$1,000 per set. Leading scientists of the time, recognizing the value of his work, aided him to some extent in making the necessary contacts with patrons.

Each plate in the folios is engraved from a water-color painting, and is a hand-colored impression from a copper plate. The plates are aquatint engravings printed on double elephant folio sheets of a heavy finely made stock known as Whatman paper. There were 435 plates in all. The first ten plates were engraved by William H. Lizars of Edinburgh; the rest by Robert Havell and Son, London. An octavo edition was published by Audubon in New York (and J. B. Chevalier in Philadelphia) in 1840–44, and about twenty years later a lithographed edition similar in size to the original was produced in Philadelphia.

Today it is believed that not more than 100 complete sets of the elephant folios are in existence, as many of them were broken up by dealers, and the individual plates sold as art works. The value of a complete elephant folio set, originally published at about $1,000, varies today between $12,000 and $15,000, depending on condition and other factors. The individual plates are sold at prices ranging from about $35 to $1,000 each.

Field Museum's set, one of the best of those known to remain in existence, came to this institution among the many generous gifts of the late Edward E. Ayer, first President of the Museum. He founded the Edward E. Ayer Ornithological Library which constitutes one of the largest and most important units in the Museum Library, and comprises several thousand volumes. So far as is known, only two other complete sets of the original Audubon edition are owned in Chicago.

The remainder of the Library's special exhibit, which occupies three cases in Stanley Field Hall, consists of a number of very old and valuable books containing the records of early explorers, naturalists, and pioneers in scientific endeavor. Chiefly they represent works published in the sixteenth and seventeenth centuries in Great Britain, France, the Netherlands, Venice (then an independent state), and Germany. Contrasted with these in the exhibit are also a few volumes of representative modern scientific works. One of the oldest books is *Histoire Naturelle d'Oiseaux*, by Pierre Belon, published in 1555. Others of outstanding interest are Pliny's *Natural History* (1669), botanical works entitled *Herbals* (16th century), and a book of early travel by Guglielmo Piso (1658).

As was pointed out by Mr. C. Martin Wilbur, Curator of Chinese Archaeology and Ethnology, in FIELD MUSEUM NEWS (October, 1939, p. 4, in an article on ancient Chinese type characters presented to the Museum by Mr. Thomas E. Donnelley of Chicago and now exhibited in Hall 32), the Chinese invented metal type cast in molds at least half a century earlier than it appeared in Europe. But this does not contradict the validity of the Gutenberg celebrations, for the European and Chinese inventions, while in their basic essentials duplicating each other, were produced independently, and without influence one upon the other. It was purely a historical coincidence which Mr. Wilbur aptly explained in these words: "A common knowledge of certain preliminary essentials for printing, such as paper and block printing, together with similar needs in the two cultures, seem to have produced similar results thousands of miles apart within the same century."

METEORITIC IRON IN WEAPONS OF EAST INDIAN TRIBES

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Meteorites, as "our only tangible source of knowledge regarding the universe beyond us," have always been especially prized by naturalists for their scientific worth. Other people have valued meteorites for reasons connected with superstitions or religions, and still others have fashioned a variety of utilitarian articles from them.

The people inhabiting certain parts of the Netherlands East Indies have used the metal of meteorites in the manufacture of the type of weapon known as the *kris*, a peculiar sort of dagger. Meteoritic iron was used together with terrestrial iron, and appears to have served not only the purpose of making a stronger blade, but also of adding certain symbolic and decorative qualities to it. Not all krises contain meteoritic iron, for the metal is rare.

Krises containing meteoritic iron are characterized by elaborate designs on the blades. The designs resemble inlays, but are produced by an entirely different process. They often have the appearance of contour lines, and in some cases they truly are contours of the surface of the blade. The pattern on the blade is called *pamor*, a native word. Meteoritic iron is called *pamor*-iron and a kris made of this material is known as a *kris-pamor*.

The art of making the *kris-pamor* seems to be a modification and an improvement of an ancient method of working iron which has been widely used throughout certain portions of the East. Long ago, the people of those regions discovered that better blades could be made by hammering small pieces of iron into long, thin plates which were then stacked up and welded together by repeated heating and hammering, an improvement on the older method of fashioning a blade from a single large lump of iron.

The people of Java and Bali, capitalizing on the fortuituous falls of several meteorites, began to intercalate plates of meteoritic iron among those of the terrestrial material. When the blade had been shaped and smoothed it was stained by treatment with an arsenic compound, which colored the terrestrial iron a rich, velvety black, but which left untouched the parts of the blade composed of meteoritic iron. The meteoritic iron, by virtue of its high content of nickel, acted like a modern stainless steel and remained bright. Thus the bright "contours," which are the exposed edges of the plates of meteoritic iron, were produced. The most primitive blades show only patches of bright (meteoritic) iron on the gray terrestrial metal, but as skill in the art of making *pamor* increased, the most intricate patterns were produced, many of which have special symbolic significances.

Pamor is frequently imitated, and some krises which have *pamor*-like patterns on their blades are found, upon examination, to be decorated with a sort of silver damascene. Ridging of the blades by pure smith work is often resorted to as a means of producing imitation *pamor*, and, since their introduction by Europeans, nickel and nickel steel are often used to make *pamor*. In many instances the imitations are so cleverly made that only an expert can distinguish them from the genuine article, and *pamor* made with modern alloy steels can be distinguished, if at all, only with the greatest difficulty. In modern times, Dutch officials have had krises made of ordinary steel and nickel-steel alloys. In some of them as many as 300 plates of alloy steel were used to produce elaborate patterns.

The metal for these interesting weapons came from several meteorites which fell upon Java. The natives broke up the stone meteorites, which always contain quantities of free metal, and gathered the metallic particles; but they had more trouble with the iron ones. They managed to obtain pieces of the iron meteorites by heating them to redness and hammering off sizeable chunks of the highly-prized metal. Natives who possessed the sources of the metal received rather large prices for their goods, meteoritic iron selling for from 2.5 to 10 guilders (about $1 to $4) per *réjal*, a native unit of weight approximating one ounce.

The Prambanan meteorite, an iron one, fell about 1785 near the town of that name in Java. Search by the natives disclosed two masses of meteoritic iron which were brought to the Kraton of Soerakarta. From time to time pieces were removed until by 1865 nothing remained of the smaller individual. In 1866 a mass of the larger individual, weighing 250 grams, was brought to the Netherlands, and of this Field Museum possesses sixteen grams. The Museum also possesses specimens of the Tjabe, N'gawi, Bandoeng and Djati-Pengilon stone meteorites, all of which fell upon Java. These meteorites may have been partially destroyed to furnish metal for krises.

Excellent examples of the *kris-pamor* may be seen in Case 59 of Hall G, Department of Anthropology, while specimens of the above mentioned meteorites are on display in Hall 34, Department of Geology.