ANTHROPOLOGY: THE STUDY OF HUMANS



jeffrey mccully
Moraine Valley Community College

LibreTexts™

anthropology: the study of humans

An Open Educational Resource by Moraine Valley Community College Anthropology Program

About the Authors

OER author

jeffrey mccully, phd



jeffrey in Ajijic, Jalisco, Mexico (December 2025)

jeffrey mccully is a *Professor of Sociology* and an *Anthropology Faculty Affiliate* at Moraine Valley Community College. jeffrey attended Illinois Central College before earning a BA in Sociology from Western Illinois University with a minor in Religious Studies. jeffrey then pursued a PhD in Sociology at the University of Missouri, while also earning a graduate minor in College Teaching and a graduate minor in Women's and Gender Studies. jeffrey's doctoral training unfolded within a sociological tradition committed to critical inquiry with the responsibility to interrogate social arrangements rather than affirm them. dr. mccully's teaching and scholarly interests include social control, gender and sexuality, colonial studies, and the sociocultural study of death.

jeffrey has conducted ethnographic fieldwork throughout central and southern Mexico, with repeated long-term stays in Jalisco and Michoacán. This work has primarily focused on learning about pre-Hispanic and modern Purépecha culture, including aspects of religion, art, community organization, and resistance to cartel violence. Across Mexico, jeffrey has visited 28 official *Pueblos Mágicos*—and counting. These experiences allow jeffrey to bring rich, firsthand examples into the classroom, which are particularly relevant at a Hispanic-serving institution. This work was supported by a faculty development sabbatical.



jeffrey at El Antiguo San Juan Parangaricutiro, Michoacán, Mexico (January 2020)

dr. mccully also participated in a faculty development seminar in Palestine, with additional independent study in the occupied West Bank and Israel. This work focused on learning about the institutional barriers and everyday realities of Palestinians living under a military occupation. In addition to this work, jeffrey was able to explore the region's landscapes and sociocultural sites, including major historical, religious, and tourist destinations, providing a broader context for understanding the contested spaces of the region.

Image artist

R. Gary Raham, a short biography

R. Gary Raham expresses his visual art using a palette informed by his love of nature and academic studies in the sciences. He defines his business, **Biostration**, as the place where science, art, and education synergize. Raham loves working with pencil, pen & ink, scratchboard and acrylics.

Raham has had a long-time interest in human evolution since obtaining degrees in biology at the University of Michigan and has kept up with current discoveries over the intervening decades. This assignment to illustrate a broad sampling of fossil discoveries in the human family tree helped rekindle his love and fascination for the subject.

As an author of more than twenty books of science fact and science fiction, Raham likes to enthuse readers not only with the discoveries of science, but how the human experience might take those discoveries to build an exciting and fulfilling future. Learn more about his work at rgaryraham.com(opens in new window).

A full list of images created by R. Gary Raham included in the Detailed Licensing section of the Back Matter.

This page titled About the Authors is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

This text is disseminated via the Open Education Resource (OER) LibreTexts Project (https://LibreTexts.org) and like the thousands of other texts available within this powerful platform, it is freely available for reading, printing, and "consuming."

The LibreTexts mission is to bring together students, faculty, and scholars in a collaborative effort to provide an accessible, and comprehensive platform that empowers our community to develop, curate, adapt, and adopt openly licensed resources and technologies; through these efforts we can reduce the financial burden born from traditional educational resource costs, ensuring education is more accessible for students and communities worldwide.

Most, but not all, pages in the library have licenses that may allow individuals to make changes, save, and print this book. Carefully consult the applicable license(s) before pursuing such effects. Instructors can adopt existing LibreTexts texts or Remix them to quickly build course-specific resources to meet the needs of their students. Unlike traditional textbooks, LibreTexts' web based origins allow powerful integration of advanced features and new technologies to support learning.



LibreTexts is the adaptable, user-friendly non-profit open education resource platform that educators trust for creating, customizing, and sharing accessible, interactive textbooks, adaptive homework, and ancillary materials. We collaborate with individuals and organizations to champion open education initiatives, support institutional publishing programs, drive curriculum development projects, and more.

The LibreTexts libraries are Powered by NICE CXone Expert and was supported by the Department of Education Open Textbook Pilot Project, the California Education Learning Lab, the UC Davis Office of the Provost, the UC Davis Library, the California State University Affordable Learning Solutions Program, and Merlot. This material is based upon work supported by the National Science Foundation under Grant No. 1246120, 1525057, and 1413739.

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation nor the US Department of Education.

Have questions or comments? For information about adoptions or adaptions contact info@LibreTexts.org or visit our main website at https://LibreTexts.org.

The LibreTexts name, logo, and book covers are trademarked by LibreTexts, Inc. (a 501(c)(3) not-for-profit organization) and protected against unauthorized use.

This text was compiled on 08/12/2026

TABLE OF CONTENTS

About the Authors
Licensing
1: Introduction to Anthropology
2: Introduction to Biological Anthropology
3: Evolution
4: Primates and Human Evolutionary Relatives
5: The Fossil Record and Human Ancestry
6: Homo sapiens and Human Biological Variation
7: Forensic Anthropology
8: Introduction to Linguistics
9: Language Culture and Society
10: Language Structure
11: Historical Linguistics
12: Language Acquisition
13: Introduction to Cultural Anthropology
14: Subsistence
15: Social Organization
16: Rituals Religion and Expressive Culture
17: Ideology Identity and Inequality
18: Introduction to Archaeology
19: Archaeological Fieldwork
20: Artifact Analysis
21: Preservation
22: Historical Archaeology
Index
Glossary
References
Detailed Licensing
Detailed Licensing

This page titled anthropology: the study of humans is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

Licensing

A detailed breakdown of this resource's licensing can be found in ***Back Matter/Detailed Licensing****.*

This page titled Licensing is shared under a license and was authored, remixed, and/or curated by jeffrey mccully.

1: Introduction to Anthropology

Anthropology is the study of humans in all their complexity. It examines our biological and social traits, the technologies we develop, the ways our behaviors shape the world around us, and the physical traces left by past civilizations and ancestors. Anthropologists also study our closest biological relatives, nonhuman primates, to better understand our own evolution and behavior. Beyond research, anthropology has real-world applications, addressing contemporary challenges in fields like public health, environmental conservation, and cultural preservation.

