



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
1980 Volume II: Art, Artifacts, and Material Culture

Early Man in North America: The Known to the Unknown

Curriculum Unit 80.02.07
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Trying to find out when man first came to America, and how he lived during the hundreds of centuries before the Europeans arrived, the archaeologist is like a child trying to solve a picture puzzle when he has in his possession only one percent of the pieces. As a result he must look to other fields of science to fit together a series of clues to give a generalized impression and explanation of prehistoric culture and society.

The artifact is the most fundamental element of archaeological investigation. It is commonly defined as anything which exhibits any physical attributes that can be assumed to be the result of human activity. Archaeologists look at their finds not merely as objects to be examined and admired but as vital parts of the extinct society which made them. The ultimate goal is to study the society that created the objects, not just the objects.

A different type of archaeology, called new archaeology as opposed to traditional archaeology, has developed over the past thirty years. Traditional archaeology looks at the material remains of an extinct culture in order to define what ideas, values and beliefs the group shared and passed down to the next generation. The new archaeologist sees culture as a link between behavioral patterns and material items. The culture that a society develops therefore is the direct result of the way humans learn to cope with their environment.

To find out how well a group has adapted the new archaeologist must explore two areas, the environmental system and the cultural system. In doing this he collects various kinds of materials that the traditional archaeologist ignores, dark stains in the soil, tiny flint chips, pieces of broken tools, fish scales and seeds. These discarded materials and markings are the products of the everyday life of prehistoric man.

Archaeologists have to work with the tangible remains of human activity. When working in North America the archaeologist does not come upon great temples, massively carved statues and engravings of calendar systems such as the material remains of King Tut or the Mayan Civilization. Although the cultural artifacts of North America attract little public attention, they are no less important.

Archaeologists must study the environment in which ancient man lived, along with what he has made, in order to better understand his way of life. It is virtually impossible to separate cultural living patterns and man's environmental relationship. Animals, plants and climate all have a direct bearing on the cultural development of the people of prehistory. This unit is therefore divided into three parts:

I. THE TIME ON THE PLANET—Prehistoric archaeology deals with an enormous time scale of human cultural evolution spanning four million years. Where does man in North America fit in the time scale?

II. THE PLACE—THE ENVIRONMENT OF NORTH AMERICA—What was North America like at the time of the arrival of the first humans on the continent?

III. MAN IN TIME AND PLACE—A look at the evidence left by early man from which we can draw conclusions about their life style.

* VISUAL AIDS—Overhead transparencies of maps, charts, diagrams and artifacts have been prepared to be used in the classroom to aid you. These can be borrowed from the Yale-New Haven Teachers Institute.

I TIME ON THE PLANET

Generally the period from about 2 million B.C. to about 3,000 B.C. is called the Stone Age or Paleolithic Period. The word Paleolithic comes from two Greek words—PALEO meaning old and LITHOIC meaning stone. Archaeologists divide the Paleolithic Period into three parts according to the kind of stone work done by humans during each period. (chart I) The Paleolithic Period in North America had four developmental stages: Paleo-indian, Archaic, Woodland and Mississippian. Each of these four periods of prehistoric North America had its own cultural tradition. (chart I)

CHART I: PALEOLITHIC AGE

(figure available in print form)

II THE PLACE—THE ENVIRONMENT OF PREHISTORIC NORTH AMERICA

Prehistoric archaeologists are trying to document and understand the ways in which humanity adapted itself to the diverse environments of the world. We humans are the only animals to use our culture, the sum total of ways of living, as the primary means of adopting to our environment. Therefore studying these adaptations can bring about an understanding of the diversity of human cultures that made up the prehistoric world. A study of the environment includes the relationship of climate, vegetation and animal existence.

