

ARCHAEOLOGY

# Archaeology For the Future Now Being Sealed in Crypts

Representative "Samples" of the Twentieth Century  
Expected to be Dug up Thousands of Years Hence

**C**CHEER UP! If our civilization is wiped out after a while, all will not be lost.

Any number of efforts are being put forth to make sure the future knows all about us. For instance—

A "Time Capsule" with more surprises than a Christmas stocking for its future discoverers is being prepared by the Westinghouse Electric and Manufacturing Company for burial on the site of the New York World's Fair of 1939.

## Records and Gum

In Atlanta, Ga., Oglethorpe University is working hard to pack a crypt of civilization. It is to be a veritable museum of our times, for future explorers to open. It will contain an assortment of goods ranging from phonograph records to chewing gum, and, of course, books and documents and sound records to explain who we were and the interesting things we did.

Another sort of record making is in progress out in the South Dakota hills, where Gutzon Borglum is carving his giant portraits of Washington, Jefferson, Lincoln and Theodore Roosevelt on Mount Rushmore. If future heirs of America can't make anything of our millions of books and our gadgets and funny writing, they will be impressed anyhow by these great stone faces.

Most people feel awestruck looking at heroic statues of Egyptian pharaohs, but they are pigmies compared to Borglum's American heroes. A stone worker drilling at the head of Theodore Roosevelt—now being carved—is a mere fly on the nose of the stone face.

Westinghouse's "Time Capsule" is a copper alloy tube seven feet two inches in length and eight inches in diameter. Buried 50 feet underground, it is supposed to lie there untouched until our busy civilization has worn itself out and the scientifically eager people 5,000 years from now come across the directions for finding this buried story of us. It will contain records, many of them on microfilm, showing our culture.

To make sure they don't miss this nice problem in scientific detection, the

"Time Capsule's" buriers are working out a book durably printed and bound telling where it may be found. The book will contain a language key, something like the Rosetta Stone, in case the discoverers don't know plain English. Given the same piece of writing in an assortment of languages, future scholars ought to find one inscription they can read. We hope we won't be deadier than that.

The book is to be turned out in an edition of several thousand copies and is to be deposited in libraries, museums and repositories. Even with wars, earthquakes and other calamities, one copy ought to escape destruction.

With an inner glass crypt, which will be about six inches in diameter and will be filled with an inert gas to aid in preserving for 5,000 years the objects placed in the capsule, the tube is made of a corrosion-proof copper alloy recently developed. Made of several sections, its outside is to be brazed so that it will present a solid, unbroken surface of metal. The last section is to be shrunk-fit on tapering threads and will be placed on after the inner crypt has been filled. It will be watertight even without brazing—brazing after the contents have been placed in the tube has been ruled out for fear the contents might be damaged.

## What Would You Put In?

If you were filling such a capsule, whose crypt will be more than six feet long, what would you choose to show unknown future Americans what the world was like when you were alive? Now, there's a good parlor game.

Actually, it isn't easy to cram a cross-section of civilization into limited space. David S. Youngholm, chairman of his company's World Fair committee, has asked the advice of scientists, historians and others on what should go inside the "Time Capsule."

"It is hoped that the selection of the contents will be such as to give a true cross-section of our times," Mr. Youngholm explained. "Much of the material so far suggested consists of books and other printed matter. These, reduced to microfilm, will still leave space for a



**DOOR TO THE FUTURE**

*Entrance to Oglethorpe University's Crypt of Civilization, in which archaeologists of the year 8113 will find a complete record of civilization today. A sign on the door warns people to keep out until the appointed date.*

considerable number of material objects of our time, provided they are small; and provided they are truly significant."

Some of the proposed items have included the following:

The Bible and World Almanac in tiny form on microfilm.

Newsreels showing our sports, political events and bathing beauty shows.

Important scientific formulae that might be lost.

Tiny models of airplane, telephone, ocean liner and radio.

Front pages of newspapers on microfilm.

A record of Caruso's voice.

Motion pictures of our industrial life.

What the bright minds of five thousand years hence can make of our civilization from such exhibits is a question. If they can evaluate our finance, art and politics they will, perhaps, be doing better than we ourselves.