Modern anthropology can be broken into four major subfields: biological anthropology, linguistic anthropology, cultural anthropology, and archaeology. **Biological anthropology** explores human evolution, genetics, primatology, and the biological diversity of past and present populations. **Linguistic anthropology** investigates the role of language in communication, culture, and thought. **Cultural anthropology** examines the social structures, traditions, and everyday practices that shape human societies. **Archaeology** uncovers and interprets material remains to understand past human behaviors and civilizations. Together, these subfields seek to provide a comprehensive understanding of humanity, connecting our past, present, and future.

Human Knowledge

Anthropology, as the study of humans, is a form of knowledge. It emerged from a long **genealogy of knowledge**—a lineage of ideas where each generation builds upon the intellectual foundations of the past. Just as we trace ancestry through a family tree, we can trace the evolution of human thought through history, following the ways in which knowledge has been shaped, preserved, and transformed over time. However, the genealogy of anthropology is not universal; it is rooted in a particular intellectual tradition. The discipline of anthropology is deeply tied to a Eurocentric understanding of the world, shaped by the intellectual currents of Europe.

As we explore the history of human thought that led to modern anthropology, it's important to recognize that much of what we consider as "knowledge" is shaped by historical power dynamics and cultural influences. Foucault (1977) argued that knowledge is not a neutral reflection of reality; but is constructed through power relations, with dominant forces shaping the ideas that become accepted as truth.

For much of human history, knowledge was shaped by **traditionalism**—a reliance on established customs, beliefs, and practices passed down through generations. Traditionalism provided stability and continuity but often resisted change, favoring adherence to ancestral wisdom over innovation. This worldview was frequently reinforced by **superstition**, a belief in supernatural forces or unexplained phenomena that governed human behavior. Superstition, often intertwined with religion, helped societies make sense of the unknown, offering explanations for natural events, illness, or misfortune through spiritual or magical reasoning.

While every society has its own traditions of knowledge, the European tradition that gave rise to anthropology changed drastically during the **Renaissance** (1300s–1600s). The Renaissance was a revival of ancient Greek and Roman texts, philosophies, and ideas. It also emphasized **humanism**, a focus on human potential, individuality, and reason, prioritizing the value of human experience and achievements over religious or supernatural explanations. This period fostered a renewed interest in art, science, and intellectual exploration. The Renaissance is often understood as marking the transition from the "Middle Ages" (or Medieval period) to the "modern era."

After and during the Renaissance came the **Scientific Revolution** (1500s–1700s), marked by a transformative period of advancements in mathematics, astronomy, and philosophy. This era, which saw figures like Copernicus, Galileo, and Newton, challenged long-standing views of the universe, laying the groundwork for modern ways of understanding the natural world. The Scientific Revolution marked a further shift away from reliance on religious explanations of natural phenomena, instead emphasizing **empirical knowledge**, derived from careful observation, controlled experiments, and logical reasoning.

Coinciding with the Scientific Revolution, the Enlightenment (1600s–1700s) was an intellectual movement that emphasized reason, science, and skepticism of traditional authority. Thinkers challenged power structures by questioning monarchy, religion, and superstition, while advocating for a rational, evidence-based approach to understanding the world. The Enlightenment also saw the emergence of new academic disciplines, including psychology, economics, sociology, and anthropology.

Anthropology and the Scientific Method

The **scientific method** is a systematic approach to acquiring knowledge through observation, experimentation, and reasoning. It emphasizes forming hypotheses, testing them with data, and drawing conclusions based on evidence. This process is iterative, allowing for constant refinement and reevaluation of ideas.

Traditional Steps of the Scientific Method:

1. Observation: Identifying a phenomenon or problem to investigate.
2. Hypothesis: Formulating a testable explanation for the observed phenomenon.
3. Experimentation: Conducting experiments or gathering data to test the hypothesis.
4. Analysis: Interpreting the data to determine if it supports or refutes the hypothesis.
5. Conclusion: Drawing conclusions and making predictions based on the results.
6. Replication: Repeating the process to verify results and ensure consistency.

In anthropology, the scientific method is used to explore the complexity of human existence. Biological anthropologists study human evolution through genetic analysis and fossils, while linguists examine language patterns in relation to culture and cognition. Cultural anthropologists research cultural practices and social structures, and archaeologists use scientific methods to investigate past societies through material remains. These examples glimpse the broader scope of anthropology, which we'll explore in more detail in later chapters. The scientific method allows anthropologists to refine their understanding of humans, drawing on evidence to explain and interpret past and present human experiences.

Four Subfields of Anthropology

The field of anthropology can be divided into four general subfields.

- Biological anthropology is the study of the human animal. Biological anthropology was formerly known as "physical anthropology." The name was changed due to the racist history associated with some physical anthropologists. We will explore this more in the next chapter.
- Linguistics is the study of language.
- Cultural anthropology is the study of human social groups, behaviors, and beliefs.
- Archaeology is the study of human societies through the analysis of material remains.

Each of these subfields can further be divided into its own specialties. We will briefly explore some of these specialties in this lesson. As we progress through the course, we will explore each of the subfields and their specialties in greater depth.

Biological Anthropology

Biological anthropology is the study of the human animal. Some of its specialties include...

- Human Evolution: The study of the biological evolution of the human species, including the development of anatomical, physiological, and behavioral characteristics. Darwin (1859) laid the foundation for the theory of evolution and revolutionized our understanding of human origins and the interconnected nature of all life forms.
- Human Growth and Development: The study of human growth, maturation, and the stages individuals experience throughout their lifespan. Lancy (2015) explored the cultural construction of childhood across different societies, highlighting how the concept of childhood is shaped by socio-cultural factors.
- Human Osteology: The study of human skeletal remains, including their identification, analysis, and interpretation for understanding human anatomy, health, and behavior. White and Folkens (2011) authored a widely recognized and authoritative reference for osteological analysis, which included detailed descriptions of skeletal elements, photographs, and practical applications of osteological principles.
- Molecular Anthropology: The study of genetic variation and its implications for human evolution, population history, and disease susceptibility. Cavalli-Sforza et al. (1994) traced genetic traits to understand prehistoric human migration patterns.
- Forensic Anthropology: The application of anthropological methods to legal and criminal investigations, particularly the identification of human remains and determination of cause of death. Burns (1998) explored how forensic anthropology can be used to understand massacres, genocides, and other violent human rights abuses.
- Primatology: The study of primates, including their behavior, anatomy, genetics, and ecology. Goodall's (1971) research in Gombe Stream National Park of Tanzania provided an early and detailed account of chimpanzee behavior, social structure, and the similarities between humans and chimpanzees.

