

Introduction to
Anthropology:
Holistic and Applied
Research on Being
Human

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ISBN: 9798858723769

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MODULE 3: RESEARCH METHODS

Cultural Anthropology Research Methods

In this chapter, we describe how anthropologists' study human behavior, both in the present (cultural anthropology) and the past (archaeology). Because Anthropology is a holistic field that covers all aspects of humanity, the methods used by anthropologists are vast. For this reason, we will focus on traditional methods of cultural anthropology and archaeology within this module. You'll learn more about methods used within these subfields, as well as biological and linguist anthropology, throughout this resource. Regardless of subfield, an anthropologist's unique toolkit and skill set enables them to appreciate the many ways of being human on our planet, communicate fluently with diverse groups of people, and to think critically and reflectively.

Cultural anthropologists use **ethnography** as a research strategy to critically observe and analyze the actions and interactions of human groups. Ethnography is at the heart of the **anthropological toolkit** of methodological, ethical, and theoretical approaches that cultural anthropologists use to conduct -research. It typically involves living with people or participating in their daily lives for an extended period. However, this isn't just a practice used in remote settings; it is also used in communities much closer to home or even online. Through ethnography, anthropologists explore and build theories about social life and human behavior. We conduct empirical research, involving direct observation and documentation, but

ethnography isn't just a scientific method; it's also an art form. Ethnography teaches mindfulness, critical thinking, self-awareness, and cultural relativity. We learn to be aware of our cultural lenses as we build relationships, and we explore human creativity, experience, and meaning, which involves the art of translation and interpretation. By documenting, analyzing, writing about, and connecting or collaborating with people who are culturally both similar to and different from ourselves, we learn about human diversity while challenging our assumptions about "just the way things are."

Starting with People

Let's start with a recent example of culture change: the use of masks during the COVID-19 pandemic in communities across the United States. Masks are interesting, because they show the ways in which elements of culture, including symbols, values, beliefs, and behaviors, can be tangled up together. For most people in the United States, wearing masks was something new in our daily routines. We also had to fit them into our habits and navigate a complex social world of meaning in spaces where masks were either required, optional, or somewhere in between. During the pandemic, one small article of clothing became a powerful and **polysemic** symbol. Polysemic refers to multiple layers of meaning that symbols can have. Over the course of the pandemic in 2020, battles over mask-wearing symbolized a battle over values, identities, and norms during a time of profound societal changes and challenges.

If public health practitioners wanted to encourage people to wear masks in a way that most minimized the risk of transmission, that meant engaging with these various aspects of culture and not just sharing epidemiological information and statistics with a target population. To direct a shift in cultural practices, we must start by understanding what things mean to people, how they fit into their lives, and how they intersect with the multiple social roles and identities that people have, and the systems that they are embedded within. In short, we must start with people.

Starting with people means navigating complex social relationships, building trust, asking questions, listening, observing, and participating in

people's social worlds. Starting with people also means approaching research with **cultural relativism**, which is the idea that cultures must be understood on their own terms and based on their own contexts instead of being judged by the standards of a different culture. Often the things that are designed for people (policies, products, or programs) don't connect with the lived experience of different people. Ethnography shifts focus towards peoples' lived experiences and the ways they understand and interact with the world.

A Toolkit for Ethnographic Research

We typically think of a toolkit as a box of instruments that is sturdy and physical. Anthropologists use notebooks, cameras, and various software programs for data collection and analysis. However, the anthropological toolkit also includes a series of perspectives, strategies, and prep work for doing research because of one fundamental aspect of ethnography: *the ethnographer is the main instrument for generating data*. The **ethnographer** becomes the instrument because they ask questions, build rapport, and notice and record specific details.

Anthropologists ask questions, and the kind of questions we ask, and who we ask them of, varies depending on the research design. The ethnographer figures out what details to record, and what questions to ask, because it simply isn't possible to notice, investigate, and describe everything. Early fieldworkers in anthropology sought to understand as much as they could about culture groups by investigating how different parts of culture and society, such as religion, political organization, or kinship, all fit together. Another primary focus of early fieldwork was **salvage ethnography**: documenting and recording the practices and cultural beliefs of groups threatened with assimilation or extinction by colonialism. While the seeds of fieldwork methods began in these early contexts, anthropologists have shifted away from conducting fieldwork that views cultures as isolated, homogenous, and traditional. Today, most cultural anthropology is what we call **problem-oriented**; that is, ethnographic research focused on a particular issue or conflict.

For example, Amanda Poole and Jennifer Riggan are cultural anthropologists who conduct ethnographic research in Eritrean refugee

camps in northern Ethiopia. Their research focused on a particular problem: why schools set up for refugees were failing to retain students, many of whom were choosing to leave the country or even risking their lives in their attempt to reach Europe. New global migration policies are designed to keep refugees from risking the dangerous journey to Europe by providing educational and employment opportunities that would encourage them to remain in refugee hosting countries like Ethiopia. The experiences, perspectives, aspirations, and struggles of Eritrean refugee students illuminate the fraught nature of these global migration policies. Rather than a peaceful process of local integration and resettlement, these policies are experienced as a violent form of containment because they hold mobile people outside of developed countries where they might pursue stable livelihoods and sense meaningful progression in their lives. In short, we cannot learn about the work that global migration policies are doing in the world unless we learn from the lived experience of people. However, many of these people do not have a seat at the table where these policies are designed.

This approach to ethnographic research is often **multi-sited** as it investigates a social phenomenon across various social actors and institutions from classrooms in refugee camps, to the headquarters of development and humanitarian aid organizations that coordinate education program for refugees, to centers of administration where policies are made far from the camps where people are living. This approach helps to account for the external forces and entities that shape what happens in peoples' lives and lands. Ethnography is also **multi-timed**, meaning that it focuses on multiple time periods, often through **longitudinal** (long-term) research that is based on repeated visits. A long-term perspective lends itself to a multi-sited project as people, projects, and institutions are increasingly in motion, but even across diverse and dynamic settings, ethnography maintains a focus on lived experience.

