

What is Archaeology?

How Exploring the Past Enriches the Present

by Jennifer Freer Harris and Charlotte A. Smith

Archaeology is the single most powerful tool to know, understand, and explain the entire human saga—from our earliest ancestors to modern society. Thus, archaeology can and does make substantial contributions to modern life. Archaeology has evolved from the glorified treasure hunting of its early days to be a sophisticated social science, with far-reaching explanations of human behavior. Consequently, when professional archaeologists, like ourselves, discuss the profession with the general public, as we attempt in this article, there is some value to covering the entire discipline, with its inherent complexities.

Substantial amounts of archaeological research are conducted with public support and funding, although, in general, members of the public remain unfamiliar with the process and goals of archaeology. Yet, to effectively manage and preserve America's archaeological resources, public involvement is critical. To address misconceptions and to underscore the complexities of archaeology, this article seeks to provide a definition what archaeology is that is accessible to non-archaeologists.

What Do You Think Archaeology Is?

When you hear the word archaeology certain images probably come to mind. Some people think artifacts are archaeology, and that the homes and offices of archaeologists must be strewn with arrowhead collections and the like. Others think “this is archaeology” when they stand atop a mound at

Etowah or Ocmulgee. Still others think “archaeology” when they gaze at “treasures” in museum displays. Actually, none of these truly represents the archaeologist's archaeology.

While archaeologists are excited by, interested in, and curious about artifacts and ancient constructions, archaeologists seek to understand the interplay of life, of society, of daily chores, of special rituals, of social and political power, and of why a community or region was abandoned or settled. In this article, we ask you to stop and reflect on the accuracy of the images and ideas you hold about what archaeology is. Does an archaeologist view the discipline differently?

Archaeology is the Study of...

Many archaeologists begin a discussion like this with a definition: *archaeology is the study of the material remains of our human past*. While that defines the term, it does not fully capture the magnitude of archaeological inquiry. Today's archaeologists can be very sophisticated in both the questions they ask of material remains and the answers they generate when they interpret that evidence. In this essay, we dismantle that textbook definition and discuss it one part at a time. We hope this clarifies the definition of “archaeology,” and gives insights into the underlying concepts of archaeology, including its methods and theories.

As an academic discipline, archaeology has an interesting history. To some scholars, it developed

Raiders of the Lost Ark: Dispelling a Hollywood Myth

Envision a scenario that many archaeologists encounter at least once in their careers: you are introduced as such in a social setting, facing the inevitable reaction of at least one person: "Ah, you're a real-life Indiana Jones! How exciting!"

Your new acquaintances mean well and are enthusiastic about furthering the conversation, trying to learn more about this unusual discipline, the people who work in it, and, most importantly, the artifacts you "dig up." You try hard not to bristle at the movie reference and they try not to look disappointed when you tell them that your interest is in human settlement patterns and the information they provide. They are openly dismayed to learn that you do not collect artifacts from the field at all. They are disillusioned that you do not dig anything, instead you walk over large tracts of land looking for signs of previous human activity. They are confused to learn that you leave the material remains you do encounter right where they are, after noting their characteristics.

They regain some sparkle in their eyes when they inquire about where you do your fieldwork—some-where exotic, surely, like Egypt or Mesopotamia.

Well, no, you work in the United States. Georgia, actually. In fact, your latest project was in Oglethorpe County.

All the while, the sparkle is fading from their eyes. Right here? In their own backyard? There's nothing exciting about that!

Or is there?

Many people maintain a romantic vision of what archaeologists do, where they conduct fieldwork, and what group of people they try to understand.

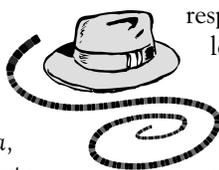
Archaeologists do, in fact, take part in an exciting field, but they experience that exhilaration from the

questions they ask about humankind and the unexpected answers they discover. They're excited when they discover, not an artifact, but a new way of looking at human behavior. That intensity can happen whether they are investigating prehistoric political boundaries in the prehistoric Southeast or working on a remote excavation in the Middle East. An archaeologist's questions are about people past, present and future, our similarities and our differences.

Why is the myth of the heroic treasure-seeker so harmful? If non-archaeologists conceive of archaeology as focused on artifacts, they remain unaware of the anthropological investigations that frame the questions archaeologists ask. Often, this can translate into a lack of concern for funding for archaeological preservation, educational outreach, and research.

If the public does not grasp the serious issues archaeologists explore, then why should they take responsibility for learning more about their local, national and international heritage? Why should they advocate for strengthened public policy in regard to planning and development and its devastating effect on the network of prehistoric sites? Why should they teach their children to respect the past, the people who lived it, and the materials that remain from their existence?

It is only when the public sees archaeology for what it is, a human science; archaeologists for what they are, knowledgeable researchers; and artifacts for what they are, simple tools to understanding the people who made, used, and discarded them, that we all can ensure the preservation of our irreplaceable archaeological resources.



from geology, while to others archaeology is an outgrowth of other disciplines, including anthropology, history, or geography. Still others have argued that archaeology stands alone as its own academic discipline.

