

ARCHAEOLOGY

Save U.S. History

Just as in Egypt, archaeologists in the United States, to preserve treasures of the country's history, are excavating sites soon to be covered with waters of great reservoirs.

► **ARCHAEOLOGISTS** are working to save U.S. history from the floodwaters of modern dams.

As international teams of scientists are trying to save Egyptian treasures from the floodwaters of the Nile that will be created by the Aswan Dam, so here in America teams are surveying and excavating the sites of primitive North American peoples that will soon be covered with the waters of great reservoirs.

The river basin salvage program of the Smithsonian Institution's Bureau of American Ethnology has located more than 5,000 sites of primitive man in flood-threatened areas from Virginia and Georgia to the Far West.

The sites "represent the whole range of such remains" in the United States, Dr. Frank H. H. Roberts, director of the bureau, said. Photographs and drawings will record the contents of camping grounds, rock shelters, caves, burial grounds and battlefields.

Some of the sites are as old as 9,000 years, while others are as recent as the 18th century. Dr. Roberts said they give a period-by-period story of the Indian devel-

opment and later white expansion.

The main finds are pottery, bone and stone tools that preserve a record of the ways of those using them. Some skeletal remains have been found, Dr. Roberts said, which will indicate the physical characteristics of the primitive groups.

Pictographs, or drawings in stone, are associated with many of the sites. Other than moving some boulders in the Columbia River, Washington area, Dr. Roberts said there are no plans to save the primitive stone artistry.

Unlike the solid, permanent monuments of the Aswan Dam area in Egypt, the fragile remains of former villages and camping grounds cannot be moved. However, the implements from the sites are removed and a representative collection is deposited in local museums as well as in the National Museum of the Smithsonian Institution.

This summer, Dr. Roberts said, the work will be concentrated in the Missouri River basin where the water will soon be rising.

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General Dynamics

FUTURE SPACE PILOTS—Latest class of Air Force pilots training for space flight at Edwards Air Force Base, Calif., is shown during briefings at General Dynamics/Astronautics, San Diego, which included inspection of a manned space station simulator (background). The pilots are, left to right, Capt. Alfred L. Atwell, Capt. Francis G. Neubeck, Capt. James A. Roman, Capt. Charles A. Bassett, Capt. Edward G. Givens Jr., Capt. Michael Collins, Capt. Joe H. Engle, Capt. Neil R. Garland, Maj. Tommy D. Benefield, and Capt. Alfred H. Ubalt Jr. The group, all top-rated test pilots, has concluded a seven-month training course in space flight for such programs as the Dyna-Soar or other types of orbital aircraft.

PHYSIOLOGY

Brown Fat May Be Key to Space Survival

► **CLUMPS** of brown fat, which some scientists have referred to as "hibernating glands," may be the key to man's reach for the stars.

Dr. Robert E. Smith, University of California, Los Angeles, Medical School physiologist, has reported recent discoveries concerning this specialized tissue found in animal hibernators and in humans.

"The hibernation of man in space voyages outside the solar system," he pointed out, "may play a vital part in problems of survival."

Brown fat is a specialized tissue described by Dr. Smith as a small, thermostatically controlled furnace in certain animals. It appears to be a key to survival in cold-exposed rats and in hibernating animals.

Two years of research have revealed important details of brown fat's role in hibernation. Associated with Dr. Smith in the study was Dr. Raymond J. Hock of the University of California High Altitude Station on White Mountain.

It was found that when hibernating mammals are exposed to plunging, below-freezing temperatures, brown fat is triggered to produce heat. Blood vessels passing through or adjacent to these brown fat "furnaces" carry the warmed blood to the upper spinal cord and organs of the chest.

All this apparently results in arousing the animal by warming the heart, lungs and nervous system to the point where such mechanisms as shivering are brought into play. The end result is generation of enough heat throughout the body to protect the animal from freezing and presumably to permit it to move into a more protected location.

Since brown fat is found in man as well as in natural hibernators, the implications of its role in possible human hibernation is intriguing, Dr. Smith concluded.

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SPACE

New Astronauts to Be Recruited This Summer

► **TEN TO 15** new astronauts will be recruited this summer. The National Aeronautics and Space Administration has announced that it is inviting applications from qualified persons, including civilians.

The new group of astronauts will be the third since the United States inaugurated the manned space program. In addition to the original seven astronauts, the Federal space agency is now training a group of nine, of whom two are civilians.

Candidates must be 34 years of age and have engineering or physical science degrees and have at least 1,000 hours of time behind jet controls or be qualified experimental test pilots. However, NASA is seeking ways in which scientists can be included in the Apollo moon mission and is encouraging civilian applications.

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