staff then consisted of a Curator of Geology, the late Dr. Oliver C. Farrington, and myself. The only

assistant was a label writer, who wrote labels for the specimens with India ink on buff card-board. This force was obviously inadequate, and has since been gradually enlarged until now there are six curators and assistant curators and seven preparators and other assistants.

OLD CASES INADEQUATE

The specimens which came by gift and purchase from the World's Columbian Exposition were more than ample to fill the exhibition space of the twenty-one halls assigned to the department. Most of them had been numbered and roughly catalogued in temporary



METEORITE AS EXHIBITED IN THE '90's

books. I found all twenty-one halls installed, although in a few of them the installation was little better than orderly storage.

The specimens were displayed in crude, cheaply built cases obtained from the exposition. The only exception was the gem collection in H. N. Higinbotham Hall, which was installed in well-built cases of as good design as any of that period, although not to be compared with those of the present installation. These cases, however, were far from dust-proof, and much of the time of the two curators was taken up with attempts to keep the specimens reasonably neat and clean. Cases had not been provided for some of the large specimens, and these were displayed on platforms placed either in the center of the halls or against the walls.

The collections were classified into the same sections—paleontology, mineralogy, etc.—that appear in the present installation, plus an addition of a section of metallurgy which has since been discarded. Twelve of the twenty-one halls, more space than at present, were assigned to economic geology. The weakest



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