Each archaeologist views the profession with his or her own theoretical assumptions, often implicit. Here is one of ours: *archaeology and archaeological theory are part of anthropology*. While specific questions about cultural chronology and detailed reconstructions of the past are within the realm of archaeological method, the archaeologist's overarching objective is to define and understand wider cultural processes. Generating those explanatory models of human behavior is part of anthropology. Not all archaeologists agree that archaeology is a

part of anthropology. Indeed, at the annual meeting of the Society for American Archaeology in April 2001, over 100 archaeologists gathered for an afternoon to debate this issue in an open forum.

Humans and their society, whether it is the present-day relationship between Kurds and the Iraqi government or between the Incas and their environment 2000 years ago, are within the realm of anthropological study. Anthropologists examine human behavior in all its contexts: geographic and environmental, societal, political, economic, and cognitive or cultural. Archaeologists track and explain change in all of these spheres, at multiple levels or scales, and over sometimes lengthy periods of time. Thus, archaeology is a tool for conducting anthropological research into past soci-

eties. It is a complex and sophisticated tool to be sure, with its own set of theoretical structures, but a tool nonetheless.

Because anthropology (and thus archaeology) is a holistic discipline, archaeologists are likely to adopt ideas and techniques from any discipline that touches on human life. Indeed, sometimes it can seem a veritable university is bearing down on an archaeological site! The methods archaeologists use to understand the past and all of its complexity are too numerous to list here. However, it is one of the strengths of archaeology that it has so successfully absorbed so many ideas from other kinds of research in both the hard and social sciences. Moreover, archaeologists work in many arenas including academic departments, government offices, national and state parks, cultural resource management firms, museums, and other public and private institutions. (For a readable, informative summary of the above see Dark 1995.)

Archaeology may incorporate aspects of many other fields of study, but it is not limited by any of them. It is not simply art history, nor is it purely scientific human ecology, for example. Similarly, archaeology is more than a subjective analysis that shifts with the changing attitudes and academic trends of the modern world. Archaeologists examine myriad variables to generate a detailed understanding of the complex creatures we humans are.

What Are Archaeological Data?

While the popular conception may be that archaeologists are only interested in artifacts, the reality is that archaeologists examine several different kinds of information in their quest to understand the past. Ultimately, it is not just the things that are important, but where they were found and what else was with them. Careful, systematic fieldwork allows archaeologists to recover sometimes subtle and ephemeral information from around artifacts, providing considerable detail about what they call context. Thus, archaeological data include *objects*, like artifacts and bones, but also the setting for those objects, or their *context*. Together, objects and their context form the basis of archaeological interpretation.

Material Remains

Most of the marks that man has left on the face of the earth during his two-million year career as a lit-

What is Anthropology?

Anthropology, broadly speaking, is the study of human beings. In North America, anthropology is divided into four sub-fields: archaeology, cultural anthropology (the study of present-day peoples and societies), linguistics (language), and physical anthropology (human and primate behavior and evolution). Archaeologists looking at ancient remains use theories and models of human behavior developed by cultural anthropologists, for instance, and there is informational give-and-take among all four sub-fields.

Anthropology is considered a holistic discipline because it investigates humans from so many different perspectives. Research techniques borrowed from biology, ecology, psychology, history, economics, and politics are all used to examine humans and their connections to the world around them. While it shares certain aspects with all of these fields, anthropology goes a step further by combining them in order to shed light on the totality of human culture and existence. The fields of sociology and psychology, for example, pertain to mostly urban, industrialized society, or the general mental structures of modern humans. Anthropology encompasses all peoples, urban and rural, modern and traditional, Western and Non-Western, past and present.

Archaeology is not always considered a sub-field of anthropology. In England archaeology is viewed as related to geology, because in both fields excavation is used to discover the sequence, or stratigraphy, of layers of remains (determining which layer or deposit is older—or below—which others). Other Europeans see archaeology aligned with neither history nor anthropology (Courbin 1988), and often disagree with the American focus on scientific method. No matter the discipline they ally themselves with, the archaeologist's aim is always to better understand our past.

ter-bugging, meddlesome and occasionally artistic animal have one aspect in common: they are things, they are not deeds, ideas or words.

—Glynn Isaac (1971:123)

As we stated at the beginning of the article, archaeologists study the material remains of the human past. Those material remains are composed of every conceivable substance on earth. If humans used, touched, cooked, ate, built with, modified, or created it, then it falls within the bounds of archaeological inquiry. Material remains are those stereo-

Site Destruction

Sites and other archaeological resources are disappearing continuously through looting, vandalism, environmental alteration, and modern development. Even if legislators immediately implemented the most extreme measures to protect archaeological sites, we would still lose hundreds, perhaps thousands, of sites each day across the globe.