Linguistics

Linguistics is the study of language. Some of its specialties include:

- Historical Linguistics: Examines how languages change over time, as well as the relationships between different language families. Aitchison (2012) outlined the mechanisms of language change, examining the factors that drive languages to evolve and vary.
- Language Acquisition: Focuses on how individuals acquire language, both as children and adults. Pinker (1994) outlined the human capacity for language acquisition and the many cognitive processes involved in language development.
- Discourse Analysis: Examines the ways in which language and communication shape social interactions and power relations. Fairclough (1992) examined the relationship between language, discourse, and social change, highlighting how power structures are maintained, challenged, and transformed.
- Ethnolinguistics: Examines language and culture, exploring how language reflects and influences cultural practices, beliefs, and social interactions. Kroskrity (1993) studied the Tewa people of the Hopi Reservation as they retained and adapted their native language.
- Sociolinguistics: Examines language and social structure, analyzing how language reflects and reinforces social hierarchies, identities, and power dynamics. Mendoza-Denton (2008) studied young Latinas in gangs, revealing how their speech, body language, and symbolic interactions conveyed gang affiliations, ideologies, and connections to broader social dynamics of nationalism, race/ethnicity, and gender identity.
- Language Documentation: The systematic recording and preservation of endangered languages, capturing their grammar, vocabulary, and cultural context for future study and revitalization efforts. Austin (1981) outlined the grammar of the Diyari language, documenting its phonology, morphology, and syntax, contributing to the preservation and understanding of this Australian language.
- Language Revitalization: Revival and restoration of endangered languages through community-driven initiatives that promote language use, education, and cultural practices. Guerrattaz (2020) explored how Yucatec Maya-speaking contributed to a cultural genesis of a new Maya self-identity in Mexico.

Cultural Anthropology

Cultural anthropology is the study of human social groups, behaviors, and beliefs. Some of its specialties include:

- Economic Anthropology: The study of how societies produce, distribute, and consume resources, examining the cultural and social dimensions of economic systems. Mauss (2015) explored the cultural and social aspects of gift-giving and exchange in different societies, providing insights into the symbolic, economic, and social dimensions of reciprocal exchange.
- Political Anthropology: Investigates the role of power, authority, and governance in shaping social and political structures. Crais (2005) explored the dynamics of Transkei, South African chiefs and bureaucrats in the 1880s.
- Religious Studies: Examines the cultural beliefs, practices, and rituals of different societies, analyzing their cultural, social, and symbolic dimensions. Geertz (1960) provided an in-depth ethnographic study of Javanese religious practices, exploring the complex interplay between religion, culture, and social structure.
- Urban Anthropology: Examines the cultural, social, and spatial dynamics of cities and urban environments, analyzing the interactions between people, communities, and built environments. Weston (1991) explored the experiences and aspirations of queer individuals who migrate from rural areas to urban centers. She highlighted the significance of urban spaces for fostering queer communities and identities, while demonstrating the often-imaginary character of those communities.
- Ethnographies: Examines the cultures, histories, and experiences of specifica peoples, exploring their unique knowledge systems, social structures, and

relationships with the environment. Mead (1928) conducted ethnographic research exploring adolescent sexuality, socialization, and cultural variations in attitudes towards adolescence among the people of Samoa.
- Gender and Sexuality Studies: Examines the socially constructed nature of gender and sexuality, analyzing how cultural beliefs, practices, and power dynamics shape individuals' experiences and identities. Atshan (2020) analyzed the global Palestinian movement, its emphasis on anti-imperialism over homophobia, and the need to connect the struggles for Palestinian freedom and LGBTQ+ rights. He explored the complexities of identity, politics, and resistance, highlighting the voices and struggles of LGBTQ+ Palestinians and their efforts to challenge and dismantle oppressive structures.
- Subsistence: Examines systems of food production, distribution, and consumption across societies, analyzing the dynamic relationships between environment, technology, and cultural adaptations. Anthropologists study food systems from hunger-gatherers to large-scale factory farms. Mintz (1986) explored the history and production of sugar, and its relationship to capitalism and industry.

Archaeology

Archaeology is the study of human societies through the analysis of material remains. Some of its specialties include:

- Excavation: The controlled digging and documentation of archaeological sites, utilizing tools such as trowels, brushes, and screens to reveal and recover artifacts. Dever et al. (1978) published a manual on field excavation methods. While dated, the book provides an excellent snapshot of the field at the time.
- Funerary Archaeology: Examines mortuary rituals, ancient burial sites, grave goods, and burial customs. Brito Benítez and Chung (2015) documented the unique burial practices of Pomuch, Mexico, in which skeletal remains are stored in open boxes lining the cemetery walls.
- Maritime Archaeology: The study and exploration of underwater cultural heritage, including shipwrecks, submerged settlements, and maritime landscapes. Throckmorton (1987) chronicled stories of famous shipwrecks and their archaeological exploration, highlighting the role of maritime archaeology in unraveling the mysteries of the past.
- Biblical Archaeology: Focuses on the investigation and interpretation of archaeological sites and artifacts mentioned in the Bible. Hoerth (1998) explored the relationship between archaeology and the Old Testament, discussing key archaeological discoveries and their implications for understanding the historical context of biblical events.
- Ceramic Analysis: The study of pottery sherds and vessels to examine manufacturing techniques, stylistic variations, and their role in trade and cultural interactions. Shepard's (1956) *Ceramics for the archaeologist* covered various aspects of pottery study, including classification, decoration, technology, and cultural interpretation.
- Heritage Management: The preservation, conservation, and interpretation of cultural heritage sites and artifacts to ensure their sustainable use and appreciation by present and future generations. Pirkovič (2020) outlined how heritage management at the local level benefits heritage sites and serves the local public.

Anthropology explores human origins, diversity, and social structures. Rooted in historical movements like the Renaissance, the Scientific Revolution, and the Enlightenment, the discipline uses the scientific method to study humanity across time and space. The remainder of this book is divided into units, with each of the four subfields—biological anthropology, linguistic anthropology, cultural anthropology, and archaeology—covered over several chapters.

Chapter 1 Study Guide

1. Define anthropology.
2. Define each of the subfields of anthropology.
3. Explain genealogy of knowledge.
4. Define traditionalism.
5. Explain the significance of the Renaissance, the Scientific Revolution, and the Enlightenment.
6. Explain the scientific method.

