

## ARCHAEOLOGY

# Oldest American Men

Radiocarbon dating of fragments of charcoal found in Nevada shows that man has been in America twice as long as previously supposed, more than 23,800 years.

► MAN HAS lived in America twice as long as scientists have supposed.

Radiocarbon dating of fragments of charcoal found buried beneath an ash bed at Tule Springs, Nevada, and believed to be of "human origin" has pushed back the dawn of human life on American soil to more than 23,800 years ago.

This date is included in a new compilation of radiocarbon dates issued by Prof. Willard F. Libby of the University of Chicago, now on leave to serve as a member of the Atomic Energy Commission, part of which appears in *Science* (Nov. 5).

Folsom Man, who hunted now extinct mammoths in America's Southwest and was long believed to be the first American, has been dated by the radiocarbon method at about 10,000 years ago. Tepexpan Man, Mexico's first resident and contemporary of Folsom Man, has been dated at between 10,000 and 12,000 years ago.

However, it now seems that man was living and perhaps cooking over a campfire in Nevada as much as 12,000 years before Folsom Man and Tepexpan Man were hunting their ancient elephant game.

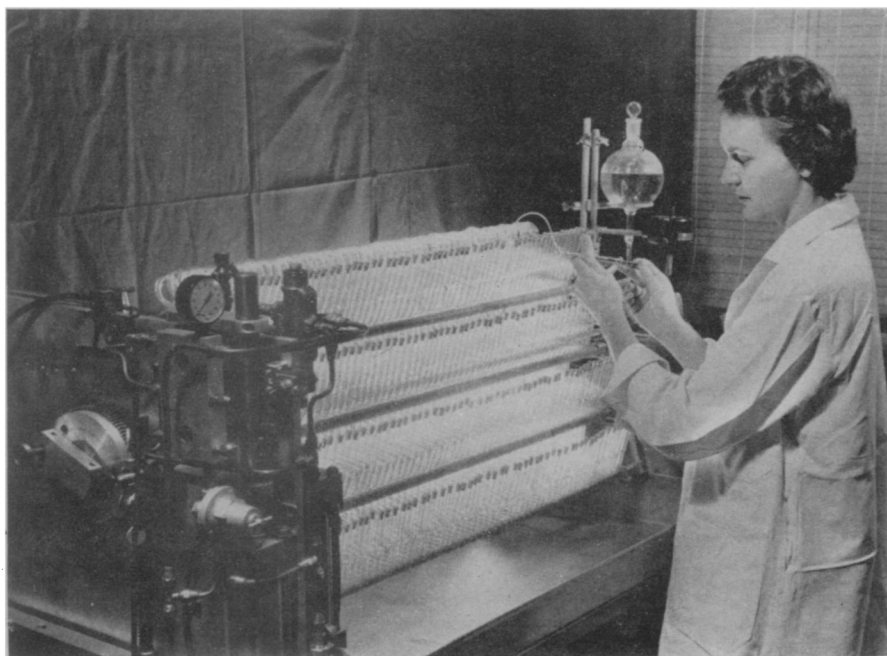
The carbon sample was collected by Drs. Fenley Hunter and M. R. Harrington of Southwest Museum, Los Angeles.

Actually, the Nevada resident may have been much older. The antiquity of 23,800 years given by Dr. Libby for the Tule Springs sample is close to the limit of his radiocarbon dating method, so that he can only give the date as "older than 23,800." No one can now say how much older it may be.

Fresh confirmation of the Spinden correlation for relating dates in the ancient Mayan calendar of Guatemala to our own calendar is included in Dr. Libby's list.

For a long time, scientists disagreed about how to interpret Mayan dates according to our calendar. One ancient door frame in Guatemala had a Mayan date carved into it. According to the method developed by Dr. Herbert J. Spinden, the date by our calendar would be Oct. 30, 481 A.D.

According to the other method worked out by Drs. J. T. Goodman and J. Eric Thompson, the date would be June 30, 741 A.D.



**PURIFYING ACTH**—To determine the structure of beta ACTH, 4,130,000 separate extraction operations were performed by this countercurrent distribution machine from which Miss Katherine Howard, a member of the research team, is withdrawing a sample. Using the device, ACTH was fractionated into its eight components. (See p. 351.)

In November, 1951, Dr. J. L. Kulp of the Lamont Geological Laboratory found by radiocarbon dating that the correct date was 481 A.D., thus confirming the Spinden correlation. Now Prof. Libby has found a radiocarbon date for another door frame from Guatemala bearing the same Mayan date. His result is a little different from that of Dr. Kulp, but even older. He obtained a date of 451 A.D., with a possible error of plus or minus 110 years, furnishing fresh confirmation of the Spinden correlation.

Great antiquity was confirmed for a skull found in Florisbad, Orange Free State, South Africa, by another dating in the compilation. This was the dating of peat in which the skull was found. The sample was sent in by Dr. A. C. Hoffman, director of the National Museum, Bloemfontein, South Africa.

This skull has been judged by anthropologists, by other evidence, to be very ancient. The structure of the skull indicates that it is transitional between Neanderthal and Modern Man. It has been placed at middle Pleistocene or roughly from 100,000 to 300,000 years ago.

Prof. Libby's radiocarbon dating confirms that it is very old, but again limits of the scale make it impossible to say exactly how old, so the verdict is "older than 41,000 years."

Science News Letter, November 27, 1954

## ENGINEERING

## How to Stop Freezing Of Plumbing Vents

► IF THE temperature drops below 10 degrees for several days, you may find sewer odors filtering into your house. Ice, which seals the roof vent of your plumbing system, is the cause.

The National Bureau of Standards has made an exhaustive study of the problem and has arrived at the following conclusions:

1. Shortening the exposed pipe is the most effective way of reducing or preventing closure.
2. The use of hot water, especially at night, increases the possibility of the pipe being blocked by frost.
3. The larger the diameter of the vent, the less likely is complete closure.
4. A house trap, which prevents moist, warm sewer air from passing up the pipe, is suggested.
5. Less trouble is encountered when the vent is on the sunny side of the roof.

Roof vents are necessary to equalize pressure in the drainage system. When the opening is sealed, pressure may build up. Air in the plumbing system may then be forced into the house. Roof vents have caused considerable trouble in the northern states and in Canada.

The complete analysis is presented in the Department of Commerce booklet, "Frost Closure of Roof Vents in Plumbing Systems."

Science News Letter, November 27, 1954