Looters and vandals, although high-profile and newsworthy, only threaten specific kinds of sites. Those sites are generally large, well-known locales that hold rare artifacts and attract individuals seeking profit in the underground (and illegal) market for stolen cultural property. Looting must be curtailed and there are specific, targeted laws and procedures in place to limit those activities.

Today archaeological sites face another threat that is more menacing and dangerous—unrestrained sprawl. Sprawl—dispersed development outside of compact urban and village centers, along highways, and in the rural countryside—is responsible for the majority of archaeological sites lost today. There are no criminals to target in this situation. The offenders are lack of planning, an uninformed public, and meager information concerning the archaeological resources being impacted.

Any discussion of the future of archaeology must involve a large measure of conservation awareness. Most sites, because they are unknown and unrecorded, are vulnerable to even the most well-intentioned individuals. The archaeological community has made great strides in the last thirty years creating a process to reverse that trend. Archaeologists often favor survey and inventory whenever and wherever possible, and preservation over excavation. New laws have strengthened legal protections for archaeological resources on government-owned lands, and archaeologists are urging the public to consider stewardship of those materials on private land a fundamental obligation. Safeguarding our cultural heritage will only succeed when everyone works together.

typical artifacts commonly associated with archaeology: stone tools, potsherds, exquisite burial goods, and so on. They include the minuscule pollen traces buried in the trash pit of an Early Archaic camp, an animal bone with barely visible butcher marks from southern France, the temple mounds of Mexico, the foundations of a medieval house, the vast terraces of some agricultural lands,

and camps along the transportation routes of an early empire. Archaeological remains can extend across an entire region or consist of a microscopic fragment of DNA.

Context of Material Remains

So, in a sense, archaeologists *are* interested in artifacts, but that is only a small part of the story. More important than the artifact itself is where it is found and what it is found with—its context. There is much more to be learned from an arrowhead or potsherd when archaeologists know its context. They can learn who used these things, how and when they were used, and for what purposes. Similarly, an archaeological site is more informative placed within *its* context. It is then that archaeologists can see how it fits within a network of sites from the same period. Then, archaeologists can compare that network to those that came before and after. In addition to context defined by physical space, archaeologists are also interested in context as created by culturally defined spaces.

Context provides the details archaeologists need to reconstruct the past. As you might expect, context is directly affected by how material remains entered the archaeological record, and what happened to them with the passage of time. Clearly, depositional factors (or what happened to remains after they were abandoned) and variability in preservation affect the amount and kinds of information archaeologists can recover from material remains. Despite these problems, archaeologists rely on the context of artifacts and material remains to interpret the past.

The archaeologist's ability to garner information from material remains also depends on how they are recovered. Context remains a key. Context is not only the artifacts' placement over the landscape, but the linkages among artifacts, sites, settlements, and political regions (Figure 1). While painstaking, thorough excavations are important for understanding the where and when of material remains, the study of the distribution of sites and artifacts across broad areas provides important breadth to explanations of large-scale human activities. That ability to “zoom out” allows archaeologists to tackle the difficult task of explaining culture in its entirety, over long periods of time (Figure 2). This “wide-angle lens” ensures that

researchers are able to detect relationships or inter-relatedness among settlements, even if remote.

But what underlies the ability to make those cultural interpretations? Archaeologists assume that the placement of artifacts, features and settlements over the landscape is not random, but the result of human decision-making. In short, there are meaningful, observable reasons why objects are found where they are. Archaeologists take the fragments that remain from the original social system, piece them together in a way that represents the past reality, and then attempt to explain that reconstruction. That process is not as easy as it sounds and there can be pitfalls, as culture is far more than an oversized jigsaw puzzle.

To avoid misinterpretation, archaeologists try to be explicit about the process of abstracting from *Potsherds A, B, and C* to *Explanation Z*. The process is complicated and archaeologists continually seek to match their understanding of the past with the artifacts and building remains that they find. In other words, the archaeologist's work does not end at excavation; a significant part of archaeological research seeks to reveal the relationship between the material evidence that remains and the culture that left it behind. This process means that archaeologists allocate considerable time after an excavation to analyzing artifacts, drawing maps, writing reports, and other post-fieldwork activities.

Documents

In addition to material remains and their context, another important source of information for archaeologists is the documentation generated during the research process. During the course of a project, archaeologists produce a mountain of documentation, often including field notes, maps, photographs, artifact analysis sheets, electronic databases, and project reports. After over a century of archaeological investigations in the US, the body of information represented by these documents is considerable, and their importance to new and on-going research projects has grown. Indeed, *Early Georgia* has often published restudies of old data sets accessed through existing documentation (e.g., Chamblee, Neumann, and Pavao 1998).

How Do Archaeologists Collect Data?