Preparation for research is an important step to help you figure out what to focus on. Conducting a **literature review** involves investigating and synthesizing existing scholarship, often for the purpose of clarifying your own research questions, methods, and goals. Identifying the major findings and debates on topics related to your work helps to refine a project's focus.

Identifying gaps in the scholarship is also useful for thinking about the significant contributions your own research might make. For example, in reviewing the literature on refugee education, Poole and Riggan discovered that anthropologists who worked with refugee communities typically didn't focus on schools, so there wasn't much ethnography done in these settings. At the same time, the growing literature on refugee education from other disciplines provided important insight on how many refugee youth lacked access to schools, but ethnographic questions such as "What does school mean for refugees?" weren't really being asked. In the case that refugee students did have access to schools, why weren't they all going?

One of the key methods in the ethnographic toolkit is **observation**. Structured observations occur when the researcher tries not to interfere in what is happening while they observe particular items, often, at pre-determined intervals. However, much ethnography happens through **participant observation**. Rather than trying to be unobtrusive, participant observation involves the opposite by actively engaging in the lives, activities, and events of the people you are working with. It involves learning the language, building long term relationships, and becoming culturally fluent. This method depends upon excellent note-taking skills that can record rich sensory, spatial, and social detail. Just interviewing people is not participant observation. If you were studying farming families in rural America and interviewed hundreds of people by sometimes flying out to remote areas to talk to them in the local café, this would not be participant observation. Participant observation is spending significant time in a small town and immersing yourself in the life and work of a farming community, then stepping back enough to write about what you learned. Participant observation is a craft that can help **validate** data because it provides a general understanding of what things mean and how they work in particular places. These places can vary from a farming community, to a court room, a classroom, or clinic. Participant observation is founded upon building trust, or **rapport**, with research participants. You can see three examples of participant observation in the video *Doing Anthropology*.



Video 3.1. Check out the video about MIT anthropologists “doing anthropology” and explaining examples of participant observation online for more details!

Qualitative vs. Quantitative Research

Cultural anthropologists conduct both quantitative and qualitative research. Quantitative research produces data that can be analyzed statistically and generalized to describe a broader population. For example, quantitative data may tell you what percent of college students experience food insecurity. This kind of research usually involves sampling, in which a randomly selected group is chosen from a larger population, and they are studied. For example, how polls randomly sample voters during an election. In contrast, qualitative research does not produce numerical or statistical data to represent many research participants, but rather goes into more depth with fewer research participants to provide a nuanced understanding of issues and settings that may initially be unfamiliar. For example, qualitative data looks deeper into the statistics to show *how and why* different kinds of college students experience food insecurity, and what it means to them. For ethnographic qualitative research, research participants are not randomly sampled because social life and culture are patterned, not random. The anthropologist selects research participants who are knowledgeable about particular topics and willing to share their time and stories. In short, quantitative methods give you an understanding of the scale of an issue, while qualitative methods help you understand what the issue means. Often, both quantitative and qualitative approaches are used, which anthropologists call a **mixed methods** study. Below we describe three specific “tools” common to mixed methods research.

Qualitative research typically involves **ethnographic interviews**; a method you saw used in the *Doing Anthropology* video. Ethnographic interviews are often unstructured or semi-structured, meaning the researcher has a clear plan, or in the case of semi-structured interviews, a list of pre-written interview questions, but the interview is fluid. It is designed to prompt conversation, to get people to open up, and let them express

themselves (see Figures 3.1 & 3.2). Interview questions are often open-ended. Instead of asking for yes-no responses to specific questions, they ask interviewees to share their thoughts and experiences. For example: rather than asking, “Has your life as a student changed during the pandemic?”; you would instead ask, “*How* has your life as a student changed during the pandemic? Can you share an example?” The first question would elicit a simple yes or no answer, the second questions would potentially elicit a response with more detail and reflection.

Often, ethnographers rely on **cultural consultants**: people who become central to the research as cultural guides, mentors, and translators. A similar method that focuses on individual stories involves **life-history**, in which a person is asked to recollect their experiences across various time periods, providing intimate insight into past and current events. Life-histories are often recorded across several long sessions and transcribed (converted from audio into text). A classic example of the life-history method in anthropology is Marjory Shostak’s ethnography, *Nisa: The Life and Words of a !Kung Woman*. Nisa, a woman from a mobile hunting and gathering community in southern Africa, shared stories from her life with Shostak. The life history approach helps readers compassionately imagine the complex experiences of women in hunter gatherer communities with childhood, relationships, motherhood, and aging.

A **survey** involves asking the same set of questions to everyone that you sample, often in the form of a questionnaire. If it is not possible to survey everyone in the population, a random sample with enough participants can produce data that can be generalized to the entire group. For example, anthropology students in the Indiana University of Pennsylvania’s Environmental Anthropology class worked with the local community garden for one year. The Indiana Borough community garden is comprised entirely of volunteers who apply for garden plots each season. Students did participant observation at the garden to learn about the use of this space, and the kind of community that took shape around it. They interviewed garden leaders and members about why they participated in the garden, how it was meaningful to them, and what their aspirations were. They then conducted a survey to see how widespread these ideas were across all garden members. The survey also gave students a portrait of how diverse the garden

members were across social class, race, ethnicity, and gender. This data helped inform the garden leadership in their efforts to diversify their members and deepen their role within the community.



Figure 3.1. Indiana University of Pennsylvania anthropology student interviewing a participant from the local community garden. Image courtesy of L. Homsey-Messer.



Figure 3.2. A restaurant in a refugee camp in Northern Ethiopia. Image courtesy of A. Poole.

Ethics in Cultural Anthropology

Ethical considerations are central to every single step of ethnographic research, from the earliest planning stages to well after the research has been made public. Anthropologists make difficult ethical decisions while doing research on complex topics. In doing so, we are guided by a set of principles established by the [American Anthropological Association](#). The first and most important principle is “do no harm.” Even if the result of adhering to this code is to cancel a research project altogether, our primary obligation is to avoid causing harm to research participants in terms of their bodily wellbeing, material wellbeing, and dignity. One primary way that anthropologists work to ensure that their research does not harm participants is through **anonymity**, meaning that the identities of research participants are protected by omitting identifying characteristics. Pseudonyms (invented names) are used for people and are sometimes used for towns and institutions, depending on the sensitivity of the topic and potential for research participants to be identified.