Archivist T. K. Peters, of Oglethorpe University, is preparing for their crypt thousands of pictures and writings, reduced in size and reproduced on metal



#### TOTEM HONORS FOR THE PRESIDENT

Maybe it doesn't exactly resemble the Great White Father in Washington, but Charlie Edwards, 83, patriarchal totem carver for the Swinomish Indians, says it is a likeness of President Roosevelt, and so it must be. The bust will appear near the top of a 61-foot totem pole to be erected on a recreation field developed by WPA workers on the Swinomish Indian Reservation at La Conner, Washington.

and cellulose acetate film. Photographs alone cover 100 years of our wars, our efforts to explore the earth and other doings that look important to us. The film is protected by putting it into glass tubes in an atmosphere of helium and a judicious amount of moisture, and the tubes are sealed.

The document storing is being done for the benefit of the people alive in Georgia in 8113 A. D. A warning sign on the crypt will forbid opening it sooner.

"Why 8113?" everybody wants to know.

Dr. Thornwell Jacobs, president of Oglethorpe, chose that date because, when he started the project in 1936, 8113 was just as far in the future as the total number of years man has recorded events in the past. Check the arithmetic if you like. He figures from the date Egypt's calendar presumably started, and that is 4241 B. C.

To be sure, we are not the first people to take concern for the permanent recording of our achievements. Ancient rulers had the same idea when they ordered their conquests chiseled on enduring stuff.

When Persian King Darius laid the cornerstone of his palace in Persepolis, 2,450 years ago, the cornerstone box was made of limestone and in it were solid

gold and silver plaques suitably inscribed. Soviet scientists seem to be taking a leaf from King Darius' notebook, by putting valued records reduced in size on thin platinum, enclosed between glass slabs and boxed in basalt.

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#### ENGINEERING

### Buildings Shaken To Fix Their Vibration Period

**N**O matter how sturdy they may seem, buildings, like people, have a pulse. Of course the pulse can not be the ebbing and flowing of a blood stream, as in man, but buildings do have characteristic, pulsating vibrations that sometimes need engineering analysis and correction.

Many things in, or around, a building may cause annoying, tiny vibrations. Sometimes unbalanced machinery in the structure will cause the trouble. Or it may be wind gusts, nearby subway or street traffic or even the elevators.

In one Atlantic City, N. J., hotel annoying vibrations were analyzed and finally traced to the machinery of a power plant in the vicinity.

Vibrations of the plant's equipment, transmitted through the wet sandy soil, were synchronous with one of the dominant periods of vibration of the hotel structure. In this condition of vibration

resonance the annoying oscillations, while very small, were passed on to the hotel's guests.

Engineers study building pulses with shaking machines which rotate and, because they are intentionally put out of balance, transmit vibration directly to the rigid members of a building's frame. As the frequency and size of the intentional vibrations are changed, engineers can find certain ones to which the building responds as a whole.

*Science News Letter, September 17, 1938*

#### ECONOMICS

### World is House of Plenty; Nationalism Erects Bars

**I**F THE world were a single economic unit, without national barriers and with problems of distribution solved, it would be able to answer all possible demands upon it for raw material.

Food materials are likely to be adequate for a world population at least three or four times that of today. Although the future of some of the base metals is obscure, the world as a whole need fear no shortage for an indefinite period of raw materials for clothing, shelter, heat, power and the principal necessities and luxuries of life. For the few natural resources that are definitely exhaustible, nature has made abundant provision of possible substitutes.

Data compiled by Dr. Frank E. Lathe, of the Canadian National Research Council, show that for a world of competing nations the prospect is very different indeed. Complete economic self-sufficiency is impossible. Even the self-sufficiency for which many great powers today are striving can be attained only by a major sacrifice of the standards of living.

Take the matter of major minerals: Coal, iron, copper, lead, zinc, nickel, tin, asbestos, petroleum. Only the United States and the British Empire are in a happy position. Dr. Lathe finds the British Empire deficient in petroleum and the U. S. A. lacking in nickel, tin and asbestos. Canada and the United States taken together lack only tin, for large supplies of nickel and asbestos are just over the northern border of eastern United States.

In contrast, three militaristically rampant nations have notable national insufficiencies. Germany is self-sufficient only in coal and lead, and partially sufficient in iron and zinc. Italy is partially sufficient only in coal, copper and zinc. They lack all the other major minerals.

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