Archaeologists examine a huge range of material remains, coupled with interpretations of how

Other Ways of Looking at the Past

Archaeologists divide the past into periods, generally identified by different types of artifacts and settlement patterns, and by different styles of artifact decorations. At the same time, archaeologists realize that these are modern, artificial ideas imposed on the continuum of the past. The people who lived on those sites and made and used those artifacts did not see such breaks in time. It is not surprising, then, that their descendants conceptualize the past differently from archaeologists. Notes Roger C. Echo-Hawk,

Archaeologists frequently say that the sites they excavate and artifacts that they recover can "speak" to us across the centuries, and physical anthropologists often think of collections of human skeletal remains as "libraries." In oral traditions, we can hear echoes of the actual voices of the people who made those artifacts and who were the original owners of those skeletons....

As a concept, "prehistory" interferes with recognition of the validity of the study of oral traditions because it presumes an absence of applicable records.... It may be technically correct to apply the term to periods in time for which no writings exist, but its usage as a taxonomic device emphasizes written words, while presuming that spoken words have comparatively little value. (2000:285)

Today's Native Americans think of the past not in the periods of the archaeologist (e.g., Mississippian, Woodland, Archaic), but in terms that have continuity with their own cosmology. Indeed,

...Mississippianism should...be viewed as constituting the context for the entire range of characteristics that provided, and continues to provide, coherence to the culture base of the Seminole and Miccosukee and Creek descendants of the Maskóki peoples today. (Wickman 1999:35)

Knowing these two lines of evidence—both the oral tradition and the archaeological interpretation of the past—deepens our understanding of the past.

Oral traditions and the archaeological record both reveal the workings of these [traceable social] processes, and both provide important knowledge about the ancient past. Archaeology is inherently multidisciplinary, so the study of oral literature should exist as one more realm of legitimate inquiry. (Echo-Hawk 2000:288)

they were made, used, and discarded, to try to understand how people lived, loved, and died in the past. Archaeologists obtain these material remains basically using two methods: excavation