Another core ethical principal guiding ethnographic research is to be open and honest regarding our research, including our methods, sponsors, goals, and intended outcomes. Anthropologists do not trick or deceive people to see what they will do in certain situations or omit information that might influence someone’s willingness to participate in a research study. A closely related ethical principal involves **informed consent**. Anthropologists explain the goals, methods, funding, outcomes, and potential risks and benefits to all potential study participants to ensure that their participation is voluntary and fully informed. Often, informed consent is done in writing with a document signed by the research participant, but there are situations in which written consent is not possible or appropriate, and informed consent must be conducted and documented in other ways. U.S. federal regulations protect human subjects involved in research, including ethnographic research. Federal regulations also require informed consent and includes particular consideration for vulnerable human subjects such as children, people who are incarcerated, or economically disadvantaged people. At academic institutions, Institutional Review Boards (IRBs) review research that is proposed by students or faculty to evaluate them to ensure

that the methods proposed comply with these federal regulations.

Writing and Rendering Ethnography

One of the goals of ethnographic fieldwork is grasping the **emic** perspective, which refers to local understandings and interpretations, in contrast to the **etic** perspective, which refers to the perspective or interpretation of the outside expert. If the emic perspective is missing from research, then policies and programs based on that research may fail to meet the needs of local communities, or worse, may exacerbate problems. At the same time, etic perspectives can provide important insight by drawing from concepts in anthropology and cross-cultural comparison. Anthropological writing blends both perspectives by sharing emic perspectives and analyzing them to explore what they teach us about the world.

Emic perspectives are prioritized in ethnographic writing using **polyvocality**, which refers to the presence of multiple voices in a text. In ethnographic writing, this involves direct quotes from research participants who have shared stories and perspectives in their own words. Another convention of ethnographic writing involves **reflexivity**, or a reflection on the role played by the anthropologist in the process of conducting research, particularly in terms of the ways in which the anthropologist's identity may shape fieldwork. How might age, gender, ethnicity, race, sexuality, or nationality influence the ease with which particular topics can be addressed? Ethnographies are often written in such a way that these aspects are explored as a fundamental dynamic of the fieldwork process.

Much ethnography is in written form, but there is also a strong tradition in anthropology of rendering ethnography in creative formats including video, theater, and dance. Ethnographic work can use visual images and video to document social life and events, along with exploring issues of representation, framing, and interpretation. Participatory photography is a visual research method in which people use photography to document, explore, and dialogue about social issues and potential solutions in their own communities (see Figure 3.3).



Figure 3.3. A participatory photography project youth in Chiquimula, Guatemala was designed to better understand and include local knowledge and needs in agricultural policy and research. Photocredits: Manon Koningstein (International Center for Tropical Agriculture, CIAT)

While film can be a powerful medium to convey ethnographic data and insight, performative ethnographers explore culture through the medium of theater. Ethnographies can be performed to audiences in ways that explore complex social conflicts, unsettle assumptions, and help people imagine themselves in other roles. Similarly, dance can be a medium through which anthropologists explore cultural identity, tradition, hybridity, power, and representation. **Katherine Dunham** was an African American anthropologist who pioneered dance anthropology, ran the only self-supported Black dance troupe of her time, and was a racial justice activist.

Fieldwork Skills for Life

Ethnographic fieldwork skills are also life skills. Fieldwork is a learning process during which the fieldworker is open to learning new things and can synthesize new information. This involves cultural relativism, recognizing and respecting that people's experiences, perspectives, and cultures vary. Fieldwork also means asking sound questions that can get at

meaningful data, paying attention to detail, active listening, building thoughtful and ethical relationships with others, and recognizing social networks to work within them. Fieldworkers must also constantly evaluate the validity of their findings, which involves the capacity to think critically. Finally, the unexpected often happens during ethnographic research. People might wind up caring a lot more about a topic other than the one you thought was most important to focus your research on, thereby, prompting a shift in focus. Uncomfortable moments happen; particularly, in places where the local language and culture are unfamiliar. You may say something that seems perfectly reasonable to you but winds up being offensive to the people you are working with. Fieldwork involves being able to adapt to changing circumstances with self-reflection.

There is another way that ethnographic skills can be broadly relevant. In her brilliant *TED Talk* TED talk, Nigerian writer Chimamanda Adichie warns of “the danger of a single story” (see Module 1: Introduction to Anthropology). Stories, she argues, are powerful in the way that we use them to make sense of the world and shape our interactions. However, when we have limited stories about groups of people, or one story is used as the *only* story of that group, this leads to stereotypes. Learning and listening to many stories can open up entirely new worlds and ways of thinking and communicating. Learning multiple stories also makes it harder to dehumanize people. To **dehumanize** is to attribute less than human characteristics to a group of people or to strip them of positive human attributes like dignity, agency, intelligence, kindness, or compassion. Adichie argues that “[w]hen we realize that there is never a single story about any place, we regain a kind of paradise,” and it makes it possible to recognize our equal humanity. Ethnography is the methodology in cultural anthropology that breaks down the single story.



Video 3.2. Check out the video about TED talk featuring Chimamanda Adichie discussing the dangers of a single story online for more details!

Archaeological Research Methods

In North America, archaeology developed as a part of the four-field approach in anthropology. Through this approach, archaeology is intimately connected with cultural, biological, and linguistic anthropology. This is different than in Europe, where archaeology and anthropology are often treated as separate fields, with archaeology being more closely related to history. Here, we describe the development of basic archaeological approaches in North America, including how archaeologists excavate and interpret human behaviors from archaeological sites and artifacts.

