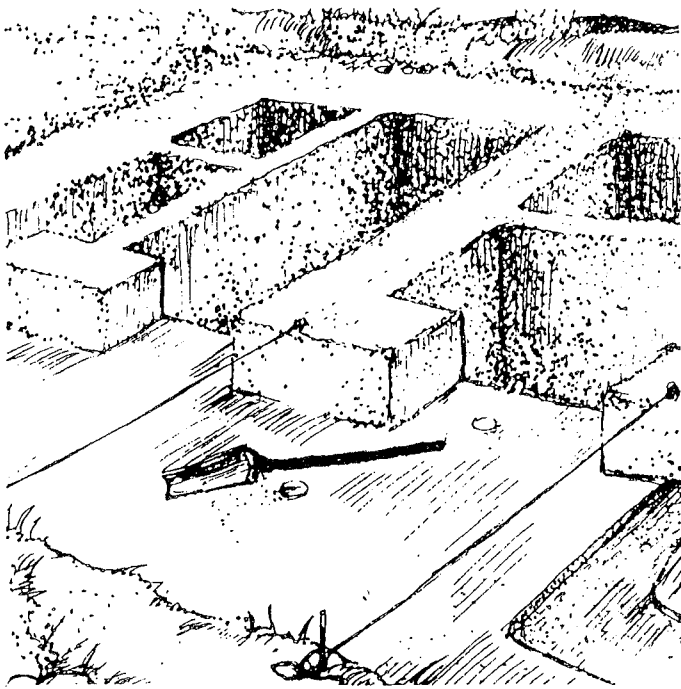


ARCHAEOLOGY: STUDYING THE PAST FOR THE FUTURE

Archaeology means "the science of ancient things", but archaeology is more than just the study of ancient things. Archaeology is a social science concerned with peoples and their behaviors, and is part of the broader science of anthropology, which is the "study of man." Archaeologists find and study artifacts, things that have been made or modified by man; arrowheads are common artifacts. Archaeologists also examine other evidences of man's existence in the past. While charcoal was not made by man, if man made the fire that created the charcoal, then the charcoal is evidence of past human activity.

Archaeologists excavate, or dig, these materials from sites which are defined areas containing evidence of the activities of one or several different groups of people. A site may be an entire ancient city or may only be a small area containing a few stone tools and bones from a prehistoric hunting camp.

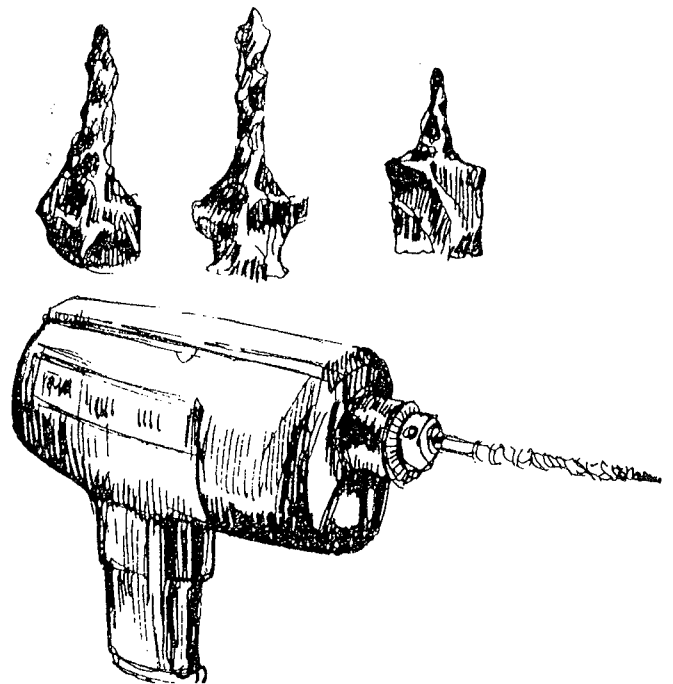


A typical archaeological excavation of a major site -perhaps a prehistoric village along the Missouri River in South Dakota

Archaeologists specialize according to the type of sites they concentrate on exploring. Classical archaeologists concentrate on recovering materials left by "great civilizations", like Greece, Rome or Egypt, which left written records.

Prehistoric archaeologists concentrate on societies which possessed no written language and therefore left only material objects to prove their existence. Most of America's past is prehistory, the Native American cultures which existed long before Europeans came to the New World and began to keep written records. For this reason, most American archaeologists are prehistoric archaeologists who recover and study artifacts left by these ancient Native American cultures. A few American archaeologists are historical archaeologists. They concentrate on studying the remains left by people who left written records along with material objects. Typical historical archaeological sites include forts, churches, houses and cemeteries. The written records of these sites can be used to help explain the historical archaeologists' finds.