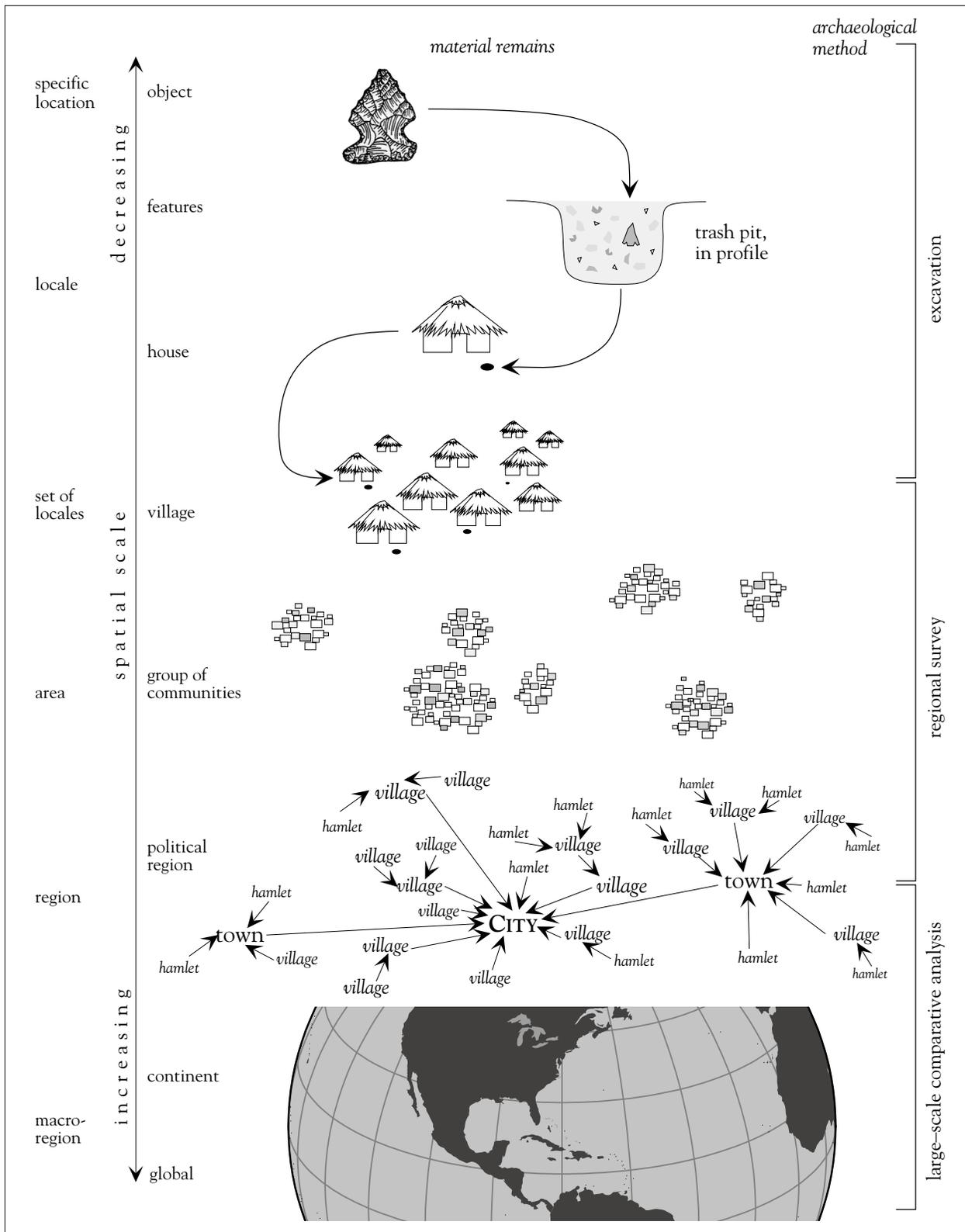


Figure 1. Space and scale in archaeology. Human activities occur different-sized spaces and at different scales. Archaeologists use methods carefully tailored to understanding human behavior at various scales. Shown here are scales that range from the individual artifact to the global. This is but one example of the ways in which archaeological method and theory intersect with the physical remains of a culture. *Please note:* the schema above is not meant to outline a universal trajectory for all cultures, or that all societies develop along the same evolutionary path.