Foundational to archaeological research is the connection between present-day activities and cultural items from the past. The Direct Historical Approach arose based on cultural anthropological work. Anthropologists such as Frank Cushing, in his study of Zuni culture, and Franz Boas, in his studies of Inuit cultures, realized the connection between human behaviors and artifact patterning in the present. Although many nations were forced from their traditional lands in other regions, early anthropologists, such as Cushing and Boas, had the opportunity to study and interact with indigenous peoples still living in their ancestral homelands. When past artifacts were uncovered from archaeological sites, indigenous nations could sometimes provide insight into mysterious objects with unknown purposes. Many indigenous groups also possessed comprehensive oral traditions that linked their cultures with significant sites in the region. Early archaeologists appreciated that they could learn about the past by working backwards from the present. However, in many cases, archaeological sites were found in areas where indigenous groups no longer lived. Many of these sites were abandoned when Europeans first arrived in North America but, even in ruins, they captivated the imaginations of early archaeologists (see Figure 3.4).



Figure 3.4. Modern day view and artistic reconstructions of Monks Mound (a, b), Serpent Mound (c, d) and Poverty Point (e, f). Image modified from Wikimedia Commons.

Traditionally, archaeology is a destructive discipline. To learn about sites, interpret past cultural behaviors, and understand how people lived, archaeologists may **excavate** sediments to unearth cultural items and reveal site layouts. Once these sites are excavated, however, they cannot be returned to their pre-excavated state, nor can they be re-excavated. Archaeology is a one-time opportunity to learn about past peoples, and archaeological sites are essentially non-renewable resources. There is no second opportunity to excavate. Therefore, it is imperative to work carefully and accurately document all information, preserving it for future generations. We discuss the ethical implications of archaeological excavation further below.

Telling Time

Telling time is one of the most fundamental goals of archaeological research. Archaeologists can accomplish this in two ways: the first is through **absolute dating**. A familiar form of absolute dating is tree rings; trees grow one ring per year (barring droughts or other climate extremes). So, to determine how old a tree is, we simply count the rings. Another form is **radiometric dating**, which is based on the spontaneous radioactive decay of certain elemental isotopes, such as carbon-14 (C14) and potassium-40, into new elements. This rate of decay is constant, so scientists can date materials by measuring the amount of isotope remaining in a sample and comparing that to the original amount. For example, C-14 decays over time into a new

element—Carbon 12—such that over time, there is more C12 than C14 in the sample relative to the atmosphere today. While there are a few things that can complicate radiometric dating, such as sample contamination and modern fossil fuel emissions, it remains a reliable and dependable way to date archaeological sites. Radiometric dating can be expensive, however, and so archaeologists often depend on **relative dating** as well. Relative dating means that we can determine the age of an archaeological layer or artifact based on whether it is older or younger relative to something else. Below, we describe two common methods of relative dating: stratigraphy and seriation.

Beneath the ground surface, there are layers of soil that correspond with different times in the past. **Stratigraphy** is the study of sediment layers in the ground. Developed in geology, this technique allows archaeologists to recognize different cultural and natural events in the past. You can identify past ground surfaces, old fire hearths, the remnants of cellars, old walls and structures, and natural events like flooding or volcanic activity. By excavating into the soil, layers of dirt are revealed by different colors, thicknesses, textures, and artifact contents. These layers resemble layers of a cake with multiple layers of icing and cake (see Figure 3.5). These stratigraphic layers act as time capsules of past activities that retain information of both cultural and non-cultural events.

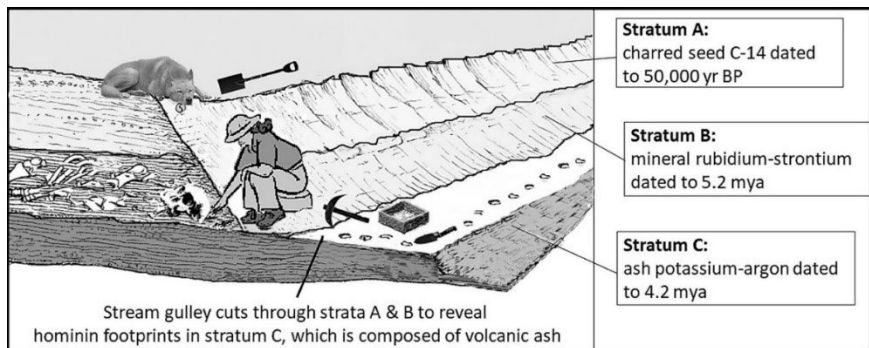


Figure 3.5. Example of archaeological stratigraphy. Image modified from Homsey-Messer et al. 2020.

The **Law of Superposition** states that in undisturbed stratigraphic layers, the oldest materials are the first deposited and, hence, the deepest underground. The newest, or youngest, materials overlay the older materials and are closer to the ground surface. The ground surface represents present times, but researchers can see the past by excavating deeper and deeper into soil layers below. Researchers work backwards from the present to document change, though it is rarely so straightforward. Stratigraphy can only show you the sequence of events (before and after); it does not provide absolute, calendar dates, or durations of events and occupations. In other words, someone can determine that Stratum A is younger than Stratum C, but stratigraphy alone cannot be used to determine whether Stratum C occurred 4,200 or 4.2 million years ago (see Figure 3.5).

Seriation is a way to relatively age artifacts and arrange them in sequences from oldest to youngest. Often, people can easily seriate objects that they use on a regular basis but to seriate artifacts from an uncommon culture can be a more difficult feat. Archaeologists can accomplish seriation with objects from other cultures because archaeologists are able to associate particular artifacts with particular stratigraphic layers and document them accordingly. In many cases, an artifact might be found in multiple stratigraphic layers, suggesting its importance over time. When artifacts are present in multiple stratigraphic layers, archaeologists can count the prevalence of artifacts in each layer to determine **frequency seriations**, or changes in artifact popularity over time (see Figure 3.6). For example, specific styles of vehicles have fluctuated in popularity over time. Station wagons were most popular between the 1950s and 1970s, representing the importance of reliability over status or style in American vehicles at that time. However, they fell out of popularity, are now much less common, and often disguised as sport wagons or crossovers. In the 1980s and 1990s, sport utility vehicles (SUVs) rose in popularity, representing a more fuel-efficient and stylish vehicle that fit the perceived needs of the average American.

