

FISH AT JEMDET NASR AND KISH

By HENRY FIELD

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Copper fishhooks have been found at Jemdet Nasr, which lies eighteen miles northeast of Kish, by the Field Museum-Oxford University Joint Expedition to Mesopotamia. These fishhooks are large, have well-defined barbs, and undoubtedly were used to catch large fish in the river Euphrates, which flowed past this city more than fifty-five centuries ago.

The rivers Euphrates and Tigris have continually shifted their beds and have cut new channels from time to time. The present fish in these rivers run up to fifty or sixty pounds in weight, and a large hook of similar dimensions to the ancient ones at Jemdet Nasr is now used by the modern Arab fisherman.

At both Kish and Jemdet Nasr numerous stone weights have also been found which are presumed to have been net sinkers or weights with which to keep the fishnets below the surface of the water.

The present primitive methods employed by the Arabs reflect the arts and crafts of their racial ancestors, who developed at Kish the first great civilized site in the world.

In one of the small rooms of a building, dated by inscriptions at about 3500 B.C., a stratum containing fossilized fish was discovered. This suggested the possibility that the river Euphrates overflowed its banks at this time and carried numbers of small fish into this room. The water quickly receded and left the fish in a fine silt, to be finally buried beneath thirty-two feet of earth formed by the concentrated ruins of two superimposed cities.

Specimens from this stratum were shipped to Field Museum and have been studied in detail. Although the fish remains are numerous, they represent only three or four genera, conspicuous among which are bones of fishes belonging to the family Cyprinidae, a family with many genera, of which the carp, goldfish and minnows may be mentioned as examples.

A MAJOR OPERATION

By BERTHOLD LAUFER

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In this time of reductions, when the weight of ladies, income, wages, and almost everything except taxes is reduced, the following story may merit rescue from oblivion.

Although the incident is posted on a label explaining an exhibit at the north end of the East Gallery (George T. and Frances Gaylord Smith Hall), many visitors to the Museum may have missed their chance to read a curious story. The exhibition case in question contains a single large monument—a huge turtle sculptured from stone as the support of a tablet inscribed in Chinese. This turtle has been in existence for exactly 1,190 years.

In 1908 when traveling in China and Tibet on behalf of Field Museum, I spent several months at Si-an-fu, the center of the ancient Chinese civilization. One day this turtle was carried into my courtyard by four men of herculean physique. It is carved from a solid block of stone, and it then weighed about 1,200 pounds. Immediately the thought of the cost of its transportation to Chicago loomed in my mind and was a source of great concern to me.

Five hundred large boxes filled with numerous antiques had already accumulated as the result of my treasure hunts, and were awaiting transportation on mule carts to Honan-fu, the nearest railroad center (present seat of the Chinese government).

It was a journey of from eight to ten days (depending on weather and road conditions) to reach that point. The normal freight rate at that time was \$8 per cart, but unscrupulous speculators took advantage of my situation and drove the price up to \$18, intimidating the muleteers, who were kept away from me. It took two weeks of negotiations to break this conspiracy, and little assistance was received from the local government, which was powerless against these racketeers.

The turtle therefore had to be reduced in weight to save expenses, not only in transportation on the mule carts, but also in railroad freight from Honan to Hankow, in steamer freight on the Yangtse from Hankow to Shanghai, and finally on the ocean steamer from Shanghai to Seattle. I hired two stonecutters who for three weeks operated on the turtle, pounding on its belly, boring into its interior and hollowing its entrails out, removing masses of superfluous stone to the extent of 460 pounds. This reducing process resulted in a saving of several hundred dollars in the cost of transporting it to Chicago.

Although now reduced to 740 pounds, the good turtle has not changed its appearance or equanimity. It still is as complete, robust, and steadfast as before. According



Stone Turtle

Nearly 500 pounds were removed from its interior to facilitate transportation from China to Field Museum, where it is now exhibited.

to Chinese belief, the turtle is an emblem of longevity, strength, and endurance, and is reputed to reach an age up to three thousand years.

FLOAT COPPER

By OLIVER C. FARRINGTON

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A mass of copper weighing seventeen pounds was recently presented to the Museum by Carl Pickhardt of Chicago who found it in a field near Columbus, Wisconsin. This specimen, an example of what is known as "float" copper, does not occur in mines but is found in soil or gravel, and is widely distributed through the middle-western states. Float copper, aside from its intrinsic value, provides excellent material for study in connection with the subject of glaciers and glacial movements. It is of interest also as a source of metal which was used by the Indians in various manufactures.

The principal source of float copper is a relatively small area in northern Michigan known as the Keweenaw Peninsula, where eruptive rocks or conglomerates contain large quantities of pure copper in the metallic form. Though it has been mined by white men there for nearly a century, much still remains. In this area originated the copper nuggets or boulders found in Minnesota, Wisconsin, Iowa, Illinois, Indiana, lower Michigan, Ohio and as far east as Pennsylvania. The agent of distribution was the continental glacier or series of glaciers which swept over the northern United States in geologically recent times. The resistless

movement of these glaciers carried along many rocks of the regions traversed, including masses of copper from Keweenaw Point. These masses were deposited when the ice melted. As the glaciers moved southward they spread out east and west, which accounts for the distribution of the copper.

One of the largest masses of float copper ever recorded was found at Smithfield, Illinois, in 1927. This mass was nearly five feet by three feet by six inches in dimensions, and weighed more than 1,600 pounds. The glacier had carried it about 500 miles. Masses have been reported also about 100 miles farther south, at Effingham, Illinois. Nearer the source of the copper, larger masses have been found. One in the bed of the Ontonagon River in Wisconsin is said to have weighed about 6,000 pounds.

The Museum possesses a number of typical boulders, the largest of which weighs 372 pounds. This is from Marquesas, Wisconsin. Another mass in the collection, weighing 101 pounds, was found in Kalamazoo, Michigan; a smaller one was obtained from Allegan County, Michigan. The boulders occurring in southern Michigan must have been moved across the bed of Lake Michigan before reaching their place of deposit. Nearly all of them show the effect of the rolling and pressure to which they were subjected during their transportation by the ice. They are usually smoothed and rounded and often show grooves or striations made by their passage over other rocks.

Owing to their long burial the boulders are generally covered with a green coating of carbonate of copper. This is the same as the patina often seen on fabricated copper objects that have been buried. Such an unusual green color often leads to their discovery. In places where corrosion is extreme, many boulders may have been decomposed. As a rule, however, the surface markings are so well preserved that even small glacial scratches are retained. The copper boulders usually differ in form from glaciated stone boulders. Since copper is both ductile and malleable its masses are deformed by the immense pressure of the ice much as they would be if they were passed between rollers. Consequently, their shapes are thinner and wider than those of the stone boulders.

The widespread occurrence of the copper boulders affords a means of tracing the directions of glacial movement and furnishes additional proof of the former existence of glaciers in this region. In the original deposit, the copper is accompanied by some silver, and some small masses of silver which have been glacially transported from the parent ledge have been found near Chicago.

To the early Indian inhabitants of this region, this easily available source of pure, malleable metal provided material for making implements, ornaments and many other objects.

Venezuelan Expedition Completed

Emmet R. Blake, who has been making zoological collections in Venezuela for Field Museum, was on his way back to this country at the time of going to press. He was the last member of the Leon Mandel-Field Museum Expedition remaining in the field. A large and satisfactory collection of the fauna of the territory covered has been obtained, according to a cabled message from Mr. Blake.

In number of falls represented, Field Museum has the world's largest collection of meteorites.



Farrington, Oliver C. 1932. "Float Copper." *Field Museum news* 3(5), 3-3.

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