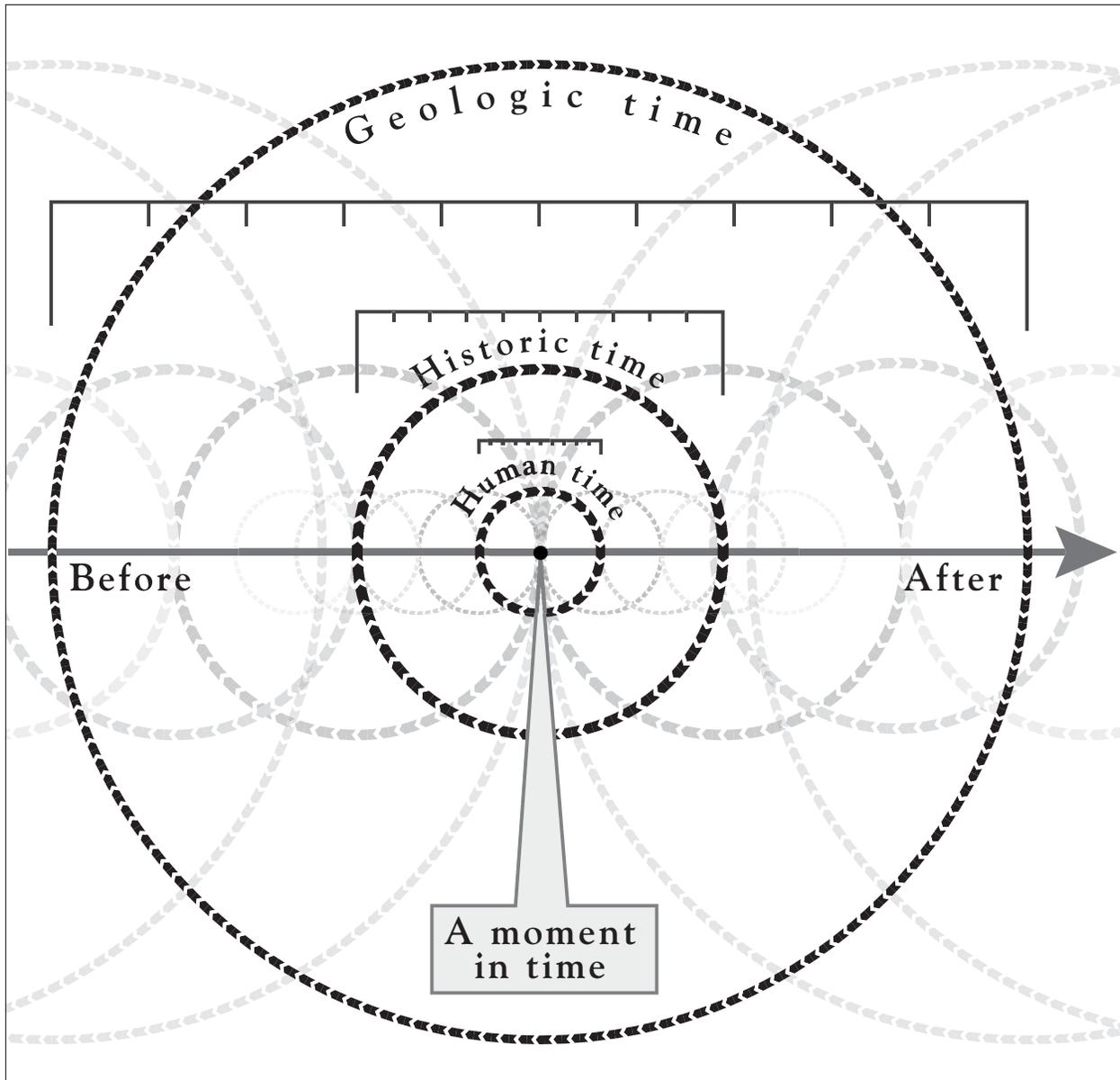


Figure 2. Time and scale in archaeology. Although archaeologists understand linear time, they also seek to understand cyclic patterns in human and natural phenomena. At any moment in time, many types of cyclic patterns may be in play. Most of these are not evident to the people whose lives are enmeshed in those patterns. However, from a viewpoint distant in time and space, archaeologists seek to identify those kinds of patterns. This figure shows three units of time, differing in scale and rate of change. These are just three of perhaps infinite scales that might be used in archaeological or historical analysis. For more on cyclic patterns when analyzing the past, read Braudel’s *On History* (1980). The three cyclic patterns in this figure do not correspond exactly to Braudel’s three cycles of change.

Geologic time. This is a long-term cycle reflecting environmental and climatic shifts, and changes in human adaptation that span millennia. Although we live enmeshed in geological time, we tend to be unaware of these slow changes in our daily lives. Only when they hear of studies of greenhouse warming, for example, do most people realize how change on the geologic scale affects their own lives.

Historic time. These patterns reflect changes in social, economic, or political systems—the rise of capitalism or the Renaissance, for example. Individuals are peripherally cognizant of these changes and their impact on our lives. We know that “society was different during the 1800s,” for example.

Human time. This scale denotes the daily, annual, or generational changes that we all experience: birth, death, social interactions, agricultural seasons, and changes in fads or fashions. We fully experience, and are aware of, human-scale changes during our own lifetimes.

and survey. Often the two are used in combination, which means quite powerful data are generated.

Excavations produce information about how objects were used in a household, for instance, or the pattern of special activity areas in a community (e.g., where trash pits were in a Mississippian vil-



Researchers examine the freshly scraped surface at the base of the plow zone for features at the Raccoon Ridge site east of Atlanta. Left to right: Keith Stephenson, John Worth, Dea Mozingo Kennedy, and Pat LoRusso.

lage). Excavation is a labor-intensive process that begins with pre-excavation planning, including developing a research design that draws on previous research to determine what might be found and how best to collect that information. After excavation, there's also the cleaning and cataloguing of artifacts, tabulation, sometimes analysis by specialists (e.g., zooarchaeologists, palynologists, chemical analysis of ceramic composition), as well as the big job of producing a report that documents the field and laboratory work. Many archaeologists estimate they must budget at least as many staff-hours for laboratory analysis and report writing as they do for fieldwork—that's a lot of time! Excavation is also expensive because archaeologists have an ethical obligation to save all of the artifacts recovered and the documentation produced (e.g., field notes, maps, analysis forms, databases, photographs) forever.

Survey, or walking across the land systematically looking for evidence of previous human activity, provides a different kind of archaeological data.

Sometimes survey archaeologists can examine the ground surface directly for artifacts, for instance, in a plowed or fallow field, or along a road cut. Mostly, an archaeologist must create instead small "windows" to see what is buried under leaves or grass. To do this, they dig small holes, called shovel tests, sift the soil through a fine-mesh metal screen to collect all artifacts and examine the shovel test profile for evidence of features. By identifying these material remains, potentially including temporally diagnostic objects (ones they recognize simply by visual inspection were used at a certain time), and plotting their locations, archaeologists hope to determine how many people lived at a site and when they lived there. This basic information is used extensively in settlement pattern studies, and is crucial to understanding broad-scale issues of human cultural change.

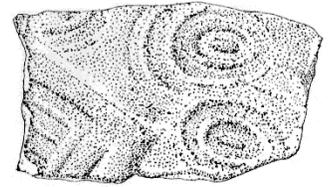
Whether archaeological research involves doing a survey or conducting excavation, archaeologists have an ethical obligation to save all of the artifacts and documents produced forever. This is known as *curation*, which is a process whereby archaeological data are organized sufficiently to insure future scholars have ready access to it, and stored in a facility that will insure their long-term protection (climate-controlled, secure, fire resistant). While curation is not part of collecting archaeological data, it is an important part of preserving those data for future generations.

Thus, archaeologists are concerned with detailed information about specific locales collected through excavation. But, they are also interested in survey data that shows how people arranged themselves across the landscape at any given time (analogous to a census), and how those patterns shifted through time. Archaeologists are unable to obtain this information, and it is lost forever, when modern land use destroys archaeological sites and the information they contain before surveys can be conducted.

The Who, What, Where, When and Why of Archaeology

In a recent survey commissioned by the Society for American Archaeology (Ramos and Duganne

Applying the who, what, when, where, and why questions of archaeology to the Swift Creek example (for more on Swift Creek, see Bense 1994, and Williams and Elliott 1998). Archaeologists often use the name of an artifact complex to indicate a cultural group—the Swift Creek people, for instance. This is a bit of a misnomer, as such a modern name could never have been used in the past. Also, the people using the style archaeologists identify as Swift Creek may not have seen themselves as a single, integrated group, as the term “Swift Creek people” implies.



