National Geographic Society

HISTORIC REMAINS—Dr. Helge Ingstad, veteran Norwegian explorer and leader of expeditions to L'Anse aux Meadows, is shown brushing off the remains of a fireplace in one of the houses believed to have been built about 1000 A.D. by the Norse. This large house has a great Viking-style hall.

ARCHAEOLOGY

Viking Ruins Found

➤ THE REMAINS of a Norse settlement, dated 500 years before Columbus' voyage to America, have been discovered in Newfoundland.

Expeditions led by Norwegian explorer Dr. Helge Ingstad excavated traces of nine structures and a primitive smithy near L'Anse aux Meadows, a small fishing village at the northern tip of the island. One house had five rooms and a great hall in Viking style.

This is considered the first incontrovertible proof of Viking visits to North America in pre-Columbian times.

Radiocarbon dating the charcoal from the ruins indicated that the site was occupied around 1000 A.D., the time when Leif Ericson (Leif the Lucky) and other Vikings sailed to America.

"It cannot be definitely proved that this specific settlement was indeed founded by Leif Ericson, but there is indication that it was," Dr. Ingstad told a news conference in Washington.

Dr. Junius Bird, curator of archaeology at the American Museum of Natural History, New York, and Dr. Henry B. Collins, a Smithsonian Institution anthropologist, visited the excavations. Both agreed that the site is Norse and pre-Columbian.

Some of the house sites contained stone fireplaces and "ember pits," small square holes where coals were kept alive at night. The ember pits are similar to those found in Norse houses in Greenland.

By the smithy equipped with a stone anvil several hundred pieces of slag and small bits of iron were found. A pit with a thick layer of charcoal, evidently a place where charcoal was made to refine iron, was also located nearby.

But no artifacts were found. Highly acid topsoil and porous subsoil are believed to have acted together to destroy them. Even the bones of kitchen refuse have disappeared.

Present indications are that the community was occupied for only a short time.

Dr. Ingstad's work was sponsored by the National Geographic Society, Washington, D. C., Norwegian contributions and grants from the Government of Newfoundland.

Dr. Ingstad explored the coasts of Rhode Island, Nova Scotia, Quebec, Newfoundland and Labrador by airplane and boat before locating the Newfoundland site. The expedition at L'Anse aux Meadows was carried on for three years by a team of international scientists.

The Vikings, who flourished from the 9th to the 11th centuries, were explorers and colonizers as well as sea-roving warriors. They pushed on to Greenland where Eric the Red established the first colony in 987.

From this settlement Leif Ericson and others sailed westward, according to sagas.

One saga tells how Leif Ericson discovered a strange new land called "Wineland." Most scientists placed "Wineland" in Cape Cod and Rhode Island, but Dr. Ingstad believed that "wineland" was farther north.

• Science News Letter, 84:306 Nov. 16, 1963

PHYSICS

Three Share Physics Prize

➤ DISCOVERIES concerning how the atom and its nucleus, the basic building blocks of all matter in the universe, are put together earned the 1963 Nobel Prize in Physics for three scientists.

Dr. Eugene P. Wigner, Princeton University physicist who won half the $51,000 prize, was honored for his many important contributions in the field of atomic physics. Dr. Wigner, with Dr. Leo Szilard, drafted the famous letter of Albert Einstein to President Franklin D. Roosevelt that finally resulted in Government support for studies of nuclear reactions, leading to development of the atomic bomb and nuclear reactors.

Sharing the other half of the 1963 Nobel Prize in Physics are Drs. Maria Goeppert Mayer of the University of California, San Diego, and Dr. J. Hans D. Jensen of Heidelberg University, Germany, for their work on the shell structure of the nucleus.

Dr. Mayer is the first U.S. woman to receive this award and only the second woman since Mme. Marie Curie, who shared Nobel Prize in Physics in 1903 with her husband, Pierre Curie. Drs. Mayer and Jensen were co-authors of the book, "Elementary Theory of Nuclear Shell Structure," 1956.

In a rough way, the shell structure theory proposes that the nucleus is somewhat like an onion, consisting of several layers. These layers are characterized by so-called "magic numbers," which are associated with the numbers of neutrons—2, 8, 20, 28, 50, 82 and 126—inside the nucleus.

The shell model was successful in helping scientists to correlate many experimental facts, and thus to gain insight into the structure of the nucleus.

Dr. Wigner was born in Budapest, Hungary, in 1902 and became an American citizen in 1937. Since 1938 he has been Thomas D. Jones professor of mathematical physics at Princeton's Palmer Physical Laboratory.

Besides his contributions to theoretical physics, Dr. Wigner is a key figure in the field of nuclear reactors. He was the first to calculate the correct proportions of uranium and graphite in the Hanford production piles during World War II. Also it was largely at Dr. Wigner's insistence that the water-cooled design for the Hanford piles was adopted.

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SEISMOLOGY

Sea-Bottom Seismograph To Detect Nuclear Tests

➤ AN OCEAN-BOTTOM seismograph capable of detecting underground nuclear weapons tests will be placed on the bottom of the Pacific Ocean off the California coast by Columbia University, New York, scientists.

The ocean-bottom seismograph is expected to help in development of new methods of classifying the origin of seismic signals, whether earthquake or nuclear weapon, from adjacent land masses, Dr. Maurice Ewing, director of Columbia's Lamont Geological Observatory, said.

The Lamont Observatory, Palisades, N. Y., will install and operate the undersea station under a contract with the Advanced Research Projects Agency of the Office of Naval Research. It will be the first permanent ocean-bottom seismograph station.

Dr. Ewing said that he has wanted an ocean-bottom seismograph for more than 25 years to study how the ocean acts to channel seismic waves, the major remaining unknown in the field of seismology.

The ocean-bottom seismograph is the answer to the two problems; underground weapon test surveillance and obtaining information on seismic propagation of the "oceanic wave guide," Dr. Ewing stated.

The seismograph, a modification of the lunar seismograph developed at the Lamont Observatory for landing on the moon, will be placed more than two miles below the surface of the Pacific Ocean, approximately 115 miles southwest of Point Arena, Calif.

The recording site will be on land in the vicinity of Point Arena about midway between Cape Mendocino and San Francisco.

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