This page titled 1: Introduction to Anthropology is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

2: Introduction to Biological Anthropology

Biological anthropology is a subfield of anthropology that focuses on the biological and evolutionary aspects of humans and our closest primate relatives. Biological anthropology was formerly known as physical anthropology: we will explore why the name changed later in this chapter.

In studying human evolution, scientists seek to understand anatomical changes from early primates to upright-walking humans, showcasing the adaptations and changes that occurred over millions of years. From the *Australopithecus afarensis*, known as "Lucy," to the Neanderthals, our fossil record demonstrates a shared ancestry and the journey of human evolution.

Biological anthropology is not only about the past. Biological anthropologists study primate behavior, as well as the human impacts on non-human primates. The field also delves into modern human genetic variation and adaptation. Scientists investigate how our bodies have adapted to diverse environments, how people have traveled great migration routes, and how one's culture and society influence the body.

Pre-history of Physical Anthropology

Early Observations

There are several early writers who sought to study and compare different forms of life.

- Aristotle, in the 4th Century BCE Greece, wrote *Historia Animalium*, which was a classification of animals based on similarities and differences.
- Herophilos, in the 4th Century BCE Egypt from modern Turkey, earliest recorded dissections of human bodies, contributing to anatomical knowledge.
- Galen, in the 3rd Century CE in Greece, contributed to knowledge about the circulation system. Many of his ideas were later disproved, such as blood originating from the liver and the idea of a soul, separated into various parts, and associated with specific body parts.

Emergence of Systematic Observation

As discussed in Chapter 1, the Scientific Revolution (16th century to 18th century) was a period of advancements in science, mathematics, astronomy, and philosophy. During this time a foundation was laid for the establishment of anthropology as a discipline. In 1699, Edward Tyson published *Orang-Outang, sive Homo Sylvestris: or, the Anatomy of a Pygmie Compared with that of a Monkey, an Ape, and a Man*, pioneering the field of comparative anatomy. **Comparative anatomy** is the study of the similarities and differences in the anatomy of multiple species for the purpose of understanding their evolutionary relationships and biological structures.

Another key figure during this time was Carolus Linnaeus, whose 1753 book *Species plantarum* outlined a taxonomy the base of which is still used today. **Taxonomy** is the practice of classifying life. The modern scientific taxonomy is a hierarchical system that depicts connections between various life forms based on shared evolutionary characteristics. The system is based on taxonomic categories created by Carolus Linnaeus (1753). This taxonomy consists of domain, kingdom, phylum, class, order, family, genus, and species. Starting at the top, domains can be divided into different kingdoms, such as the animal kingdom. Each kingdom can be divided into different phyla (plural of phylum). Each phylum can be divided into classes, and so on. We will study taxonomy more in a later chapter when we study primates.

Taxonomy is not something that is unique to the modern, western scientific enterprise. Waddy (1988) describes the classification system of the Anindilyakwa people, who are an Aboriginal Australian culture from Groote Eylandt. Their classification system of plants and animals divides life forms based on being edible or inedible, or as being totemic (spiritual) or non-totemic (non-spiritual). Like western taxonomy, their system is hierarchical with life forms being grouped into levels and each higher level containing the levels below it.

Beginnings of Scientific Racism

Other so-called intellectuals continued the practice of studying and classifying but practiced scientific racism. Scientific racism is the misuse of scientific methods to justify discriminatory beliefs and practices based on perceived racial differences (Dennis, 1995).

In 1785, Christoph Meiners, a German philosopher, divided humans into two groups: the “white-skinned and beautiful” and the “dark-skinned and ugly” (Baum, 2008). In 1795, Johann Friedrich Blumenbach referred to Caucasians as “God’s original creation” (Shamambo & Henry, 2022). This was based on an erroneous belief that life began in the Caucasus mountains and created a taxonomy of five human varieties. He also classified humans according to the following groups:

- Caucasian: light-skinned people of Europe and parts of eastern Asia and northern Africa, or WHITE
- Mongolian: for most other inhabitants of Asia, or YELLOW
- Ethiopian: for the dark- skinned people of Africa, or BLACK
- American: for most people in the Western Hemisphere before the arrival of Europeans, or RED
- Malay: for the Polynesians and Melanesians of the Pacific and for the aborigines of Australia, or BROWN

Samuel George Morton collected and measured human skulls to support his belief in a racial hierarchy. In his 1839 book *Crania Americana*, he argued that cranial capacity varied among races with Caucasians having the biggest brains, promoting the notion of inherent intellectual differences. Louis Agassiz, a Swiss-American naturalist, geologist, and zoologist, wrote several books describing a racial hierarchy and advocating against interracial marriage.

- 1857 *Natural history of the United States*
- 1859 *Cranial and dental characteristics of the races of man*
- 1874 *Evidence of the human races*

These authors reinforced the racist status quo of the time. Many white people believed they were superior to black people, and their scientific worldview reflected that belief. They pointed to the higher rates of disease and lower rates of educational attainment among black people as proof of racial inferiority, while neglecting poverty and the devastating legacy of being enslaved.

Physical Anthropology

Eugenics and the Rise of Anthropology as a Discipline

Here are some important dates regarding the early days of anthropology.

- 1868 George Alexander Otis, Assistant Surgeon General of the United States Army, ordered soldiers to collect skulls of the dead combatants of the local populations in order “to aid in the progress of anthropological science by obtaining measurements of a large number of skulls of aboriginal races of North America.” (McNally, 2017).
- 1871 Royal Anthropological Institute of Great Britain and Ireland founded
- 1879 U.S. Bureau of American Ethnology hired anthropologists
- 1886 First anthropology class in USA taught: University of Vermont
- 1902 First anthropology department in USA founded: Columbia University
- 1902 American Anthropological Association founded

At the same time, eugenics was on the rise. **Eugenics** is the belief in improving the genetic quality of a population by controlling reproduction, the goal of which is to eliminate perceived undesirable traits. The eugenics movement in the United States centered on race. Among the eugenicists, whiteness was the desired trait of the population. These ideas were part of the cultural discourse at the time of anthropology's founding, and they influenced the trajectory of the discipline.

Anthropologists continued the taxonomy system by attempting to divide the human species into biologically distinct races. These anthropologists were called physical anthropologists. In fact, the subdiscipline of "biological anthropology" was formerly known as "physical anthropology."