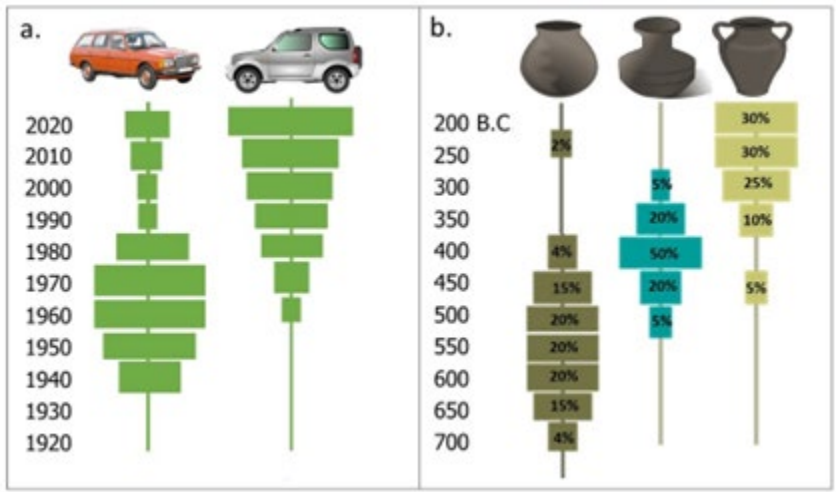


Figure 3.6. Schematic battleship curves for station wagons and SUVs (a) and hypothetical curves and accompanying frequencies for archaeological ceramic vessels (b). Adapted from Homsey-Messer et al. (2020: Figure 13.1)

Archaeologists can also document changes in artifact style over time to understand **stylistic seriations**. For example, BMWs have changed in shape and design over time, from boxy bulky vehicles to sleek curvy crossovers (see Figure 3.7). Anyone familiar with vehicle trends can determine the relative age of a single vehicle based on its overall design and curvature. If presented with several BMWs, someone could most likely rank them from oldest to youngest based on appearance.



Figure 3.7. Evolution of the BMW 5 series over time. Adapted from Homsey-Messer et al. (2020: Figure 13.1).

While archaeology has increasingly incorporated new technologies and methods from other disciplines, these basic approaches are still foundational. However, today there is an abundance of new and diverse techniques, both destructive and non-destructive, that can be used to precisely date materials, find lost archaeological sites, and analyze past cultures. These approaches contribute to a highly advanced archaeology where the number of questions one can ask about the past is limited only by imagination.

Theoretical Perspectives



Video 3.3. Check out the video from Stanford about Public Archaeology online for more details!

Archaeology is often divided between Precontact and Historic Archaeology. Precontact archaeology is the study of cultures prior to contact with Europeans, and **Historic archaeology** is the study of cultures during *and* following contact with Europeans. Historic Archaeology developed in North America in the late 1960s and 1970s to test the accuracy of historical records and explore the lives of people not represented in written records. In North America, this typically refers to anything within the last 500 years or so. These research interests include, but are not limited to, the following: the impacts of culture contact, how colonists adapted to new environments, the lives of enslaved or newly freed peoples, and the intersection of political or economic institutions with class, race, or gender. Well-known historical sites, including Jamestown, Colonial Williamsburg, and the African Burial Ground in New York, were some of the first or most prominent sites excavated. More recently, however, efforts have focused on people and sites with less visibility in the historic record. A good example of this is the Marketstreet Chinatown Archaeology Project led by Barbara Voss at Stanford University.

Most North American archaeologists work from what is called a **processual** perspective, meaning that they are interested in discovering the

underlying processes that shape culture. For example, they may be interested in revealing the general process societies undergo that lead to social inequality or the development of farming. Processual methods use the **scientific method**: stating a hypothesis, testing the hypothesis with scientific techniques, and using that to interpret past behaviors. We'll discuss a critique to processual archaeology later called post-processualist, but first, let's look at two processual approaches that have made a significant impact on the field as a whole: ethnoarchaeology and experimental archaeology.

Ethnoarchaeology

Ethnoarchaeology represents archaeology's return to cultural anthropology for reinvigorating ideas about how to study the past. **Ethnoarchaeology** is the study of living people—and the materials left behind from their activities—to interpret archaeological patterns. This approach is important when written records may be unavailable or unreliable. Information is collected via cultural anthropology methods (like participant observation) with the intention of identifying the how artifacts and their distribution are formed from human behavior. For example, archaeologists working in Peru engage in participant observation with traditional chicha (i.e., maize beer) producers to recognize beer production in prehistory. This is an activity that we now realize was widespread among the Wari culture around AD 600. In another example, Pei-Lin Yu describes how her ethnoarchaeological research revealed that an artifact that looked like a sewing needle to the average American was actually ritualistic object; a spine from a stingray's tail and used to pierce the tongue to make it bleed as an offering to the gods. Through this observation and participation, archaeologists can interpret the behaviors of the past from artifacts and other material remains with a more personal understanding. This cross-cultural approach demonstrates the holistic nature of anthropology.



Video 3.4. Check out a video where Pei-Lin Yu describes her ethnoarchaeological research and interprets ritual objects online for more details!

In the 1970s, Mayan archaeologist **William Rathje** realized that students might grasp artifact interpretation better if they examined their own culture rather than unfamiliar Mayan pot sherds and stone flakes. This led to the

birth of his now famous **Garbology** project, a modern-day archaeology project in which he and his students examined Tucson, Arizona residents' behaviors through both survey and excavation of the Tucson landfill.



Video 3.5. Check out a video with Garbologists discussing present-day ethnoarchaeology online for more details!

The team surveyed residents from certain neighborhoods about their consumption practices such as the types of foods bought, eaten, thrown away, or recycled. At the same time, the research team collected and sorted garbage from those same neighborhoods. The garbage was treated according to standard archaeological analytical methods: it was excavated stratigraphically and classified according to type of garbage (e.g., food remains, packaging, etc.). The garbage archaeological results were then compared to the results from the surveys.