The Pleistocene, more commonly called, the Glacial Epoch or Ice Age, was an age of widely fluctuating climate with major shifts in temperature occurring thousands of years apart. During this time North America went through many changes. The sea level fell because much of the water that might have been in the oceans was locked up in the glaciers. This process is called eustasis. The sea level was from 50 to 300 feet lower than it is now. The actual shoreline at that time extended 100 kilometers out onto the continental shelf, exposing a broad highway between Asia and North America, This Berengian landmass was well above sea level for very long periods of time. The exposed shelf was one vast region of low, gentle, rolling plains covering thousands of

square miles from the Aleutian Islands in the south to latitudes way up in the Arctic Ocean.

MAP I

(figure available in print form)

There have been a number of ice ages in the earth's history their cause is unknown. It was once thought that some kind of solar shift allowed less heat energy to reach the earth, thus causing a cooling of world climates and snow fall in amounts greater than the summer melt-off. Another theory is that there was a change in the atmosphere that either blocked heat energy from reaching the earth, or allowed a greater reflection of light from the earth's surface and thus a loss of heat back into space.

The Pleistocene was also a period of vigorous volcanic activity. Volcanic ash in large amounts in the upper atmosphere may well have been the cause for the lowering of world temperatures. Some scientists believe modern air pollution on a worldwide basis may eventually have the same effect.

In North America the Glacial Epoch extends back in time from about 10,000 B.C. to 1,000,000, B.C. During this time the ice sheet advanced and receded as the climate changed from cold to warm and back again. During this period much of North America was as cold as Greenland today, as great ice sheets moved down out of Canada. (chart II) The most recent glacial advance was the Wisconsin, which is thought to have begun about 70,000 years ago. The ice sheet extended about as far south as the present location of the Ohio River and then east as far as Long Island. At the height of the glacial advance the ice cap was more than a mile thick (map II)

The Connecticut area, for most of the Pleistocene Era, was covered with ice or severely affected by it. In approximately 17,000 B.C. the Wisconsin Glacier reached Long Island, its farthest advance southward. The glacial ice has been estimated to have been about 1,900 feet thick over the New Haven area and about 2,500 feet thick over the Hartford area. Since much of the ocean water was locked up in the ice, most of Long Island Sound was a dry valley with Long Island as part of the mainland. (map III)

The region south of the glacier had a much cooler and wetter climate than today. Many areas of the present United States that are now barren desert were green, watered and well stocked with animals. The Great Salt Lake in Utah is all that remains, of a huge body of salt water called Lake Bonneville that covered much of Utah, Nevada and Idaho. (map II)

CHART II—THE ICE AGE—GLACIAL EPOCH—PLEISTOCENE

(figure available in print form)

MAP II—NORTH AMERICA DURING THE WISCONSIN GLACIER

(figure available in print form)

MAP III—CONNECTICUT AT THE HEIGHT OF THE WISCONSIN GLACIER

As the ice sheet advanced southward, animals were driven before it. A strange assemblage of animals now extinct—the giant ground sloth, giant beaver, mastodons, woolly mammoth, saber tooth cat, native camels, horses, and a huge species of bison—mingled on the lush grasslands, woods and marshes south of the glacier. With them were the wolves, bear, deer, antelope and rabbit which have survived essentially unchanged to this day. The remains of these animals help palaeontologists to construct a picture of the natural environment of the time. It was into this environment that man arrived in North America.

III MAN IN TIME AND PLACE: THE ARRIVAL OF MAN IN NORTH AMERICA

The natives of America, back to their earliest appearance on the New World scene, are of the species *Homo sapiens*, or modern man. No living fossil apes are known in the Western Hemisphere, as they are in the Eastern Hemisphere, nor are more primitive examples of man in the Americas. This basic finding means that man did not evolve from lower anthropoid forms in the New World. It also means that man did not enter North America until *Homo sapiens* had developed and was wide spread through the Eastern Hemisphere.

Since prehistoric man had limited methods of transportation at his disposal, he must have entered by the easiest and shortest route. The only region of the New World which lies in close proximity to the old is that which is adjacent to the Bering Strait.

Man could have crossed the Bering land bridge during much of the Pleistocene. In addition he could have crossed on the winter pack ice even when the land bridge was severed. Finally, early man may well have had knowledge of light craft and could have negotiated the open strait. (map IV) It is impossible to say when humans first conceived the idea of water transportation. Boats of many kinds were in use all over the world long before the beginning of recorded history.