Francis Galton (1822-1911), a cousin of Charles Darwin, is one of the pioneers of eugenics. In his book *Hereditary genius* (1869), Galton proposed that intelligence and other desirable traits were inherited. He advocated for the improvement of the human population through selective breeding. He believed in the concept of "positive eugenics," encouraging the reproduction of individuals with superior qualities, including whiteness. Galton's ideas laid the foundation for the eugenics movement.

Madison Grant (1865-1937) was an American lawyer, writer, anthropologist, and eugenicist known for his book *The passing of the Great Race* (1916). He was particularly concerned with the preservation of a perceived Nordic racial purity. He warned against a threat of immigration and the mixing of races.

Charles Davenport (1866-1944) was a prominent American biologist and eugenicist who founded the Eugenics Record Office. His influential book *Heredity in Relation to Eugenics* (1911) brought the intellectual discussion of eugenics to the popular, common audience. Davenport believed that human traits, including intelligence and morality, were determined by heredity and advocated for restrictive immigration policies and forced sterilization of individuals deemed "unfit."

The ideas put forth by some physical anthropologists had a significant impact on the cultural climate of their time. These ideas not only impacted laws against immigration and multiracial marriage in the U.S. but also contributed to the genocidal actions perpetrated by the Nazis against Jews, the Romani people, individuals with disabilities, and members of the LGBTQ+ community (Weiss, 2006).

The physical anthropologists' racist ideas that humans could be divided into ranked species was eventually discarded among professional and academic anthropologists due to insights from genetic research (Marks, 2012).

Incorporating Evolution and Genetics

While some anthropologists were focused on eugenics, others were exploring theories of evolution and genetics.

The prevailing theory in biological anthropology is Darwin's **theory of evolution by natural selection**. According to this theory, the traits that enhance the chances for survival and reproduction in a given environment become more common in a population over time. Varying environmental factors result in populations with different traits. We will discuss the theory in more detail in the next chapter.

Darwinian evolution laid the groundwork for the study of **genetics**, which is the scientific study of genes, heredity, and variation in organisms. The first well documented studies in genetics were by Gregor Mendel, an Austrian monk. In 1865, he conducted groundbreaking experiments with peas, uncovering the basic principles of heredity and laying the foundation for modern genetics. His writings largely went unnoticed.

During the 1900s, there were some revolutionary shifts in our understanding of life.

- 1900: Mendel's work was rediscovered and independently popularized by three scientists: Carl Correns, Erich von Tschermak, and Hugo de Vries. Their recognition of Mendel's laws of inheritance brought attention to the field of genetics.
- 1902: Walter Sutton and Theodor Boveri proposed the chromosome theory of inheritance, which suggested that genes are located on chromosomes and are responsible for transmitting hereditary information.
- 1910: Thomas Hunt Morgan and his colleagues conducted extensive experiments on fruit flies (Drosophila melanogaster) and provided strong evidence for chromosomal heredity. They also discovered sex-linked inheritance.
- In 1944, Avery et al. discovered that DNA was responsible for transmitting genetic information.
- In 1951, Sherwood Washburn’s book *The new physical anthropology* advocated for integrating evolutionary biology into physical anthropology.
- In 1972, Lowentin studied genetic variability and the nature of adaptation. He emphasized the role of genetic variation and interactions with the environment in shaping evolution, challenging the idea of strict genetic determinism. This study demonstrated that there is more genetic diversity within racial groups than between them, challenging the concept of distinct racial boundaries (Novembre, 2022).
- In 1987, Cann et al. used mitochondrial DNA to suggest that modern humans originated in Africa and migrated to other parts of the world, challenging previous notions of human evolution and migration.

As more and more evidence was gathered, it became clear that the anthropologists studying race were wrong. We will discuss human variation in a later chapter.

Biological Anthropology

Addressing Historical Biases

In the middle-to-late 20th century, a significant shift took place in the field of anthropology. With the culmination of scientific research and advancements in understanding human genetic variation, physical anthropologists began to recognize that race was not a biologically valid category. Given the racist history associated with some physical anthropologists and the recognition that many people in the field, including geneticists, primatologists, and paleopathologists, focused on aspects beyond physical traits, the term "physical anthropology" no longer adequately encompassed the breadth of the sub-discipline. As a result, the field underwent a transformation, leading to its renaming as "biological anthropology." Textbook authors and professional organizations began using the word biological instead of physical to describe this sub-field of anthropology:

- In 1984, the American Anthropological Association (AAA) renamed its *Physical Anthropology* section to *Biological Anthropology*.
- In 2011, the National Science Foundation changed the name of its *Physical Anthropology* program to *Biological Anthropology*.
- In 2014, the American Academy of Forensic Sciences renamed its *Physical Anthropology* section to *Anthropology*.
- In 2018, the *Academic Phylogeny of Physical Anthropology* changed its name to the *Academic Phylogeny of Biological Anthropology*.
- In 2020, the *American Association of Physical Anthropologists*, founded in 1928, changed its name to the *American Association of Biological Anthropologists*.
- In 2022, the *American Journal of Physical Anthropology*, first published in 1918, was changed to the *American Journal of Biological Anthropology*.
- In 2024, Moraine Valley Community College renamed the ANT-201 course, changing it from *Introductory Physical Anthropology* to *Biological Anthropology*.

This shift in terminology reflects a broader commitment to a more comprehensive understanding of human biology, evolution, and diversity, devoid of the racial biases and discriminatory practices that characterized its early years. Today, biological anthropology focuses on the biological aspects of humanity, studying human variation, genetics, adaptation, and the interplay between biology and culture.

Ethical Considerations

While changing the name from physical anthropology to biological anthropology is a step toward progress, there is still more work to be done to address anthropology's ethical lapses.

One issue to consider is the **repatriation of human remains**. Anthropologists possess many human remains of local communities in North America. For various reasons, these remains are not returned, despite requests to do so. In 1985, Philadelphia police bombed a neighborhood leaving six adults and five children dead, including innocent bystanders, the skulls of some of whom were collected and given to anthropology departments to be used for teaching demonstrations about forensic anthropology (Monteiro, 2023). Requests for the repatriation of these returns remained unanswered until the 2020s.

Consent is when people give permission to be part of a research study. Researchers must respect participants' rights, privacy, and dignity. Unfortunately, many people have been coerced into or unknowingly participated in research projects.