Rathje's team discovered that people significantly underreported how much they threw away and how much they consumed. For example, people consistently underreported how much beer, soda, and other sugars and fats they consumed. On the other hand, they overreported the amounts of fruit and diet soda. Furthermore, during economic shortages, waste increased. During the early 1970s, there was a beef shortage. Rather than seeing beef become less common in the garbage, Rathje and his team noted that people wasted three times as much beef compared to normal times. He attributed this to factors such as unfamiliar cuts that people didn't like or couldn't cook, or stockpiling meat that spoiled before it was used. Rathje concludes that, like countless civilizations before us such as ancient Egyptians and Mayans, Americans are in what archaeologists call the "Classic" period within the cyclical rise and fall of societal development, in which resources are abundant and waste happens at an incredible pace.

Experimental Archaeology: Understanding Through Doing

Experimental archaeology is a subfield of archaeology that attempts to generate and test archaeological hypotheses, most often, by replicating or approximating the feasibility of ancient technologies and activities. For

example, to understand animal hide preparation, an archaeologist might flintknap a stone scraper and use it to skin an animal and tan the hide using traditional methods. To understand pottery breakage patterns, an archaeologist might create pottery from locally sourced clays and test how different inclusions mixed into the clay (e.g., shell or sand) impact the strength of the pot. Archaeologists have also recently begun to experimentally brew ancient Egyptian and Mesopotamian beer recipes. Using plant residues recovered from beer mugs and brew vats as a starting point, Pat McGovern, also known as the “Beer Archaeologist,” has teamed up with Dogfish Head brewing company to recreate them. Experimental archaeology provides a personal, in-depth understanding of how cultural items are made and considerations needed to find and use raw resources.

Rapa Nui, also known as Easter Island, is one of the most remote islands in the world. It is 2,300 miles west of South America, and 1,100 miles from the next closest island (see Figure 3.8). Yet, Polynesian explorers reached the volcanic island more than 1,200 years ago. They settled on the island, and human populations and cultures thrived for hundreds of years. They had no industrialized or mechanized labor, yet there are engineering feats at Rapa Nui that elude researchers to this day.

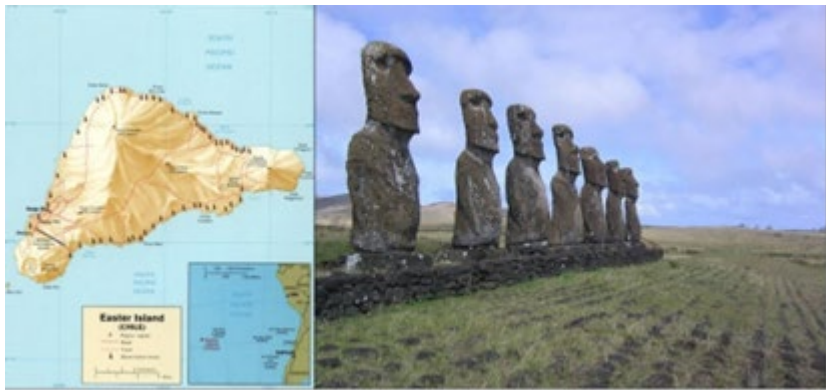


Figure 3.8. Location of Rapa Nui in the Pacific Ocean (left) and the famous moai statues (right). Images from Wikimedia Commons.

One of the most intriguing mysteries of Rapa Nui is the large moai statues. The moai are anthropomorphic statues made of stone that stand, on average, 13-ft tall (range 3.8-71.9 ft) and weigh 14-tons (maximum 165 tons). They were carved from stone originating at the main quarry on the island, and nearly 900 moai can be found across the island. Some are still at the quarry, while others are located along the coast, facing inland with their backs to the water. Still, others are “in transit” between the quarry and the coast.

Researchers have long been puzzled about how the local populations were able to move these massive statues across the island with limited tools and materials. The island is not flat, and even the most optimal routes from the quarry to the coast include miles of rough, hilly terrain. According to local oral histories, the gods ordered the moai to walk to the coast. Researchers initially discounted these beliefs and, instead, employed experimental archaeology and tried various methods using rope and wood. For example, one study included dragging a moai on wooden sleds. While 180 people could move a smaller, 10-ton moai this way, researchers estimated that 1,500 people would have been required to move the largest moai. Would so many people have been available to move the moai? Another study involved using tree trunks as rollers, and this method provided a way to move the moai up hills. Finally, several researchers decided to try to walk a statue, as described in folklore, by using ropes to balance the moai upright and rocked the statue in a walking motion, like a seesaw. These experimental archaeological approaches allow researchers to engage with archaeological materials, relate to them on a more personal level, and find creative ways to help interpret the mysteries of the past.



Video 3.6. Check out a video with How experimental archaeology helped archaeologists understand “walking” moai statues online for more details!

Post Processual Archaeology

Post-processual archaeologists have argued that there are no universal processes that can account for social phenomena like inequality and the

adoption of farming. Rather, they argue that every culture has its own historic context and, therefore, must be studied on its own merits. They also focus more on the lived human experience, often seeking to find the voices of groups marginalized or underrepresented in the written record such as illiterate groups, poor or low-status individuals, or minorities. If history is written by the victors, then what was never recorded or misrepresented about other groups? Archaeologists seek to expose the untold truths behind written records or stereotypical beliefs about people and cultures. A good example of such a perspective in the Market Street Chinatown Archaeology Project mentioned previously.

For several decades, archaeologists debated the pros and cons of the processual and post-processual perspectives. This debate was often heated, with folks squarely landing on one side or the other. Today, most archaeologists recognize that this dichotomy is an over-simplification, and many argue that we need to keep both perspectives in mind. They also note that a post-processual approach need not preclude using the scientific method. Today, many archaeologists would argue that they practice a blend of these two approaches that some have dubbed the “processual-plus” approach.