Swift Creek sherd

<p>Archaeological Questions</p> <p>Methods and Techniques</p>	<p>Middle Woodland Swift Creek (0–500 AD) Example</p>
<p>When (chronology, timeline)</p> <p>Dating methods are both relative and absolute. Cultural periods may be marked by specific artifact styles, but can also include entire cultural complexes (ceremonial goods, burial practices, presence of agriculture, etc.).</p>	<p>The characteristic marker (or diagnostic artifact) for Swift Creek culture is its complicated-stamped pottery—with distinctive curvilinear designs such as scrolls, spirals and concentric circles. Archaeologists believe that people making pottery with Swift Creek designs lived for about 500 years, or perhaps 20 generations or more.</p>
<p>Who, What, Where</p> <p>Archaeologists plot the locations of sites with diagnostic artifacts to see the geographical extent of interacting groups. Some studies examine minute details to assess what people ate, their burial practices, and other aspects of daily life.</p>	<p>From the plotted occurrences of diagnostic Swift Creek pottery, the Swift Creek culture has now been identified across south Georgia and northwest Florida. People who used Swift Creek pottery occupied large camps along floodplains, smaller, temporary camps in upland areas, and there is some evidence for large shell middens (or trash heaps) in coastal areas.</p>
<p>Why, How</p> <p>Anthropological and archaeological theories attempt to explain broad patterns of cultural change and continuity. Often these models are derived from studies of living peoples from distant parts of the globe.</p>	<p>During the Woodland period, which includes Middle Woodland Swift Creek peoples, archaeologists find a slow shift from hunting, gathering, and fishing, to the first attempts at agriculture. During the Woodland period, archaeologists find evidence for an increase in special ceremonial activities that suggest new political stratagems for leadership. These kinds of changes are interpreted using anthropological theories of sociocultural change (and are beyond the scope of this article).</p>

2000), members of the public were asked what came to mind when they heard the word archaeology. Thirty-seven percent of the respondents answered “digging” in some form (digging artifacts, digging bones, etc.). If there is any message archaeologists would like to convey to non-archaeologists, it is that *archaeology is more than digging*. Excavation, trowels, and artifact recovery are tools that archaeologists use to systematically compile information about past peoples, but they are not the final objective. Most archaeologists *only* excavate if a site is threatened by destruction, and before excavation they write a well-developed research design that guides them in obtaining the maximum information from that excavation. This is because by its very nature archaeology is destruc-

tive, and there is only *one* opportunity for excavation.

To better understand what archaeologists *really* do, it may be helpful to outline the discipline’s fundamental goals. Archaeologists perform a three-tiered investigation of the human past by: 1) establishing a timeline or chronology of events; 2) reconstructing past lifeways; and, 3) providing explanations for patterns of human development (Thomas 1991). These elements build upon each other, allowing archaeologists to address a variety of complex questions about human societies.

Asking When

One key to discussing the past is an understanding of the sequence of events, in both absolute and

Writing: The Difference between History and Prehistory

The development of writing conventionally marks the shift from prehistory to history in a particular culture. Written documentation is used by archaeologists to either supplement or trigger their work. In turn, archaeology may confirm or refute historically-accepted events, depending on the evidence from the archaeological record. Together historians and archaeologists can present a clear, well-rounded view of the past.



Maya hieroglyph

Many people think the term “prehistoric” indicates the same time across the globe. Instead, writing systems developed at different periods throughout the world, so that one geographic area may be “prehistoric” at 1000 BC, while another has fully developed historic documentation.



cuneiform symbol for ox

Some of the earliest writing dates from 3000 BC in Mesopotamia. The Sumerians developed what is called cuneiform script although it was not a full writing system in the modern sense. It was used for documenting property ownership, accounting records, and other business transactions. The Egyptians developed hieroglyphics about 100 years later, perhaps as a result of a Sumerian stimulus. Soon, writing systems were created on Crete, and in Turkey, Pakistan, and China. The Greeks developed the first full alphabetic writing about 800 BC. In the New World, the Mayas are credited with the first systematic writing at about AD 300.



Chinese characters

relative terms (see table above). Archaeologists use many dating techniques to help them with this task, including radiocarbon, obsidian hydration, potassium argon dating, and dendrochronology to name a few (see glossary for definitions of these and other terms). For relative dating, archaeologists use seriation and artifact typologies for comparison. These techniques allow archaeologists, with vary-

ing degrees of accuracy, to establish when people used a site (the site’s occupation), or when a hoe or cooking pot was manufactured. Once this is known, the occupation can be placed in a temporal spectrum (or timeline) so that it can be compared with those that came before and after. For each region of the world, archaeologists can then develop a cultural history. At an even larger scale, those regions can be compared, too.

When is a fundamental question asked by archaeologists. Only by establishing the dates of the use or occupation of a site can archaeologists determine if and how past societies changed. Once the chronology is understood, the long chain of events that constitutes the human past is more complete and the *why* questions—for instance, why did these changes occur? why did the people move away (or why did they stay)?—can be addressed.