Many anthropologists have violated the research consent of their subjects. For example, researchers discovered a genetic connection to diabetes in a tribe near the Havasupai people. They wanted to test if an increase in diabetes among Havasupai was also genetic. The researchers found no link to diabetes. However, they published papers about other issues, including inbreeding, alcoholism, and the origin and migration of the tribe from Asia. The participants had not given researchers permission to study these aspects of their lives (Sterling, 2011).

Another lesson can be learned from the story of Henrietta Lacks. Her cells (HeLa cells) were the first human cells to be successfully cultured and propagated, and became an invaluable resource for medical research. Her cells were collected without her knowledge or consent. HeLa cells became widely used, leading to the commercialization of and profiting from her cells without compensation to her family (Skloot, 2011).

Chapter 2 Study Guide

1. Define biological anthropology.
2. Describe early attempts to classify and study life.
3. Define comparative anatomy and taxonomy.
4. Define scientific racism and eugenics.
5. Explain how a theory is different from a guess or a hunch.
6. Explain Darwin's theory of evolution by natural selection.
7. Explain what genetics is, and identify some of the key findings in genetic research.
8. Explain the reason for the shift from Physical Anthropology to Biological Anthropology.
9. Explain the issue of repatriating remains.
0. Explain informed consent in the research process.

This page titled 2: Introduction to Biological Anthropology is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

3: Evolution

Generally speaking, people use the word "theory" to describe a guess or a hunch something that might not be supported by evidence. This is not how scientists use the word. When using the scientific method, a **theory** is an explanation for an observable phenomenon that is well-supported by evidence. The **theory of evolution** is an explanation for the process of change and adaptation over time. Evolution, as a theory, is backed up by empirical evidence. In fact, there are multiple theories of evolution. The theory itself evolved. Some early evolutionary thinkers include:

- Nasir al-Din al-Tusi (1201-1274) was a Persian intellectual who wrote about math, philosophy, science, religion, and more. In his most significant work *Akhlaq-i Nasiri* (The Nasirean Ethics), he proposed the idea of species transformation and the potential for the emergence of new species over a long period of time.
- Georges Louis Leclerc, Comte de Buffon (1707-1788) was a French naturalist and another early evolutionary thinker. In 1749, he began publishing an encyclopedia, which was the first modern attempt to systematically present all existing knowledge in the fields of natural history, geology, and anthropology. He believed species change over time in response to their environment. He also proposed that all living organisms share a common ancestry and acknowledged the role of environmental factors in shaping biological variation.
- James Burnett, Lord Monboddo (1714-1799) was a Scottish judge, linguist, and philosopher. In his 1773 book *Of the Origin and Progress of Language*, he claimed that humans were descended from apes and shared a common ancestor. During this time, writers didn't use the word "evolution". Instead, they discussed the "transmutation of species."
- Jean-Baptiste Lamarck (1744-1829) was a French biologist and another early proponent of evolutionary theory. In his major work *Philosophie Zoologique* (Zoological Philosophy), first published in 1809, he proposed that species change over time through the inheritance of acquired characteristics. He also proposed that organisms can develop new traits during their lifetime in response to their environment, and these acquired traits can then be passed onto future generations.

Check out The History of Evolutionary Thought. Biological anthropologists often pay particular attention to the contributions of Thomas Malthus, Gregor Mendel, and Thomas Hunt Morgan.

Natural Selection

In 1859, Charles Darwin published a book that would change history. It was called *On the origin of species by means of natural selection, or the preservation of favored races in the struggle for life*. At its most basic level, Darwin's theory posits that traits that enhance the chances for survival and reproduction in a given environment become more common in a population over time. Life adapts to changing environments. Varying environmental factors result in populations with different traits.

Key Concepts

Key concepts pertaining to natural selection.

- **Variation:** Variation refers to the diversity of traits within a population. Individuals within a species can exhibit differences in physical characteristics, behaviors, genetic makeup, and so on.
- **Inheritance**: Varying traits are inherited. They are passed from one generation to another. Today we know this inheritance happens through DNA. There are DNA copy errors that result in random mutations. Some mutations are better suited for survival (depending on the environment) compared to other random mutations.
- **Differential Reproductive Success**: Individuals with advantageous traits are more likely to survive and reproduce, passing those traits to their offspring, while less advantageous traits may diminish over time.
- **Adaptation:** Organisms change over time in response to their environment, leading to traits that enhance survival and reproduction.

Human Adaptations

We will study modern human biology more closely in a later chapter, but for now we can explore two examples of modern human adaptation to the environment.

Skin Tone

The earliest humans, from whom we are all descended, were dark skinned and came from Eastern Africa. Dark skin tones have higher melanin levels, offering improved protection against excessive ultraviolet (UV) radiation in equatorial regions. When some earlier modern humans migrated beyond Africa (about 60-80 thousand years ago), they moved to areas with limited sunlight, making it more challenging to get Vitamin D. They began producing lower levels of melanin as an adaptive trade-off between UV protection and vitamin D synthesis. This was a change that occurred over hundreds of generations. Refer to Chaplin (2004).

Sickle Cell Trait

Sickle cells are red blood cells that have a unique crescent shape due to a genetic mutation in hemoglobin. The cells can get sticky and cause blockages, causing tremendous pain, strokes, infections, and other terrible outcomes. Contrary to a common belief associating it solely with Black populations, the sickle cell trait also is prevalent in regions like the Mediterranean, Arabia, and parts of South Asia and Africa. In some Greek areas, up to 30% may carry this trait. This prevalence is linked to its protective effect against malaria, reducing people's chances of getting malaria or having a severe case if they do get it (Herbes-Sommers, 2003).

Lactose Tolerance

To digest milk, the body must produce lactase. As baby mammals are weaned off milk, they stop producing lactase, and they stop drinking it into adulthood. This results in lactose intolerance. When mammals stop drinking milk, they stop producing lactase, and have a hard time digesting milk in adulthood.

Like other mammals, early humans, who were foragers, stopped drinking milk after being weaned and stopped producing lactase. Like other mammals, early humans were lactose intolerant as adults having stopped drinking milk and producing lactase.

As humans developed agriculture and domesticated animals, milk became a common food source. Milk was used to make cheese and other foods. Humans began producing lactase into adulthood. Humans are historically lactose intolerant. Lactose tolerance an adaptation.