Ethics in Archaeology

Both processual and post-processual perspectives have led to important ethical considerations in contemporary archaeological practice. One is the **preservation ethic**, which stresses the importance of not completely excavating an entire site but leaving some of it behind for future generations who will have new research questions to ask, and new technologies at their disposal for investigating those questions. For example, today we can extract “chemical residues” from the inside of clay pots. These residues are starches and fatty acids like cholesterol and triglycerides. We can even extract residues from ancient beer brewing and reconstruct ancient beer recipes! This info helps us understand directly what people ate, drank, and how they cooked, which is something we couldn’t do until the past few decades. It is for this reason that many archaeologists often prefer to study collections already curated at museums rather than excavating new sites.

A second important ethical consideration to emerge in the last couple of decades is the rapid growth of **indigenous archaeology**. As mentioned in the history module, indigenous archaeology, like the Pimu Catalina Island Archaeology project, allows indigenous groups to take control of their own history with a mixture of scientific and indigenous practices and knowledge. As archaeologists reflect on the value of their work, many recognize the importance of working with descendant groups in various ways to enrich the questions asked, the stories they can tell, and to ensure that archaeological interpretations are aligned with the needs and interests of those descendent groups.

Summary

Anthropologists study human behavior in the present and the past. As a holistic field that covers all aspects of humanity, there are many different approaches an anthropologist may take. Regardless of subfield, anthropologist's unique toolkit and skill set enables them to conduct robust research, appreciate the many ways of being human on our planet, communicate fluently with diverse groups of people, and think critically and reflectively.

Review Questions

- **T/F.** Participant observation is an appropriate tool for archaeologists, while stratigraphic analysis is often appropriate for cultural anthropology research.
- **T/F.** The most robust emic perspectives incorporate polyvocalities.
- **T/F.** Ethnographic interviews always use surveys to gather large amounts of data that can provide generalized information about a population.
- **T/F.** Ethnoarchaeology uses a blend of cultural anthropology and archaeological methods to study living people and use those observations as proxies to understand archaeological behaviors.
- **T/F.** It is best practice to excavate as much of an archaeological site as possible.

Discussion Questions

- Can you think of ways you are an anthropologist in your daily life, or a time when you've had to talk to people different from you? Maybe you participated in a new activity like a church event or sport. In what way did talking to people and participating help give you an emic perspective?
- Why are ethical considerations and practices like informed consent important in ethnographic research?
- An issue that arises with ethnoarchaeology is that anthropologists cannot directly observe the past. Instead, we must hope that the living people they observe are good surrogates for the archaeological culture. Discuss the pros and cons of using ethnoarchaeology to understand the past. Think about the geographic distance between cultures, the difference in time, and the fact that no culture is static but constantly changing.
- What are some dangers in using seriation to relatively date artifacts? Think about how the popularity of styles may vary geographically, even within a single culture? What happens if an item has a second wave of popularity, decades, or centuries after the first wave?

Activities

1. **Interview** a person from another culture than the one you are from, such as another country, ethnic group, or community (e.g., deaf) that you are unfamiliar with.
 - With their permission, and assurance of confidentiality, ask a series of semi-structured questions that scaffold your interview from less to more intimate. The exchange of questions should go both ways, with both of you asking and answering. For example, you might begin with some questions such as what time is supper in your culture? What is a symbolic color in your culture? What is the most important holiday and why?
 - Some questions of “medium” intimacy might include that person’s “personal bubble” or an important rite of passage?
 - As you build a rapport with your “informant” and begin to find common ground, you might feel comfortable asking about more personal differences such as whether they have experienced discrimination or cultural shock at any point in their lives.
 - As you move through the questions, did you discover more or less commonality than you expected? Did you gain an emic perspective that changed your original ideas about that culture? Did you find it easier to broach personal connections once you had established a rapport with your informant?

2. Material Culture

- Stratigraphic Analysis: Go to <https://la.utexas.edu/users/denbow/labs/lab1-strat2.htm>(opens in a new tab) and arrange the strata from oldest to youngest. Then, answer the questions provided about the features and artifacts present.
- Seriation: Think of three “artifacts” popular during your lifetime. These can be physical items (e.g., iPhone), social media apps (e.g., Snapchat), items of clothing (e.g., skinny jeans), vehicles (e.g., Tesla), etc. On a piece of paper, label a vertical axis with date ranges, starting about ten years before you were born, and going every year (or every five years if space is limited). For artifact one, draw a line to approximate the popularity of that artifact. If it is very popular, draw a long line. If it is unpopular, draw a short line, or none if appropriate. Make the lines relative, such that they get longer the more popular an artifact is, and shorter the less popular an artifact is. When done, do you see the battleship curve, or at least a portion of it?
- Campus Garbology: Download or sketch a map of your campus. Over the next couple days, record the provenience (i.e., location) of “artifacts”—that is, trash—that you encounter as you move around campus (you do NOT have to pick it up!). As you find it, record the type of raw material (e.g., plastic, paper, metal, glass, Styrofoam etc.), and note whether it is trash related to subsistence (e.g., food consumption), domestic life, academic life, and any other category you might think of (e.g., pet, beauty/health). Even better, have several friends do this. Then compile your data onto the map. Imagine you are excavating this “site” millennia from now, long after physical colleges and universities have

been replaced by online programs. What patterns do you see? Are artifacts dispersed or clustered? Could you identify different kinds of activities even if you didn't know what the buildings were used for? What inferences could you make about human (i.e., student) behavior/lifestyle based on the dominant raw material? What "post-depositional" processes—that is, things that happened long after the site formed—might affect your interpretations? Think about weather, natural hazards and animals, and human activity.

Key Terms

Absolute Dating: The determination of chronological age of a specimen based on a specific time scale or calendar.

Anonymity: Anthropologists protect the identities of research participants by omitting identifying characteristics; using pseudonyms (invented names) for people and places is a common method.

Anthropological Toolkit: The methodological, ethical, and theoretical approaches that cultural anthropologists use to conduct ethnographic research.

Artifact: Objects made or used by people.

Cultural Consultant: People, such as community leaders, who become central to ethnographic research as cultural guides, mentors, and translators.

Cultural Relativism: The idea that cultures must be understood on their own terms and based on their own contexts instead of being judged by the standards of a different culture.

Dehumanize: To attribute less than human characteristics to a group of people, or strip them of positive human attributes like dignity, agency, intelligence, kindness, or compassion.