Regardless of the type of site explored, finding and digging artifacts is not the end goal of archaeology. The objects found by archaeologists represent the actions of human beings, and archaeologists are concerned with the human



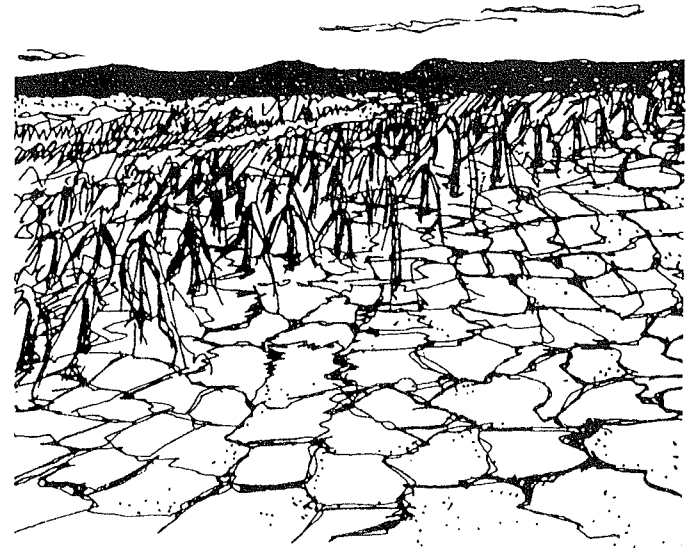
The stone drills above are among the kinds of artifacts left by people of the past. The modern drill below is also an artifact, something made by man, and it serves many of the same purposes that prehistoric drills did. Comparison of present day tools with ones found by archaeologists often helps explain how past peoples used the things they made and left behind.

context of things they find. They try to reconstruct a past culture through the material remains of that culture. A culture is a society's entire way of life, and a culture is an organized system of related parts. The basic parts of any culture are: subsistence and economy, technology, social organization, communication system and ideology, or basic beliefs. Every culture is limited by its natural environment. Past, present, and most likely, future inhabitants of the Great Plains, for example, could not have cultures based entirely on fishing because the waters of the Plains simply do not contain enough fish to support whole societies.



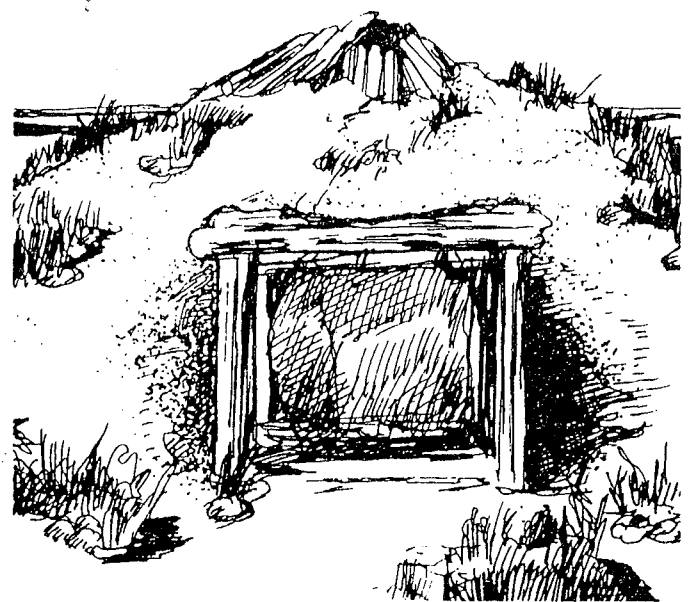
Clothing a product of our technology and is related to other components of our culture such as economy and social organization. It has enabled us and people of the past to adapt to diverse environments

Every culture is actually a way for humans to adapt to specific environments. When the environment changes, one or more of the other basic parts of a culture must also change since everything within a culture is interrelated. For example, during the 1976 drought in the Midwest, an environmental change affected many parts of that culture, especially the part of subsistence and economy: what crops grew and how much farmers could harvest. Because of the drought, many farmers began to irrigate which changed their farming technology which further affected the economy. Some farmers went out of business, food prices went up, and many people worried about the problems the drought caused. Solving these problems made changes in the social organization, communication system and beliefs of the people in the area. The state and federal governments developed financial aid programs to help the farmers. Both agriculture and business were affected which, in turn,



Effect of Drought

resulted in political repercussions. Peoples attitudes changed, they became more supportive of each other. If the drought had continued, even more changes would have been made. The changes that were made allowed people to adapt in order to face the changed environment.



