

ARCHAEOLOGY

U.S. History Preserved

THE ANCIENT history of the United States is being preserved and will "not disappear forever from the face of the earth."

This saving of irreplaceable treasures results from a cooperative program of Government, scientific and construction agencies, supported by Congress, Dr. J. O. Brew, director of Harvard University's Peabody Museum, reported to the American Philosophical Society meeting in Philadelphia.

Population growth all over the world, he said, has always been a threat to the preservation of historical and archaeological items. For thousands of years, civilizations have wrecked the buildings of previous generations to make way for "modern" structures. Athens, Rome, Cairo, Damascus and New York, Dr. Brew said, have all seen this process.

However, to meet the threat resulting from the unprecedented rural and urban developments of the 20th century, the idea of salvage archaeology developed. Since not all old buildings, information or artifacts can be saved, the idea of salvage archaeology is to survey and record. Carefully planned, Dr. Brew reported, this does not impede progress, and occasionally an alternative route for a road or dam will be found to save a threatened monument.

In 1945, a group of archaeologists realized the tremendous amount of destruction to result from the river basin projects of the Bureau of Reclamation and the Corps of Engineers. The cooperative program developed to meet this threat resulted in "noteworthy and exciting" increases in knowledge of the prehistoric and historic past, Dr. Brew said.

Information previously unknown is available through this program, which is now far more than a rescue operation to save individual sites and buildings. Geologists, paleontologists, botanists and zoologists have joined with archaeologists and historians to produce ecological studies of major river valleys in the U. S. Physical scientists have aided with their new dating methods.

"Many fields of knowledge are, therefore, bringing their resources to bear to make the program a truly interdisciplinary one and to insure that the historic record does not disappear forever from the face of the earth," Dr. Brew concluded.

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Law Covering Sensations

WHEN LIGHTS, sounds and skin vibrations vary in strength, the resulting sensations go up or down in apparent intensity, but not in the same proportion. New methods for measuring these resulting sensations were reported to the American Philosophical Society meeting in Philadelphia by Dr. Stanley Smith Stevens, Harvard University psychology professor.

He discovered his law by having various persons make personal estimates of the ap-

parent degree of differing sensations under controlled conditions. First, experimental subjects were asked to adjust the intensity of a sound to make its loudness seem as strong as a vibration applied to the fingertip. When the vibration was changed, it was found that the apparent loudness grew more slowly than the apparent force of the vibration, if the two sensory stimulations were increased at the same rate.

Dr. Stevens has shown that his new law, demonstrating that sensations are a power not a logarithmic function, holds in some two dozen cases.

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PSYCHOLOGY

High Grades for Students Who Cry Peeling Onions

ANSWERS to such questions as whether onion-peeling brings tears to the eyes are clues to a student's grades, tests indicate.

Two Michigan State University psychologists, Gerald L. Hershey and Dr. Henry C. Smith, chose 200 out of 1,000 items from various personality tests and gave them to 110 male students.

From the answers they picked 38 questions that showed relationship to the students' grades rather than to intelligence. The 38 questions were then given to 140 other male students. The answers showed great relationship to these students' grades and practically none to intelligence.

When having to respond to the statement,

MEDICINE

USSR Medical Research

IN RUSSIA, the medical problem that gets the most attention is surgery of heart vessels and nerves.

Next in line, in order of their importance, are cancer, immunity to tissue transplants, infectious diseases and streptococcus infections, poliomyelitis, influenza and viral pneumonia, industrial diseases, aging processes including atherosclerosis, growth and development, radiation and leukemia.

Col. Joe M. Blumberg of the Armed Forces Institute of Pathology told the annual meeting of the International Academy of Pathology in Memphis, Tenn., that during his recent trip to the Soviet Union, he found the Russian medical facilities poor by our standards, even when newly built.

Some medical installations are in converted religious buildings, such as monasteries, he said. However, all essential laboratory equipment is available, either manufactured in Russia or imported from the satellites, western Europe and the United States. Some equipment, he said, is not generally available in the U.S. Examples cited are new tissue slicers that use refrigerant gas to freeze the tissue, and a two-

"I rather often do worse at things than I expected to do," the students with good grades usually answered "false." Such statements as "Peeling onions very quickly brings tears to my eyes," and "I do not like to see women smoke," both brought the answer "true" from good students.

Since the relationship of personality to grades may differ between men and women, the test was developed for one sex only, males.

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CHEMISTRY

Manipulators Operate Radiochemistry Facility

See Front Cover

A MILLION-DOLLAR radiochemistry facility will make it possible for scientists to work with larger quantities of highly radioactive materials than before. Master-slave manipulators, like the one operated by Dr. J. L. Green (right), will lift 50 pounds vertically.

Located at the Atomic Energy Commission's Hanford laboratories, the radiochemistry facility was built by General Electric and will soon be in operation.

As larger amounts of material will be used, more conclusive results for chemists in the study of atomic waste treatment and recovery of fission byproducts, which have potential uses in medicine, agriculture and industry, are expected. Experiments in reprocessing of spent fuel will also be undertaken.

Other scientists in the picture on the cover of this week's SCIENCE NEWS LETTER are Dr. E. J. Wheelright (left) and J. C. Gibson.

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headed microscope that permits simultaneous examination of two slides at the same time.

The intellectual ability of top Russian medical scientists, three-fourths of whom are women, is "excellent," Dr. Blumberg said. After ten years of pre-college education and six years in a medical institute, a Russian doctor is ready to practice medicine at the age of 22. This is the age at which many U.S. students enter medical school, he pointed out.

Ninety-five percent of the 16,000 doctors graduated each year remain in practice in the hospitals, dispensaries and institutes that are part of the USSR socialized medicine. The remaining five percent go on to become specialists after about six more years of work and study.

To provide an abundance of experimental animals for research, the Soviet Government has established large colonies of baboons and rhesus monkeys. Research conducted on these animals include studies in genetics and effects of radiation, hardening of the arteries and of coronary attacks.

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