

Photos: Harvey S. Rice

Fragments of parietal bones compared with modern skull; incompletely joined bone plates put age near 20.

Date for New World man

Bones from Washington State could settle a long archaeological controversy; dam threatens site

For most of the 20th century controversy has raged over the antiquity of man in the New World. The pendulum of opinion has swung widely, unstabilized by very much tangible evidence.

Many people believe that man is quite young on this continent. They theorize that migration from Asia over a Bering land bridge that might have existed was blocked by glaciers. These pushed right to the sea along the coast

of Alaska and Canada.

As the ice sheet withdrew, a corridor opened up down the coast. The date of opening of this corridor is one of the more hotly debated subjects among geologists. Many believe it occurred about 20,000 years ago. They don't look for traces of man any older; more recent is probable, since it took a while for enough migration to occur to provide a fossil record.

Other students of the subject, among

them Dr. L. S. B. Leakey, think man got here sooner. Tools have been found near Pueblo, Mexico, that some dating procedures place between 22,000 and 24,000 years old. Even older bits of carbon that may have been associated with man or may have been struck off a tree by lightning have been found (see p. 450).

Opponents of this thinking doubt dating methods. Often dating procedures can be applied only to material

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associated with a find, not to the find itself. Often the association of the material and the object is open to serious question.

Now, at the confluence of the Snake and Palouse Rivers in Washington State, an archaeological team is racing against a man-made flood in an effort to uncover the rest of a skeleton—already the oldest positively dated human remains found in the New World—and perhaps settle the question. They have until December, possibly



Dr. Fryxell and bones at Marmes.

a little longer, to uncover the skeleton and what may be the 12,000-year-old home camp of his enemies.

After that, a lake created by the Lower Monumental Dam on the Snake River will inundate the site.

Announcement of the discovery of the bones was made last week in Washington, D.C., in the office of Senator Warren G. Magnuson (D-Wash.). Magnuson sponsored a 1960 law allowing Federal aid in excavating archaeological sites threatened by man-made flooding.

It is not so much the fact that these bones are the oldest yet found as it is that their age is closely known that will prove invaluable to researchers.

So far the study of early man in this continent has been hampered by the lack of any solid dates. Thus the Washington find will provide the first good time base to which dating existing finds and future discoveries may be pegged.

Already uncovered by Drs. Roald Fryxell and Richard T. Daugherty of Washington State University are most of the parietal bones of the skull, a few pieces of rib, fragments of some long bones, vertebrae and wrist bone. Found with these remains are fragments of the bone fore-shaft of a spear, similar to weapons of so-called Clovis Man of New Mexico and Arizona.

The latter were mammoth hunters.

The first of the fragments were uncovered nearly three years ago. Drs. Fryxell and Daugherty had been making archaeological and geological studies at a small eroded cave in the canyon wall on the ranch of Roland J. Marmes. The site was a rich one, with a record of man going back 8,000 years.

In order to establish continuity of strata between the shelter and the nearby river, Dr. Fryxell called in a bulldozer to cut a trench from the shelter toward the river. The trench was over 12 feet deep and some 150 feet long when the dozer hit the first bone.

The machine was halted immediately and manual excavation began. By last year, enough pieces had been gathered and fitted together so that the skeleton could be proven human. Radiocarbon dating and other tests since then have determined the age.

The age has been fixed at between 11,000 and 13,000 years. Mussel shells in the layer overlying the bones are between 10,000 and 11,000 years old. A lake occupied the site until 12,000 or 13,000 years ago.

It is hoped that further excavation of the site will uncover charcoal from a man-made fire. This would allow even more precise radiocarbon dating, with a possible inaccuracy of as little as 200 to 300 years.

The bones were discovered undisturbed in what appears to be a kitchen midden of an ancient campsite. The camp had been made on the silt plain of the Palouse River.

It is entirely possible that the makers of the camp made dinner out of what is being called Marmes Man. Found in the midden with the human bones were bones of elk, deer and possibly antelope, all food animals. All the bones bore signs of charring as if they might have been cooked. And the leg bones of both humans and animals had been cracked lengthwise as if to extract the edible marrow they contained.

Even without positive radiocarbon dating, there is no way the bones could have gotten into the undisturbed midden without predating overlying strata.

Drs. Fryxell and Daugherty think the existence of the midden and the bone spear piece indicate that they have found a living site.

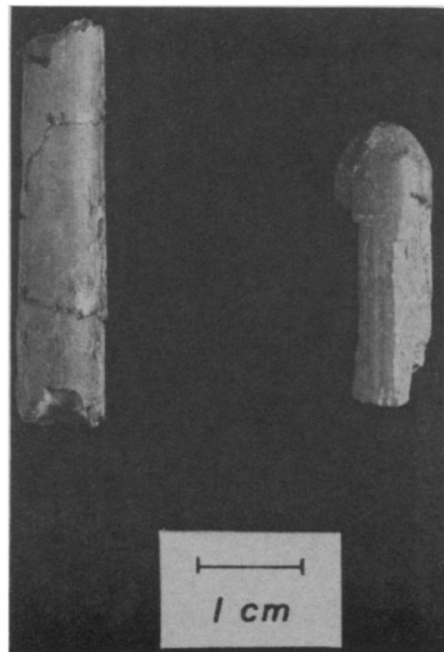
What complicates the study of early man is the fact that he was a hunter. He traveled in small bands keeping up with the game, rarely staying put long enough to accumulate much trash.

Therefore his remains are scattered around in places that an archaeologist might never look, because they appear to be unlikely campsites. The Marmes site is an exception to this. If it is a living site, it is hoped, enough artifacts

might turn up along with the rest of the skeleton and possibly other skeletons, to see living patterns.

Dr. H. Marie Wormington of the Denver Museum of Natural History, president-elect of the Society for American Archaeology, says the oldest date for man in America previously obtained is about 11,200 years ago. This is the date attached to the mammoth spears and other tools of Clovis Man—of which no bones have been found.

Bones from this period are extreme-



Pieces of bone fore-shaft of spear.

ly scarce, in fact, even though the Clovis tools are quite plentiful. Dr. T. Dale Stewart, retired director of the Smithsonian Institution's Museum of Natural History, lists only three skeletal finds of any credibility.

One is the Melbourne skeleton from Florida, found in 1925. It has been estimated from its association with extinct animal remains, to be no more than 10,000 years old, though this can't be proven. Dr. Wormington says she tends to doubt that this find is of anywhere near this period.

Another is the Tepexpan skeleton from Mexico, discovered in an ancient lake bed in 1947, and unfortunately pulled out of its burial place with little attention to exact location in the strata. Later radiocarbon dating has set the date at approximately 11,000 years, but this too is considered to be a very unreliable figure.

The third find is the very fragmentary Midland bones from Texas, uncovered by the wind in 1953 and associated with weapons typical of Folsom Man. Uranium dating methods gave a wide range of age, from 10,000 to 20,000 years. Dr. Stewart says the figure should be closer to 10,000.