A critical factor in the arrival of man in North America seems to have been the existence of an ice free corridor in Western Canada. (map II) Analysis of the soil and rock formations proves that a fertile, relatively warm corridor first emerged from the ice along the Alaskan coast in the Yukon, Mackinac and Fraser River valleys and southeast of the Rocky Mountains. We may suppose that successive waves of immigrants from Siberia pushed down the corridor into the interior of America. It should be understood that the Americas were not settled within a short period of time or by a single group of people. Migration consisted of a slow prolonged spread of successive waves of people.

MAP IV—MIGRATION ROUTES OF EARLY MAN TO NORTH AMERICA

(figure available in print form)

It would seem logical to assume that the early immigrants to these shores came as hunters pursuing large game. From the evidence of the mammals which the first arrivals hunted and the geological background of the time when they arrived we may date the entry of humans, the Paleo-Indian, into America around 40,000 years ago.

WHAT DO WE KNOW ABOUT EARLY MAN AND HOW CAN WE PROVE IT?

There can be little question but that the first Paleolithic immigrants to the New World brought with them such basic skills as fire-making, flint chipping and at least a basic competency in food processing, clothes making and shelter construction. There is evidence that early man possessed these skills in Asia and Siberia before coming to North America.

The physical environment in which a group exists plays a vital role in determining how the group will live. If the immediate environment did not for some reason afford early man what he required for survival, he would of necessity move on or perish.

Because of the absence of edible food plants in many locations and at different seasons of the year, early man

was in most cases an eater of animal flesh and consequently a hunter. Because he was a hunter he was also a wanderer, following the herds of woolly mammoth, giant sloth, bison and big horn elk. His weapons and tools were of stone, bone and wood. (lesson I)

At the hunting stage of his culture the Paleo-Indian was of necessity a competent naturalist and zoologist. To hunt or trap any mammal larger and faster moving than he requires a considerable knowledge of the animals habits, physical features and weaknesses. (lesson II) Each year the animal supply dwindled as a consequence of overkill and changes in the climate, and the hunter was obliged to push further and further south and east in search of game.

DRAWING I—WEAPONS OF EARLY MAN

(figure available in print form)

DRAWING II—TOOLS AND WEAPONS OF EARLY MAN

(figure available in print form)

Some events in the history of the animal life of prehistoric America which remain a great mystery had a direct relationship on the cultural development of man. This event eventually transformed man from the Paleo-Indian, the hunter wanderer, to the more permanent settlers of the Archaic Woodland culture.

As the long Pleistocene Age drew to a close, many of the highly successful mammal families became extinct. Horse and camel had grazed in tremendous herds in North America. Then suddenly about 10,000 B.C. they were no more. A change in plant life may have had something to do with the extinction. The ice age undoubtedly brought some animals to extinction by destroying the plants on which they lived. When the Southwest became a semi-desert, the great herds of grazing animals could no longer exist. The growth of thick forests along the eastern seaboard was equally unfavorable to large game animals. (chart III) As the environment changed ever hundreds of years so did the culture of man.

In piecing together the picture puzzle of the development of early man archaeologists work with artifacts, the tangible evidence, left by men at their occupation sites. By putting together all the facts and some speculation they can give a generalized impression and explanation of prehistoric culture and society. There are many archaeological sites in North

America giving evidence of prehistoric culture and society but one site is unique—Russell Cave in Alabama. No other site in North America has revealed so detailed a record of occupation for so long a period of time—9,000 B.C. to 1650 A.D.. The material cultural remains lie where the occupants left them, layer upon layer a record that reads like the pages of a book.

