

## ARCHAEOLOGY

# An American "Iron Age"?

Iron objects found in prehistoric sites in this country have raised the question did America have iron before Columbus?

► DID pre-Columbian "First Families" of Virginia and Ohio know how to smelt iron and make nails, horseshoes and tools of iron?

The controversial question of Viking discovery and penetration of America is raised anew by chemical, spectrographic and metallographic study of iron objects found in prehistoric sites near Clarkesville, Va., and in the mounds near Columbus, Ohio.

Composition of the iron, the method of carburizing the outer surface, as well as the way of forming the implements make some experts feel sure that they are not of modern manufacture.

Interested in determining just how ancient these iron objects may be is Capt. A. H. Mallery, Washington industrial engineer, who has devoted a large share of his time for many years to the pursuit of his hobby, which is tracing evidence for Viking and perhaps even earlier cultures in America before the time of Columbus.

Capt. Mallery, who has skippered ships in northern waters, has collected specimens of ancient iron from Greenland, Labrador, Newfoundland, as well as from Virginia and from the Ohio mounds.

Samples of this material have been sent by Capt. Mallery to the National Bureau of Standards and to Battelle Memorial Institute, Columbus, Ohio, for metallurgical study. Experts at both the National Bureau of Standards and at Battelle have found that the specimens are definitely not modern, although it is difficult to assign a precise date to them because no articles of comparable antiquity of known date are available for comparison.

Dr. George A. Ellinger of the National Bureau of Standards believes the specimens found in the Ohio mounds to be definitely pre-colonial. Dr. A. M. Hall, of Battelle, found that a shovel from Ohio that he tested was not modern; it could be of colonial times or it could be older. A mineral coating formed on the surface of the tool as result of the soil in which it lay buried could account for its having been preserved for a great length of time, Dr. J. C. De Haven, of Battelle, said.

The Virginia site was found when archaeologists of the River Basin Surveys of the Smithsonian Institution combed over the area in southern Virginia and northern North Carolina to salvage any possible archaeological remains before the area should be flooded by the Buggs Island Reservoir and dam.

Stone points were found there that were made by a Folsom culture people. These points were like those found in the west-

ern part of the United States and believed to be 10,000 years old.

In the same area there were found scattered over considerable land, bits of iron, nails, horseshoes, hinge fragments and occasional tools. One specimen from this find was submitted by the Smithsonian to Dr. Ellinger for evaluation. Detailed study revealed that it was not made within the last 200 years.

Early history of the region does not reveal any mention of a colonial iron furnace or smelter there, the report states.

Later, Capt. Mallery, digging on the same site, unearthed an ancient iron furnace of a design which he says was like one found in Belgium that dates back to the time of the Romans. In the Virginia furnace he found slag and about 40 pounds of iron fragments which he found to be similar to those found in and near the Folsom sites by J. V. Howe, gunsmith who lives on the site, in connection with the Smithsonian study.

Analysis of the slag, Capt. Mallery reports, shows a 60% iron content, pointing to the antiquity of the methods used. Modern and colonial slag contains less than one half of one per cent of unrecovered iron, he says.

Capt. Mallery has compared the nails

found on the Virginia Folsom site with iron nails dug up at the old Jamestown colonial settlement. They differ markedly in shape, he reports. On the other hand he finds them markedly like the rivets used by Vikings for holding together the oak planks forming the hulls of their boats. They are of a soft iron that could be hammered cold because hot iron would set fire to the wood and make the rivet loose. Similar nails, he says, were recovered from the so-called Oseberg ship which is dated at 600 A.D.

The finding of this ancient iron opens up the whole question of whether America did have an "Iron Age" before the Spanish and English colonists brought iron tools and weapons with them to the New World. Archaeologists have long believed that iron was unknown on this continent in pre-Columbian days.

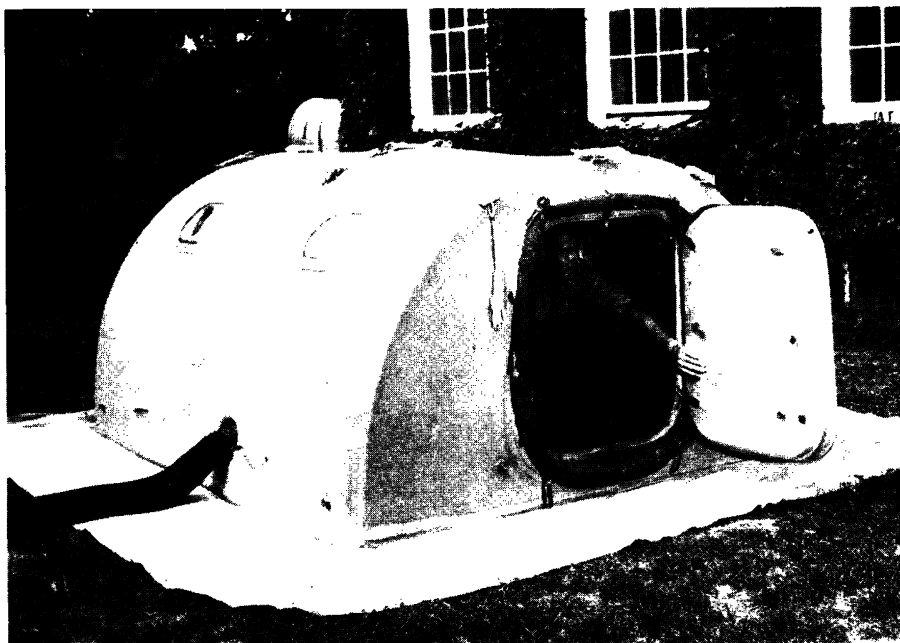
Science News Letter, November 12, 1949

## ENGINEERING

## Air Pressure, Not Braces, Support Quonset Hut

► A FOUR-MAN quonset hut, for use by stranded airmen in the Arctic, is made of cotton fabric, has no frame but can be put up with a hand air pump, it was revealed at Wright-Patterson Air Force Base, Dayton, Ohio. It is a development of the Air Force in conjunction with the U. S. Rubber Company.

The structure has no internal braces. It is supported in upright position by air pressure on the inside. Some 1.5 pounds pressure is all that is needed. It is made



**QUONSET FOR ARCTIC**—This shelter for stranded airmen unfolds from a compact bundle when blown up with a simple hand pump.