Genetics

Genetics is the study of heredity, in which biological parents pass genetic traits to their offspring. While children often resemble their parents, traits can vary in appearance or function. For instance, two parents with normal color vision can have a son with red-green colorblindness. Patterns of genetic inheritance will be discussed later. Molecular geneticists examine the biological processes that generate differences among individuals, focusing on aspects such as DNA mutations, cell division, and the regulation of genetic activity.

Molecular anthropologists use genetic data to explore anthropological questions, often utilizing ancient DNA (aDNA) extracted from remains of once-living organisms. Although aDNA can degrade over time, specialized techniques can amplify short segments for analysis. A recent example of aDNA research involves Native American immunity to European diseases.

Molecules of Life

All organisms are made up of four essential molecules: proteins, lipids, carbohydrates, and nucleic acids. Proteins shape cells and perform most cellular tasks, from receiving signals to initiating responses. Lipids, including fats, oils, and hormones, form the cell membrane's phospholipid bilayer. Carbohydrates, such as glucose, provide energy for cells. Nucleic acids, like DNA, carry an organism's genetic information.

Characteristics of each molecule:

- Proteins
  - Composed of long chains of amino acids and often folded into complex 3D shapes related to their functions.
  - Interact with other proteins and molecules.
  - Categories include:
    - Structural proteins (e.g., collagen, keratin, lactase, hemoglobin, cell membrane proteins)
    - Defense proteins (e.g., antibodies)
    - Enzymes (e.g., lactase)
    - Hormones (e.g., insulin)
    - Motor proteins (e.g., actin)
- Lipids
  - Insoluble in water, with a hydrophilic head and a hydrophobic tail.
  - Includes fats, like triglycerides, which store energy.
  - Steroid hormones (e.g., estrogen, testosterone) act as chemical messengers, aiding in cellular communication and pathways.
- Carbohydrates
  - Large group of organic molecules made of carbon and hydrogen.
  - Starches and sugars (e.g., blood glucose) provide energy to cells.
- Nucleic Acids
  - Carry the genetic information of an organism.
  - Examples include deoxyribonucleic acid (DNA) and ribonucleic acid (RNA).

Cells

In 1665, Robert Hooke observed plant cork under a microscope, noting structures resembling "cella," or "small rooms" in Latin. Nearly 200 years later, biologists recognized the cell as the basic unit of life, with all organisms composed of either **prokaryotic** cells, which lack a nucleus, or **eukaryotic** cells, which contain a nucleus.

Prokaryotes, such as bacteria and archaea, are single-celled and lack membrane-bound DNA or organelles—specialized cell structures that perform distinct functions. While some bacteria, like E. coli and Salmonella, can cause illness, others in the human microbiome aid in digestion, immunity, and vitamin production.

Eukaryotes, in contrast, have membrane-bound DNA and organelles and can be single- or multi-celled. Examples include the single-celled phytoplankton, which produces oxygen, and multicellular organisms like plants and animals. Plant and animal cells share similarities but differ in some structures, like the cellulose-based cell wall in plants, which helps prevent water loss, while animals have diverse tissues including skin, cartilage, and brain.

Animal Cell Organelles

An animal cell is enclosed by a **phospholipid bilayer**—a double membrane made of lipids and proteins that regulates molecule and ion passage. Inside, the jelly-like **cytoplasm** houses organelles, specialized structures like the **nucleus**, which contains DNA, and **mitochondria**, which generate energy (ATP) for the cell. Multicellular eukaryotes can have numerous mitochondria per cell, each with its own DNA (mtDNA), as mitochondria evolved from symbiotic bacteria. Proper organelle function is essential for cell health, and dysfunction can lead to disease.

- Centrioles
  - Assist with organizing mitotic spindles, which extend and contract to facilitate cellular movement during mitosis and meiosis.
- Cytoplasm
  - Gelatinous fluid inside the cell membrane that contains organelles.
- Endoplasmic Reticulum (ER)
  - Continuous with the nucleus, this membrane network helps transport, synthesize, modify, and fold proteins.
  - Rough ER has embedded ribosomes, while Smooth ER lacks ribosomes.
- Golgi Body
  - Layers of flattened sacs that receive messages from the ER to process, secrete, and transport proteins within the cell.
- Lysosome
  - Located in the cytoplasm; contains enzymes to break down cellular components.
- Microtubule
  - Involved in cellular movement, including intracellular transport and cell division.
- Mitochondrion
  - Responsible for cellular respiration, producing energy by converting nutrients into ATP.
- Nucleolus
  - Located inside the nucleus, it is the site of ribosomal RNA (rRNA) transcription, processing, and assembly.
- Nucleopore
  - Selectively permeable pores in the nuclear envelope.
- Nucleus
  - Contains the cell's DNA and is surrounded by the nuclear envelope, a double membrane with pores that regulate molecule exchange with the cytoplasm.
- Ribosome
  - Located in the cytoplasm and on the rough ER, where messenger RNA (mRNA) binds to synthesize proteins.

DNA Structure

The 1953 discovery of the molecular structure of deoxyribonucleic acid (DNA) is considered one of the greatest scientific achievements. Rosalind Franklin used X-ray crystallography to produce an image that revealed DNA's double helix shape. Despite her significant contribution, Franklin received less recognition than her colleagues, James Watson, Francis Crick, and Maurice Wilkins, who were awarded the Nobel Prize in 1962 for their biochemical model of DNA. Franklin passed away in 1958, but her contributions now are widely acknowledged.

DNA can be described as a twisted ladder, consisting of two antiparallel strands made of nucleotides with a sugar-phosphate backbone. There are four types of DNA nucleotides: adenine (A), thymine (T), cytosine (C), and guanine (G). The strands are held together by base pairs, following complementary pairing rules: A bonds with T, and C bonds with G. These bonds are formed by weak hydrogen interactions, allowing the strands to separate easily. A DNA sequence refers to the order of nucleotide bases along one strand. For example, if one strand has the sequence CATGCT, the complementary strand will be GTACGA. In total, human cells contain approximately three billion DNA base pairs.

Evolutionary Mechanisms

There are several mechanisms that are at play when studying evolution by natural selection.

Directional Natural Selection

Directional natural selection favors individuals with traits at one extreme of the range, leading to a shift in the average phenotype of a population over time. Prior to the Industrial Revolution, light, speckled moths predominated while darker moths and lighter moths were on the extremes. During the industrial revolution, the dark moths became more common because they had the advantage of blending in with buildings covered in soot from factory smoke. They had an easier time hiding from predators (Cook & Saccheri, 2013).

