ARCHAEOLOGY

Find Hand and Foot Bones

➤ THE FIRST BONES of a foot and a hand of earliest man have been excavated at Olduvai in Tanganyika, East Africa.

Dr. L. S. B. Leakey of the Coryndon Museum, Nairobi, Kenya, reported in Nature, 188:1050, 1960, that he found the fossil remains of a large part of a left foot, six finger bones, fragments of a skull, some teeth, two clavicles and two ribs.

The find was made close to the spot where Dr. Leakey in 1959 discovered the first remains of the Nutcracker man, or *Zinjanthropus boisei,* a primitive man who lived more than 600,000 years ago.

That Nutcracker man was a true man seems certain from the presence of tools found with his remains. Included in the new find were remains of animal fossils, many of them new to Olduvai and believed by Dr. Leakey to be new to scientists.

The presence of a remarkable tool for working leather indicates that this early man possessed a certain amount of culture and ingenuity.

Dr. T. Dale Stewart, physical anthropologist of the Smithsonian Institution, told SCIENCE SERVICE that if a complete hand can be found, it may throw some light on whether man's ancestor was closer to the apes or the monkeys.

The apes generally have long, straight hands whereas the monkeys have broader hands. The hand of early man would indicate to some degree the stage of man's hand development, Dr. Stewart said.

The brain's evolution was influenced by the use of the hands. As man began to walk upright and did not use his hands to support his body, his hands were free to make useful things. The brain responded and developed as a result.

A rudimentary form of speech, developed by early man, possibly speeded up toolmaking and cultural pursuits. Dr. Stewart said that the early man Dr. Leakey had discovered very likely possessed such a rudimentary form of speech.

Dr. Stewart added it is now known that man's upright posture preceded his large brain. The foot of the man just found would indicate what stage of adaptation to walking upright this man had made. It has already been established from the skull of the Nutcracker man that he walked upright.

The foot and hand of an individual will also give a clue to his stature, his height and overall size.

• Science News Letter, 79:23 January 14, 1961

GEOLOGY

Drilling Equipment for Mohole to Be Tested

➤ A DEEP-SEA drilling program beginning in March will test equipment and techniques for probing the secrets of the mantle underlying the earth's crust.

The National Science Foundation and the National Academy of Sciences-National Research Council reported the program is part of the Project Mohole, whose purpose is to drill through the earth's crust to determine what material lies deep in the solid earth.

Test site for the preliminary drilling is near Guadalupe Island, off the western coast of Mexico, in 12,000 feet of water. Prior drilling in water has been confined to the relatively shallow depths of the continental shelf. If the first hole is successful, several additional holes may be drilled to obtain more operating and scientific data needed for the further planning of Project Mohole.

A contract for the test drilling has been awarded to Global Marine Exploration Co. of Los Angeles, Calif.

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PHYSICS

Nobel Prize Winner Plans New "Atomic Time Clock"

➤ THE "ATOMIC TIME CLOCK" technique can be made to measure the age of matter 200,000,000 to 300,000,000 years old, Nobelist Willard Libby of the University of California, Los Angeles, believes.

His present "atomic time clock," for which Dr. Libby won the 1960 Nobel Prize in Chemistry, uses radioactive carbon-14 to date any organic matter that lived within the last 50,000 years, from the trees of the Ice Age to the linen wrapping of the Dead Sea Scrolls.

By experimenting with new chemical elements and techniques, Dr. Libby hopes to develop dating methods that could shed light on the "dark times" between 50,000 and 200,000,000 to 300,000,000 years ago.

Headquarters of the research project will be isotope laboratory of the Institute of Geophysics and Planetary Physics on the UCLA campus. A radiocarbon dating apparatus is being set up with the support of the National Science Foundation.

Dr. Libby plans to study the application of present dating techniques to other than organic matter. He expects to develop new techniques for extending the present 50,000-year clock, to use tritium to trace the age and sources of water supplies, and to measure radioactive fallout to gain a clear picture of how air circulates and mixes in the stratosphere.

• Science News Letter, 79:23 January 14, 1961

MINERALOGY

Man-Made Diamonds One-Carat Size Produced

➤ LARGE, man-made diamonds, more than a carat in size, have been produced for the first time. The diamonds are dark in color and cannot now be used for industrial purposes because of structural imperfections.

They were made at the General Electric Research Laboratory, Schenectady, N. Y., where the first man-made diamonds were also made.

Small man-made diamonds have been perfected to the point where they are superior to natural diamonds for many uses. These small diamonds are used for cutting, grinding and polishing.

Industry uses carat-size diamonds for drills, dressing tools, dies and single point cutting tools.

The major source of natural diamonds is the Congo.

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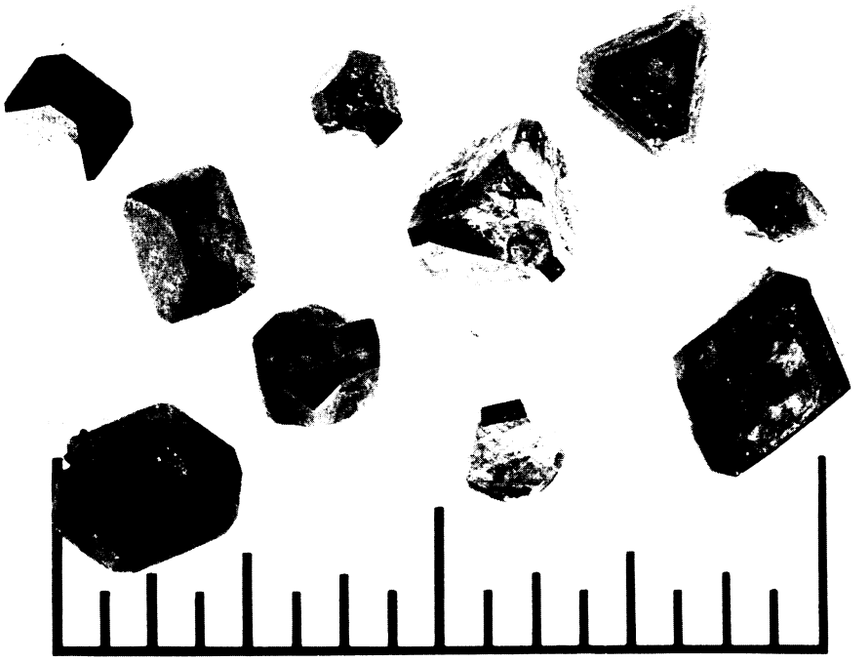

FIRST CARAT-SIZED MAN-MADE DIAMONDS