



DIG BY ELECTRICITY—Dr. Matthew W. Stirling (seated), research associate of the Smithsonian Institution, operates resistivity equipment in Mexico.

ARCHAEOLOGY

Explore by Electronics

► AN EXPERIMENT in archaeological exploration with earth resistivity equipment, generally used by highway engineers for determining subsoil conditions, has just been completed in Mexico.

Dr. Matthew W. Stirling, research associate of the Bureau of American Ethnology of the Smithsonian Institution, Dr. Froelich Rainey, director of the University Museum, University of Pennsylvania, in Philadelphia, and Matthew W. Stirling Jr. report in *Expedition*, 2:19, 1960, on the work done in the region, Cerro de las Mesas, 40 miles south of the city of Veracruz.

This region contains large groups of man-made mounds. It is apparent from the sizes of the mounds and the amount of labor that went into building them that this area was one of the most densely populated and highly civilized in the New World more than a thousand years ago.

The instrument used by the archaeologists in their explorations, the Michimho, is an earth resistivity instrument manufactured by Associated Research, Inc., in Chicago. It measures the electrical conductance of the soil to a depth of about 90 feet. It is portable and weighs 25 pounds.

The Michimho is connected by four wires to four metal pins driven into the ground at equal intervals along a straight line.

An alternating current passes between the two outer pins and a voltage is thereby induced across the two inner pins giving a measure of the average electrical conductance of the soil between these two pins to a depth equal to the space between them.

If the pins are set three feet apart the average conductance of the soil is measured between the two inner pins from the surface to a depth of three feet.

The scientists first tested the instrument

on some stone monuments found in 1941 that had been reburied. These were used because it was known that solid stone has practically no conductance, and this should register on the instrument.

After taking readings, both around the monuments and away from them, the scientists found that the buried stone monuments did give a lower conductance reading. However, the difference in the readings between spots close to the stone and away from the stone varied as the pins were moved closer together or farther apart.

After hundreds of measurements, the authors state there is no conclusive proof of the method. Although many objects were found, others may have been missed. However, given a large enough mass of stone and the most favorable spacing of the pins, it is certainly possible to locate such objects.

Although the purpose of the work was to test the resistivity equipment, some archaeological finds were made. Artifacts in the form of offerings were found in the trenches dug by the scientists in the mounds.

In many of the trenches, burials were found without accompanying materials as if the burials themselves were offerings. This seems to confirm the belief, suggested by earlier finds on the site, that human sacrifice was practiced by the ancient people who built the mounds.

• Science News Letter, 78:215 October 1, 1960

SOCIOLOGY

Bleeders' Long Life Span Creates Social Problem

► INCREASING the life span of hemophiliacs has created social problems for these victims of "bleeders' disease."

This is pointed out by Dr. Alfred H. Katz of the University of California at Los Angeles Medical School. Dr. Katz has just received a \$24,357 grant from the Office of Vocational Rehabilitation for a study of these problems.

A generation or two ago the majority of hemophiliacs did not reach adulthood. But modern techniques of transfusion and use of blood derivatives have made it possible for most of them to live to adulthood and thus be faced with the necessity of earning a living.

Many young adult hemophiliacs do not have sufficient education or specialized training to give them stable occupation because of broken schooling from their illness. However, hemophiliacs can be trained to hold jobs that do not involve great physical exertion or hazards.

Dr. Katz will make a nation-wide survey of the vocational situation of hemophiliacs, the types of positions they have been able to hold, employer attitudes, special arrangements for medical care, transportation and other practical problems.

"Our aim is not only to make it possible to train more hemophiliacs for employment through state vocational rehabilitation services, but to induce employers to make more effective use of this pool of manpower," he says.

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SOCIOLOGY

Juvenile Delinquents Have Values of Adults

► THE VALUES that often govern the adult world may in reality be the same as those of juvenile delinquents—even though the latter may commonly be pictured as rebels against society.

Three major values seem to underlie the behavior of juvenile delinquents, says Dr. Gresham M. Sykes, a criminologist and sociologist, from Dartmouth College, currently a visiting professor at the University of California, Los Angeles.

They are: adventure, the search for kicks; exploit, a contempt for work coupled with a taste for luxury; and aggression, a forceful toughness as a symbol of manhood.

The same values have traditionally made up the code of the aristocratic leisure class, Dr. Sykes believes. As the enjoyment of leisure has spread to the rest of the population, and work has lost much of its status as a calling, the "aristocratic" values have been accepted by much of our entire society.

Adventure, exploit and aggression are not part of society's official and respectable code, but these "subterranean values," as Dr. Sykes calls them, play a large if unpublicized role in the American value system.

Most adolescents, whether wealthy or not, are members of the leisure class, freed from the earlier domination of parents but not yet working or married. Juveniles are therefore particularly apt to adopt leisure class values, although whether these values will lead to delinquency will depend to some extent on their living conditions and attitudes toward work and school.

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