

World music, Miss Densmore disclaims any intent to theorize on the Indians' past. She is merely presenting facts, which may have significance.

From an authority on Oriental music, Miss Densmore learned that Japanese got the idea of raised pitch in war singing

from Chinese priests, who brought it from India in the seventh century. If Pueblo ancestors got the idea from a common source—or invented it—in the Old World, that must have happened far earlier. Pueblos were well established in the Southwest by that time.

GEOLOGY

Iron Masses Under Meteor Crater Shown Magnetically

Modern Prospecting Method Indicates Presence of Five Deeply Buried Fragments of Original Projectile

SCIENTISTS now have real evidence, for the first time in over 30 years of exploration, that there exist beneath Arizona's famed Meteor Crater large masses of what well may be parts of the giant meteor itself. Despite the name of the baffling giant pockmark in the earth's crust, scientists have not always been sure of this fact.

Yet scattered tiny surface fragments indicated that a meteor, containing 92 per cent. iron and 8 per cent. nickel, probably struck in that spot. And the veritable treasure of a tremendous deposit of almost pure iron buried beneath was an economic incentive which has attracted mining engineers to the spot.

Electrical Prospecting

New measurements, by electrical prospecting, have disclosed five giant masses of magnetic material—probably iron—lying 1,200 feet beneath the crater. Hans T. F. Lundberg, Canadian geologist, told of his discoveries at the recent New York meeting of the American Institute of Mining and Metallurgical Engineers.

Recurrently, through the years, drilling operations have sought to strike the supposed underground iron deposits which would bring wealth to the finder. But the fractured underground rock structure and swift currents of underground water hampered the work. Indeed, in 1931, drilling at the site was abandoned and geologists were about to place the mystery of the crater's origin among the unsolved problems of science.

Mr. Lundberg's new technique was to plot the area for more than a mile around the crater for its magnetic variations. If large masses of magnetic materials were buried deep underground

they would produce magnetic anomalies in the observable magnetic field. Systematically plotting the whole area, Mr. Lundberg finally detected two anomalies directly under the crater and three others slightly south of it.

To explain previously the absence of large masses of the meteor geologists have suggested that the great meteor blasted out the crater and then—when it struck water underground—exploded into small fragments which were scattered about the neighboring region. Now, however, it appears that at least five large parts escaped this explosion and have penetrated to great depths.

Further electrical prospecting, suggests Mr. Lundberg, may now make it feasible to plan the exploitation of these rich iron deposits. Such prospecting would particularly seek to fix the paths of the underground streams hampering mining operations.

Indirect Approach

It might be best to sink a shaft away from the crater itself and then—at the proper depth—make a horizontal drift into the iron masses. Such drift operation is easier in water-carrying ground than is shaft sinking, says Mr. Lundberg. Work of this nature has been accomplished elsewhere by new sealing methods. "Is is now hoped," he adds, "that by this method the long searched-for meteor will be reached and the mystery of Meteor Crater solved."

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Beaver hats aided in exploration of America—the search for beaver pelts to make these fashionable hats led trappers and traders into various wilderness regions.

PHYSICS

New Swedish Process Freezes Salt From Ocean

SWEDEN has no salt and no fuel; the latter fact being significant because one can evaporate salt water if an abundance of fuel is at hand for a fire. Yet Sweden has an abundance of hydroelectric power and thereby has one key with which to unlock the doorway which guards the salty waters of its majestic fiords.

Sweden is now building an experimental factory on Gullmar Fiord in which salt will be produced by freezing. The U. S. Bureau of Mines reports that Gullmar Fiord contains a very high percentage of salt in its waters. At the experimental plant this water will be frozen by the abundant electric power in mechanical freezing units and a very concentrated salt solution thus obtained. This salty brine is then evaporated by heat, but much of the work of getting the final salt crystals has already been done by the freezing.

Science News Letter, February 26, 1938

EVOLUTION

Animals of Cooler Regions Larger Than Warm-Land Kin

SCIENCE now provides support for the common observation that races living on mountain heights or in northern latitudes are on the whole larger than those living at low levels and farther south. This opinion, usually held only as regards human beings, is extended to include animals as remote from man as birds and insects, in studies made by Prof. Theodosius Dobzhansky of the California Institute of Technology.

Prof. Dobzhansky bases his conclusions both on studies of specimens collected in the field and on the growth of a number of different kinds of organisms in the laboratory.

Races of mammals inhabiting cooler regions, although they may be in general larger, have shorter body appendages (tails, legs, ears) than races of the same species from warmer regions. Among birds the same is true for the relative lengths of beak, legs, and wings. Races of mammals and birds and some invertebrates living in cooler climates are larger in body size than races of the same species in warmer climates. In mountain countries races from higher elevations are larger than those from the lower ones.

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