Direct Historical Approach: An archaeological technique of working backward in time from historic-period sites of known age to earlier times; usually only used where little migration has occurred, such as in the American Southwest with the Zuni culture.

Dunham, Katherine: An African American anthropologist who pioneered dance anthropology, ran the only self-supported Black dance troupe of her time, and was a racial justice activist.

Emic Perspective: A personal perspective of a culture developed within that culture, through immersion and participation.

Ethnoarchaeology: The study of material artifacts of the past along with the observation of modern peoples who have knowledge of the use and symbolic meaning of those artifacts, to interpret archaeological patterns.

Ethnographer: The researchers that are the driving force behind

ethnographic research. Ethnographers generate data, ask questions, build rapport, and notice and record particular details.

Ethnographic Interviews: Interviews conducted during qualitative research to establish a relationship with members of the group being studied. They are often unstructured or semi-structured, meaning the researcher has a clear plan or a list of pre-written interview questions, but the interview is fluid. It is designed to prompt conversation, get people to open up, and let them express themselves. Interview questions are often open-ended, as well.

Ethnography: A research strategy to observe and analyze the actions and interactions of societies, to create a description of a society written by an anthropologist who conducted field research in that society.

Etic Perspective: An outside, presumably objective or standardized, perspective of a culture developed through observation and interview.

Excavate: Removing sediment systematically and carefully from an area to unearth cultural items and reveal site layouts, in order to learn more about sites, interpret past cultural behaviors, and understand how people lived.

Experimental Archaeology: A subfield of archaeology which uses carefully controlled experiments to provide data to aid in interpreting archaeological finds and procedures.

Frequency Seriations: The observed sequence of stylistic changes that allow archaeologists to infer applicable cultural changes, based on the number of artifacts of a particular style or type found in different stratigraphic layers.

Garbology: The modern-day archaeology project developed by Mayan archaeologist William Rathje. He and his students examined Tucson, Arizona residents' behaviors through both survey and excavation of the Tucson landfill.

Historic Archaeology: A form of archaeology which studies archaeological sites in conjunction with text-based records and other kinds of information and involves studying cultures as they existed during and following contact with Europeans.

Indigenous Archaeology: Archaeology controlled by indigenous people and consistent with native goals and values.

Informed Consent: An ethical and necessary step in a study where

anthropologists explain the goals, methods, funding, outcomes, and potential risks and benefits to all potential study participants to ensure that their participation is voluntary and fully informed.

Law of Superposition: Layers of sediment or rock are older than layers above them and younger than those below them unless they have been disturbed by some natural or human process. This assumption forms the basis of stratigraphic dating.

Life History: A method ethnographers use that focuses on individual stories, in which a person is asked to recollect their experiences across various time periods, providing intimate insight into past and current events.

Literature Review: An important step in preparing for research, investigating, and synthesizing existing scholarship, often for the purpose of clarifying research questions, methods, and goals.

Longitudinal: A type of long-term correlational research study that observes variables over an extended period of time.

Mixed Methods: A study where both quantitative and qualitative approaches are used.

Multi-sited: An approach to ethnographic research that investigates a social phenomenon across various social actors and institutions.

Multi-timed: An approach to ethnographic research that focuses on multiple time periods, often through longitudinal, or long-term, research based on repeated visits.

Observation: One of the key methods in the ethnographic toolkit; structured observations occur when the researcher tries not to interfere in what is happening while they observe particular things often at pre-determined intervals.

Participant Observation: An ethnographic research method where researchers join a cultural group and participate to learn first-hand about a culture.

Polysemic: In anthropology this term refers to the multiple layers of meaning symbols can have.

Polyvocality: The presence of many voices in a text.

Post-Processual Archaeology: A theoretical approach critical of processual archaeology and emphasizing social factors and interactions in human societies.

Preservation Ethic: An ethical consideration which stresses the importance of not completely excavating an entire site, but rather leaving some of it behind for future generations who will have new research questions to ask, and new technologies at their disposal for investigating those questions.

Problem-oriented: Ethnographic research often focused on investigating a particular issue or conflict.

Processual Archaeology: A theoretical approach critical of post-processual archaeology that stresses the application of the scientific method and takes an ecological and systems approach to explain cultural processes.

Radiometric Dating: A dating technique based on the spontaneous radioactive decay of certain elemental isotopes, such as carbon-14 (C14) and potassium-40, into new elements. This rate of decay is constant, so scientists can date materials by measuring the amount of isotope remaining in a sample and comparing that to the original.

Rapport: Building trust with research participants during participant observation.

Rathje, William: The Mayan archaeologist who developed famous Garbology project, a modern-day archaeology project in which he and his students examined Tucson, Arizona residents' behaviors through both survey and excavation of the Tucson landfill.

Reflexivity: An anthropologist's examination of their role during the process of conducting research, particularly when it comes to the way the anthropologist's identity may shape their fieldwork.

Relative Dating: Determining the chronological age of a specimen, such as an artifact, based on its relative position in a stratigraphic or typological sequence, without reference to a specific time scale.

Salvage Ethnography: Documenting and recording the practices and cultural beliefs of groups threatened with assimilation or extinction, often as a result of globalization.

Scientific Method: The systematic investigation of phenomena by identifying a problem, developing hypotheses, testing implications, making empirical observations, and reconsidering interpretations based on the results obtained.

Seriation: A method used to relatively date artifacts and arrange them in sequences from oldest to youngest based on variations in style and decoration within assemblages, based on the theory that artifacts will resemble others that are closest to them in time.

Stratigraphy: Analysis of the superimposed layers at an archaeological site, may be used to determine relative dating among artifacts and features in a site.

Structured Observation: When researchers collect data without direct involvement in what is happening, while observing particular things and participants often at pre-determined intervals.

Survey: Asking the same set of questions to a selected group often in the form of a questionnaire.

Validate: The ability to demonstrate proof or the accuracy of something. For example, participant observation is a craft that can help validate data because it provides a general understanding of what things mean and how they work in particular places.

Suggested Readings

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