In the cave the archaeologists uncovered stone implements, tools of bone and wood, jewelry, fashioned from shells and bone, such as rings and ear plugs as well as bear teeth necklaces. They also uncovered fragments of baskets, pottery, seeds, a human skeleton and charcoal remains. (Lesson III)

Many of the tools and weapons uncovered resemble objects associated with cultures found to the west and north. Just how and why they came to be in this cave in Alabama is open to speculation. One of the theories put forth deals with the migration routes of early man. During the last ice age, the Wisconsin Glacier, there was a slow but steady movement of Paleo-Indians across North America, from west to east. Later there was the movement of people of Archaic culture both north and south along the Appalachian ridge. These people traveling in either direction, for whatever reason, carried their material culture with them. Can this be why the jointed fish hook associated with northern cultures was found in the cave or why the atlatl—a primitive spear

throwing device associated with the Aztec culture was also found in the lower levels of the cave? It has been suggested that the area around Russell Cace was an ancient meeting ground. If so, this site offers the promise of a greater understanding of the migration patterns of early man in North America. (diagram I)

CHART III—ENVIRONMENT IN CONNECTICUT AND ITS EFFECT ON THE CULTURAL DEVELOPMENT OF MAN

(figure available in print form)

As the great ice masses finally melted and released billions of gallons of trapped water into the world's oceans, the bridge from Asia to America was covered up and the sea level was raised to its present light. The newly formed

Bering Strait isolated the continent of North America from further land migration from Asia. Groups of people remained in the Western Hemisphere, spreading into widely divergent climates as the last stages of the ice age trickled to a halt. In a few centuries the entire Western Hemisphere, From Alaska to the southern tip of South America was transversed and occupied by people who much later in time would erroneously be called Indians.

RUSSELL CAVE OCCUPIED FROM 9,000 BC.-1650 A.D.

(figure available in print form)

LESSON I SURVIVAL

EQUIPMENT: various sizes of rocks

sticks in different lengths and thicknesses

bones: chicken, turkey, etc.

vines or rattan

Having gone over the climate and types of animals found on the North American continent in prehistoric times, and without having studied any of the tools made by early man, have the students make different types of weapons that might have been used to kill game animals.

Students *may not use* any type of modern equipment to help in their work.

When the weapons have been completed have the students explain what they made and what the weapon would be used for and how it would be used.

LESSON II ARTIFACTS

EQUIPMENT: Overhead projector

transparencies (obtained from the Yale-New Haven Teachers Institute)

Have the students examine the tools and weapons. (The description of each is found within this unit.)

Each student, working on his own, should answer the following questions;

1. What type of materials are used?
2. Why that type of material?
3. What was each tool or weapon used for?
4. How might it have been used?
5. What can be said about the culture of the people who used the tool or weapon?

Have the students compare their findings and come up with some general conclusions.

At the end of the discussion when an opinion has been reached by the entire class the teacher should go over the transparencies with the class comparing the class answers and the archaeological data presented in the unit.

LESSON III A FIRST HAND LOOK AT EVIDENCE OF EARLY MAN

Field trip: *American Indian Archaeological Institute*

Route 199, Washington, CT 06793

Phone 869-0518

The Institute is the center for the discovery, preservation, and interpretation of the lifeways of the first peoples of the Northeastern Woodlands.

The permanent exhibits cover 12,000 years of prehistory and history in North America from the archaeologists viewpoint. Exhibits include:

1. The skeleton of a 12,000 year-old Mastodon, the only one found to date in Connecticut.

2. Stone tools and weapons over 10,000 years old
3. Simulated archaeological site.

AIAI has excellent resources for teachers. The Institute has year-round programs, by appointment, including film, filmstrip and slide programs, teacher resource packets, traveling exhibits and a research library.

Transparencies available: *EARLY MAN IN NORTH AMERICA—THE KNOWN TO THE UNKNOWN*
CHART I *PALEOLITHIC AGE*
CHART II *THE ICE AGE*
CHART III *ENVIRONMENT IN CONNECTICUT AND ITS EFFECTS ON THE CULTURAL DEVELOPMENT OF MAN*
MAP I *CHANGES IN THE COAST LINE OF NORTH AMERICA*
MAP II *NORTH AMERICA DURING THE WISCONSIN GLACIER*
MAP III *CONNECTICUT AT THE HEIGHT OF THE WISCONSIN GLACIER*
MAP IV *POSSIBLE ROUTES OF ENTRANCE INTO NORTH AMERICA*
DRAWING I *WEAPONS OF EARLY MAN*
DRAWING II *TOOLS AND WEAPONS OF EARLY MAN*
DIAGRAM I *THE OCCUPATION OF RUSSELL CAVE*

Bibliography for Teachers

Brandon, William. *The American Heritage Book of Indians* The American Heritage Publishing Co. Inc., New York. 1961 Chapter 1. "People of the Dawn". Excellent background of the coming of man to North America.

