despite years of experimentation. This situation, then, helps to explain why wood-block printing held certain advantages over movable type printing in China, and why the Chinese did not follow the same path as European printers. In the woodblock method a page of text is written by hand on thin paper which is then pasted face down on a prepared board. The writing shows through the paper in reverse, and a carver simply cuts away the wood about an eighth of an inch wherever there is no writing. From this point on the process of printing was exactly the same as the process with movable type. It was a hand job without a press, which the Chinese failed to invent. Indeed the wood-block had certain advantages: the type could not come loose, as in the crude Chinese type chase: there was less possibility of typographical error; and new editions could be printed over and over from the old blocks till they were worn out or lost.

WOODEN TYPE ALSO RECEIVED

Since most Chinese printing establishments in the past were small and were not printing a wide range of books, an investment in a huge font of type was either prohibitive or unnecessary. It would be wrong to create the impression, however, that the Chinese neglected movable type. For the printing of imperial editions of important books the imperial printing office used extensive fonts of cast metal type as well as carved wooden type of which hundreds of thousands were cut by hand!

In Mr. Donnelley's gift there were also thirty small hand-cut wooden type, of recent Korean make. The accompanying illustra-



Ancient Type

Nine specimens of bronze movable type made in Korea during the fifteenth century to print Chinese books. The type have been photographed lying on a wood block cut to print a whole page, which is an alternative method. The three top specimens are face up; the half-size type in the middle is for printing footnotes; the five type on back or sides show groove in bottom for attachment to wax in bottom of chase.

tion, taken from a Chinese book describing the imperial printing office of 1773-a book recently acquired by the Library of Field Museum-shows how type was set by hand and makes clear what a laborious process this must have been. A modern Chinese typesetter with his banks of type around him, has only the advantage of scientific arrangement of the characters to lessen the drudgery of his chores.

MUSEUM ACQUIRES COLLECTION OF 50,000 AMERICAN BIRDS

Field Museum recently acquired the wellknown Bishop collection of more than 50,000 North American birds, one of the largest and most important collections ever assembled, and the last of its kind which. had not passed to a public institution.

The negotiations to obtain this collection were recently completed by Dr. Wilfred H. Osgood, Chief Curator of the Department of Zoology, on a visit to Dr. Louis B. Bishop at Pasadena, California. Dr. Osgood is an old friend of Dr. Bishop's, and in 1899 they conducted an expedition together to the Yukon and Alaska.

Field Museum has already obtained possession of the major part of the collection which had been housed at New Haven, Connecticut. A further part will remain in Los Angeles where, during the rest of his life, Dr. Bishop will continue research upon it, and further work towards its improvement.

The Bishop collection includes representatives of nearly all known forms of birds found in every section of North America north of Mexico. Formation of this collection represents forty years of constant and intensive effort, both on the part of Dr. Bishop and numerous professional ornithologists who have been associated with him at various times. According to Mr. Rudyerd Boulton, Curator of Birds, who has made a careful inspection of the collection, the specimens are distinctly superior to the average in quality of preparation. An important item is the inclusion of thirty type-specimens. "Type-specimen" is the scientific term for the original representative of a species to be collected, which thus forms a basis for the description of that species to which all other specimens are referred for identification. Included also are specimens of various birds which are now extinct, such as the Carolina parakeet, the Guadalupe flicker and petrel, heath hen, Eskimo curlew, and passenger pigeon. Many others are of species which have become very scarce and difficult to obtain.

To date, Field Museum's principal efforts in ornithological research have been devoted to the birds of Central and South America, Africa, and other foreign localities. The North American field had been left largely to other institutions, although Field Mu-

seum did have a collection which is extensive enough to be regarded as important. Addition of this new collection fills a large gap in the Division of Ornithology, and gives the institution one of the most comprehensive North American bird collections either in this country or abroad. It is estimated by Dr. Osgood that the collection had cost its former owner nearly \$100,000, and it is doubtful if it could be reproduced at this time for twice that figure.

The acquisition of the Bishop collection is of tremendous importance to scientists and to students of zoology, because of the unusual research opportunities it affords. For this purpose it is especially valuable because the birds of North America have been more intensively studied than those of any other part of the world, and a detailed knowledge of them is fundamental to all ornithological research in evolution, variation, and all theoretical fields of biology.

Dr. Bishop is one of the few surviving American ornithologists who began studies of American birds in the very active period of the "nineties" and formed private collections rivalling in size and importance those of public institutions. Other famous collections include that of William Brewster, which is now in the Museum of Comparative Zoology, Cambridge, Massachusetts; and that of Jonathan Dwight, which is now in the American Museum of Natural History in New York.

Dr. Bishop was born in New Haven, Connecticut where he graduated from Yale and continued studies in medicine in the special field of pediatrics which he expected to follow professionally. His passion for ornithology, however, led him to relinquish other interests and devote his entire life to collecting and studying birds. In his early years he made numerous trips to North Dakota and the Middle West, to eastern Canada and, in 1899, to the Yukon River and Alaska. In 1917 he removed to Pasadena, California, and continued his interests there. An important collection of birds' nests and eggs, assembled by him, is now in the Peabody Museum of Yale University.

Death is the Penalty for Seeing New Guinea Masked Man

Each family of Tami in the Huon Gulf, New Guinea, has the right to use one or more masks of a type known as tago. Each tago has a special name, and is distinguished by certain definite characteristics. The masks represent spirits which are supposed to visit the village at the time the masked figures appear. The man wearing the mask is completely covered by a sago leaf dress, and under no circumstances may he be seen or recognized by any woman, child, or uninitiated person. Should this happen by accident, the observer is killed. Examples of tago are on exhibition in Joseph N. Field Hall (Hall A), on the Museum's ground floor.



1939. "Museum Acquires Collection of 50,000 American Birds." *Field Museum news* 10(10), 5–5.

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