

ARCHAEOLOGY

# Charcoal From Oldest Fire

Radiocarbon dating gives age of charcoal from the oldest known fire in the United States, which burned more than 23,800 years ago. The charcoal lay in a closet for 21 years.

► CHARCOAL FROM one of America's oldest campfires lay unnoticed, locked away in a museum closet for 21 years before it was found again and its great age became known to scientists. The campfire from which the charcoal came was laid more than 23,800 years ago.

The story of the original discovery of the ancient fire is revealed by Curator M. R. Harrington of the Southwest Museum, Los Angeles, in *Masterkey* (Nov.-Dec., 1954), journal of the museum.

It was early in 1933, Mr. Harrington reports, that Fenley Hunter made a paleontological reconnaissance trip for the American Museum of Natural History. At Tule Springs, Nevada, near Las Vegas, Mr. Hunter found an ash-bed, once deeply buried, exposed by erosion on the banks of a wash.

Evidently a body of water had occupied the area after the ashes were deposited, for the 14 feet of soil that had covered the ash-bed included many freshwater shells.

The ash-bed contained, besides ashes and charcoal, bones of extinct American camel, bison and mammoth, evidence of its great age. It also contained a large obsidian flake, obviously made by the hand of man, imbedded among the bones.

Later search by Mr. Harrington revealed other ash-beds in the vicinity containing mixed bones of the same extinct species of animals. Many of the bones were artificially broken and split.

"Everything indicated that the animals had been killed, cut up, their flesh roasted and eaten, and some of their bones split for the marrow," Mr. Harrington reports. "The only articulated bones we found were those of a camel's foot, which had apparently been hacked off and thrown into the ash-dump."

After the discovery, representative bones

and the human implements were put on exhibition at the Southwest Museum. The charcoal was locked away in a closet for possible later identification of plant species.

Years later, research on the atomic bomb led to the development of a new method of dating organic remains through measurement of radioactivity of the carbon, now known as the carbon 14 method.

Mr. Harrington then searched for the stored charcoal from the ancient Tule Springs campfire. It could not be found. Not until early this year did a volunteer assistant, Mrs. Freddie Curtis, open the right door and find the precious charcoal.

It was dated by Dr. W. F. Libby of the University of Chicago's Institute of Nuclear Studies. He found no radioactivity remaining in the sample, showing it must be "more than 23,800 years old."

Science News Letter, January 15, 1955

PHYSIOLOGY

## Body Fat Mixed Blessing During Cold Weather

► FAT CAN keep you warm in a chilly environment, but it might also make you more susceptible to frostbite and trench-foot.

Studies showing this were reported to the American Physiological Society by Dr. Farrington Daniels Jr., and Paul Baker of the Quartermaster Research and Development Center, Natick, Mass.

In the studies, 31 men wearing only short pants sat for two hours in a cold room at 60 degrees Fahrenheit. This is only slightly cool to a clothed person but very chilly to an unclothed person. The amount of fat the men carried was measured by the thickness of the skin that could be pinched over the upper arm, the chest and the stomach. The men in the study ranged in body fat from 1.2% to 19% of their body weight.

At the end of two hours in the chilly room, the men were warmer, as measured by temperature inside the body, according to how fat they were. The fatter men had essentially normal internal body temperatures, while the thinnest men had cooled to about a degree Fahrenheit below normal.

The fat under the skin that did a good insulating job also kept the skin temperature lower. This carries the danger of the skin getting cold enough to be in the frostbite or trench-foot range.

The thin men kept a higher skin temperature. They did this partly by shivering more and partly by drawing on the interior of the body for heat for the skin.

Science News Letter, January 15, 1955

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