Prehistoric inhabitants of South Dakota built earth lodges as an effective adaptation to the climate at the Plains. The houses were well-insulated being cool in summer and warm in the winter

Archaeologists analyze the material remains of past cultures as clues to the ways changes went on, and how the changes helped people survive. Hopefully, archaeologists can find universal patterns of cultural change through the study of many past cultures so that people can more accurately examine today's culture. Social and environmental problems are really just problems of change—too little, too much, too fast, too slow. Today, man is forced to change faster than ever before because with advanced technology—super machines, computers, and other products of “progress”—he can disrupt his environment and manipulate his own and other societies to a much greater degree than in the past. It has become vitally important to understand how and why cultural change occurs before modern man causes so much uncontrolled change that he can no longer adapt to new conditions. The great time depth provided by ar-



Pollution - an example of how man is altering his environment.

chaeology is invaluable as a way to “observe” many examples of cultural change over time. Archaeology bridges the gaps of space, time and cultural differences to find the basic things that all people have in common and to make it possible to realize how one society “fits” with others and with the environment as a whole.

Archaeologists face many problems in trying to attain their goals. Archaeologists must find and recover; identify, describe and analyze; and place in time the material they find. Then they must try to draw broad conclusions about culture in general and apply these conclusions to society today. When they do this, however, archaeologists can never be sure that their conclusions are “right” or “true,” for they can only interpret the past and can never actually see it. Only a few items of any past culture are preserved for the

archaeologist, but he must construct or create an entire culture from these few clues.

Archaeologists must study many sites and many cultures before making generalizations, but archaeological sites are disappearing at an alarming rate. Construction, the formation of reservoirs, plowing, and other disruptive processes destroy archaeological sites every day. Federal law now requires that the archaeological value of areas scheduled to be disturbed by federal projects be examined by archaeologists and that any necessary excavation be done before construction work begins. However, this law does not affect the many projects in which the federal government is not involved.

Vandals and looters, or “pot hunters”, also play a role in the destruction of archaeological sites. While looters may save the artifacts they find for sale, trade, or personal collections, they often totally destroy archaeological evidence by removing artifacts from their original context. Artifacts are nearly meaningless when their relationships to other objects cannot be seen.

Some states have strong laws restricting unauthorized digging and looting on private land, but South Dakota, unfortunately, does not. It must be realized that the prehistoric and historic past is a heritage important to everyone. The destruction of an archaeological site is permanent; the people and the culture that the site represents will never exist again. More professional and amateur archaeologists are desperately needed to find and interpret the evidence from the past. The conclusions that archaeologists make will allow people to more knowledgeably, and hopefully, more confidently understand the past in order to live better in the present and to plan for the future.

WHAT YOU CAN DO

1. Report any archaeological sites you find in South Dakota, especially if they are threatened with destruction, to:
 - USD Archaeology Laboratory
 - Department of Social Behavior
 - East Hall
 - University of South Dakota
 - Vermillion, SD 57069
 - (605) 677-5401
 or to
 - South Dakota Archaeological Research Center
 - Box 152
 - Fort Meade, SD 57741
 - (605) 347-3652
2. If you see what appears to you to be destruction of archaeological sites in South Dakota, contact the State Archaeologist, South Dakota Archaeological Research Center, Box 152, Fort Meade, South Dakota, 57741, (605) 347-3652.
3. Do not excavate in, or carry material away from, archaeological sites.
4. Do not buy or sell artifacts. When artifacts are treated as attractive and expensive objects to be traded and collect-

ed, they are often looted from sites to be sold on the archaeological "black market."

5. Publicize your area's cultural heritage and inform others about the need to preserve it.
6. Join state and local archaeology organizations. In South Dakota, you can join:

The South Dakota Archaeological Society.
As a member, you will receive the "Newsletter of the South Dakota Archaeological Society" and the annual journal, *South Dakota Archaeology*. Contact the USD Archaeology Laboratory.

or

the Middle Missouri Archaeology Club.
For more information, contact the USD Archaeology Laboratory. The club sponsors lectures and programs open to everyone.

7. Lobby for state and local cultural preservation laws.
8. Write to the Board of Regents for Higher Education in South Dakota and urge that more programs for students to obtain training in archaeology be established at state colleges and universities. South Dakota needs more trained archaeologists!
9. Become a certified site surveyor, field technician or lab technician through a program sponsored by the Council of South Dakota Archaeologists and the South Dakota Archaeological Society. Contact the USD Archaeology Laboratory or the State Archaeologist's Office.

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