Reconstructing Past Lifeways

As has been stated many times, archaeologists are interested in understanding how past people lived their lives, and this is done by piecing together the information provided by artifacts and sites, and their contexts, gathered through excavation and survey. Once assembled and interpreted, these data can reveal how people obtained their food and what they ate, where they lived and in what type of buildings, how they practiced their religion, what type of social system they were a part of, and perhaps even who they married.

Most archaeologists agree that an important part of understanding how people lived in the past is a knowledge of the physical environment they inhabited. After all, the nature of the environment largely determines what kinds of food and other materials are available for people to use. Some archaeologists feel that the limitations of the environment basically make the society the way it is; others think social and economic relationships among individuals and groups are far more important than the environment in determining how a society develops.

Asking Why and How

In the process of explanation, archaeologists develop more questions than there are archaeologists to answer them. How and why did agriculture take root in different areas of the world? How and why do cities, states, and nations develop? What happened to cultures around the globe during the

rise of European capitalism? How do political alliances affect warfare, trade, and power in the prehistoric Southeast? And how are these large-scale processes linked to the individual who herded cattle, helped settle tribal disputes, and raised three children in India a thousand years ago?

Coupled with data from excavations, regional survey is best suited to help answer broad questions about human adaptation because it allows us to investigate entire political and social systems over the span of many hundreds, or even thousands, of years. To better understand these systems, archaeologists specialize in many different theoretical and technical aspects of cultural studies: rise of chiefdoms and states, regional analysis and settlement systems, subsistence studies and ecology, political economy and commerce, along with many others. Each of those tackles a different aspect of behavior, and yet all of them touch on the central themes of our shared human trajectory.

If history never repeats itself, and the unexpected always happens, how incapable must Man be of learning from experience!
—attributed to George Bernard Shaw

A Personal Viewpoint from the Authors

We became archaeologists for the same reasons as many of our colleagues—to add to the body of knowledge about human activities. Although we do not deny the fascinations of the discipline, archaeologists are not archaeologists for the thrill of discovery, the romance of excavation, or the beauty of the artifacts. We investigate how humans interact with each other and with the world around them. That world includes the influences of politics, society, environment, and religion that impact every person, no matter when he or she lived and died. That world also includes other peoples and other cultures. We seek to understand not only our differences, but also our commonalties.

We have focused much of this article on the subjects of spatial and temporal scale in human life and culture. We think that it is important to reinforce that point to clarify a misunderstanding about what it is we do. From our conversations with non-archaeologists, we know that many people envision our work as at a particular site (the Great Pyramids), or conclude that we focus on a particular people (the Hopi), or time (ancient Greece). One strength of archaeology lies in its ability to pool and compare data from thousands of

years of human adaptation, entire social systems, and the cultural dynamics of one civilization after another. The archaeologist's power to decipher human behavior stems from the ability to adjust the scale of study to the types of questions asked.

Studying the Human Past

Archaeologists use time, space and information gleaned from artifacts, sites, and their contexts to explore the human past. Of course, archaeology is not unique in shedding light on past human events; history gives us volumes of detailed records spanning centuries. Instead, the essence, the necessity, of archaeology lies in its ability to reveal the entire human record. Accordingly, archaeologists include both the recent and distant past in their investigations as, contrary to public perception, archaeological research is not limited to the study of pre-literate societies, or prehistory.

Many, though not all, North American archaeologists interpret the past from an understanding of human behavior derived in large part from anthropological studies and theories. Thus, they seek to understand how people have lived not only at the small scale of the individual household, but also at the broad scale of multiple communities and regions. Archaeologists also look at the past not as a single point in time, but they seek to understand change and variation, or even continuity, over time.

Archaeology can be narrowly defined to be about specific individuals in particular locations at a certain time in history, but this is not the profession's ultimate objective. Archaeologists are, in the end, examining general patterns of human behavior. Archaeologists use painstaking methods and techniques to uncover the building blocks of the particular—for instance, an individual's daily activities, and the household and community in which these activities took place. But those pieces alone cannot explain the whole—a culture, a society, how humans behave.

We can use film as an analogy. One frame of film shows a moment in time, out of context and short on narrative—a snapshot. Run a series of frames together and it shows a sequence of events and presents a more meaningful experience—a movie.

Archaeologists will never find the entire film intact, but they can splice together enough frames to follow the unfolding story of humankind.

Over a generation ago, Grahame Clark (1957: 261), a British archaeologist, wrote that in order to stimulate a consciousness of world history

...the unit of history has to be expanded from the parochial to the universal, from the history of nation or civilization to that of the world.

Archaeology is ideally situated to meet those universal criteria, both in time and space.

To understand history and archaeology is to explore our past, to ponder our future, and to enrich our perception of the present. This awareness informs us about ourselves as human beings, and opens doors to understanding other cultures, other places, and other times.

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