Deetz, James. *Invitation to Archaeology* The Natural History Press, Garden City. 1967. Presents in brief form the essential how, when and why of anthropology. Covers the approach of modern archaeology.

Deetz, James. *In Small Things Forgotten* . Anchor Press, Garden City. 1977 Easy to read introduction to historic archaeology for the layman as well as the prehistoric archaeologist.

Edmund, Swigart. *The Prehistory of the Indians of Western Connecticut ; Part I 9,000—1,000 B. C.* The American Indian Archaeological Institute Inc., Washington, Conn.. 1978 Excellent information of the migration of early man into Connecticut and their struggle for survival.

Fagan, Brian M., *Archaeology A Brief Introduction*. Little, Brown and Company, Boston. 1978. Gives some idea how archaeologists go about studying human behavior of the past. Covers the basic concepts and methods of archaeological research—excavation, survey, analysis of artifacts and food remains, as well as dating and the dimensions of time and space.

Gaddis, Vincent. *American Indian Myths and Mysteries* . Chilton Book Company, Penn. 1977. *A very different view* of the origins of the first Americans. These people migrated from Atlantis, Egypt, Phoenicia, China, Africa, ancient Rome. On the order of books by Von Danikan and Castanedo.

Harrington, M.R.. *The Indians of New Jersey* . Rutgers University Press, New Brunswick, New Jersey. 1975. Excellent for classroom use. Describes in detail the culture of the Woodland Indians. These Indians closely parallel the Connecticut Indians.

Kurten, Bjorn. *The Ice Age* G.P. Putman's Sons, New York 1972. Excellent text covering all aspects of the Ice Age-environment, animals, man, temperature, glaciers, goods charts and graphs, illustrations.

Moeller, Roger. *6LF21: A Paleo-Indian Site in Western Connecticut* . American Indian Archaeological Institute, Washington, Conn. 1980. This book is an excellent coverage of the excavation of the oldest known site in the state. The text includes pictures. tables and charts. The text is scientifically accurate, but directed toward the average person with no archaeological background.

Moeller and Reid. *Archaeological Bibliography for Eastern America*. AIAI 1977 About 8000 listings, references from journals and books on prehistoric archaeology.

Struever, Stuart *Koster* . New American Library, New York. 1973 Excellent, this book recreates the scientific detective work that went into the excavation of the 26 layers of the Koster site in Illinois.

Willey, Gordon R., *An Introduction to American Archaeology Vol I "North and Middle America"*. Prentice-Hall, Englewood Cliffs, New Jersey. 1966. Basic text covering the Southwest, including the finds at Folsom, Clovis and Sandir. Also covers the spread of man eastward.

Student Reading List

Deetz, James. *In Small Things Forgotten* . Anchor Press, Garden City. 1977. Annotation see teachers bibliography.

McGown, Tom. *Album of Prehistoric Man* . Doubleday Press, Garden City. 1971 Excellent comprehensive background of prehistory, especially the following chapters: "The Ice Age Americas", "The Great Change".

Moeller, Roger. *6LF21: A Paleo-Indian Site in Western Connecticut* . American Indian Archaeological Institute, Washington, Conn., 1980 Annotation see teachers bibliography.

Schuler, William, *The First Mammals* . The World Publishing Company, New York. 1955 Covers 60 million years of mammals on earth, pictures and vital statistics.

Stuart, George. *Discovering Man's Past in the Americas* National Geographic Society, Washington D.C., 1969. Excellent coverage—both North and South America-rich with pictures and maps.

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