Stabilizing Natural Selection

Whereas directional natural selection favored traits on an extreme, **stabilizing natural selection** favors traits in the middle. This reduces the extremes and maintains the average phenotype, promoting stability within a population. A good example here is birthweight. When human babies are born, complications can occur if babies are too small or too big. The neonatal mortality rate is lowest for babies in the middle of the spectrum (Jeon et al., 2019).

Disruptive Natural Selection

Disruptive natural selection favors individuals with extreme traits at both ends of the range. This potentially leads to the formation of distinct phenotypic groups within a population. In Chinook salmon, disruptive natural selection helps maintain two successful male reproductive strategies: large dominant “hooknose” males that compete directly for mates and smaller “sneaker” “jack” males that can get closer to the eggs and produce higher-quality sperm, allowing both forms to persist evolutionarily (Young et al., 2013).

To review, directional natural selection favors one extreme, stabilizing natural selection favors the middle between extremes, and disruptive natural selection favors both extremes.

Character Displacement

Character displacement occurs when closely related species sharing the same environment and ecological roles evolve differences to reduce competition for

resources. There are multiple species of Galapagos finches. Each of these finch species varies in beak size and depth, which enables their coexistence due to their consumption of specific seeds to match their beak characteristics. Finches with larger, stronger beaks consume tougher, larger seeds, while those with smaller beaks feed on softer, smaller seeds. In areas where species have less overlap and competition for resources, the features that differentiate them are less exaggerated (Grant & Grant, 2006).

Gene Flow

Gene flow occurs with the transfer of genetic material between populations, enhancing genetic diversity and countering the effects of genetic isolation. Gene flows occur during migrations and when different groups of the same species come into contact with one another.

Genetic Drift in Small Populations

Genetic drift in small populations occurs when chance events lead to changes in allele frequencies, which potentially results in the loss of genetic diversity over generations. Chance events can be related to the bottleneck effect and the founder effect. The **bottleneck effect** occurs when a sudden reduction in population size due to a catastrophic event, disease outbreak, or natural disaster leads to a random loss of diversity. According to Gibbons (1993), the eruption of Mt. Toba about 75,000 years ago killed off most people leaving only a few thousand. Since all humans today are descended from these same few thousand individuals, we don't have much genetic diversity compared to other animals. While some anthropologists entertained this idea, later genetic and archaeological evidence suggested that the human population decline associated with the Toba supereruption may not have been as severe or globally devastating as originally proposed (Ambrose, 2003).

The **founder effect** occurs when a small group of individuals establishes a new population. The genetic makeup of the founders becomes the basis for the new population's genetic diversity.

Sexual Selection

Traits that enhance an individual's mating success often lead to the development of striking and diverse characteristics. Examples include peacocks' vibrant tail feathers, elk's impressive antlers, and lions' manes.

Convergent Evolution

Convergent evolution is the process by which unrelated species independently evolve similar traits or adaptations in response to comparable environmental pressures or ecological roles. This occurs not because the species share a recent common ancestor with those traits, but because natural selection favors similar solutions to similar challenges. For example, penguins in the Southern Hemisphere and the now-extinct great auks of the Northern Hemisphere both developed streamlined bodies, short wings adapted for swimming, and similar coloration. Although these birds are not closely related, both evolved similar features for efficient movement through cold ocean waters.

Chapter 3 Study Guide

1. Explain the early theories of evolution.
2. Explain evolution by natural selection and distinguish between its key concepts (variation, inheritance, differential reproductive success, and adaptation).
3. Explain examples of human adaptations.
4. Identify and describe the molecules of life associated with genetics.
5. Distinguish between prokaryotes and eukaryotes.
6. Identify and describe the animal cells organelles.
7. Distinguish between directional, stabilizing, and disruptive natural selection.
8. Distinguish between character displacement, gene fl ow, genetic drift and in small populations, and sexual selection as related to inheritance.
9. Distinguish between the bottleneck effect and the founder effect.
0. Define convergent evolution.

This page titled 3: Evolution is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

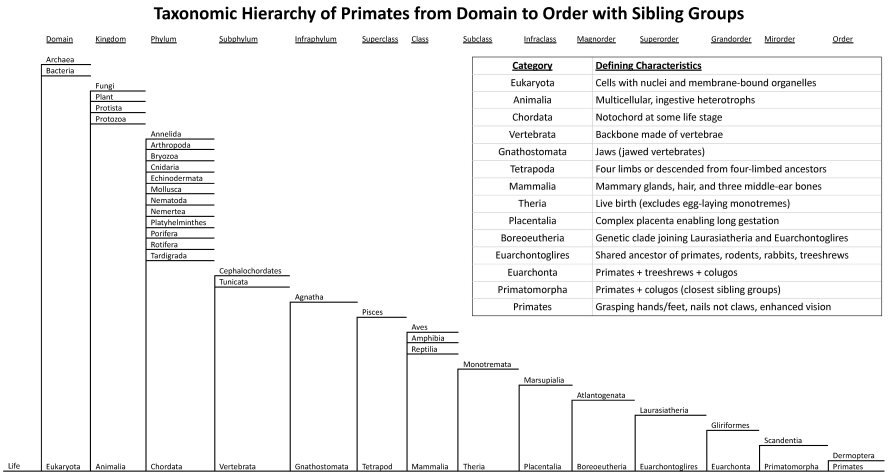
4: Primates and Human Evolutionary Relatives

Primatological observation involves studying non-human primates in their natural habitats to gain insights into primate behavior, social structure, and evolutionary relationships. Jane Goodall's (1971) long-term field study of chimpanzees at Gombe Stream National Park in Tanzania is a landmark example of primatological observation. Goodall's meticulous observations provided groundbreaking insights into chimpanzee social dynamics, tool use, and communication, reshaping our understanding of primate behavior.

Classification

Taxonomy

Remember Carolus Linnæus (1753) who gave us the foundation for modern taxonomy? We have kingdom, phylum, class, order, family, genus, and species which are all organized by shared characteristics. Today, biological anthropologists use many more categories than the ones conceived by Linnæus. Refer to the chart to make sense of how life is organized.



Category	Defining Characteristics
Eukaryota	Cells with nuclei and membrane-bound organelles
Animalia	Multicellular, ingestive heterotrophs
Chordata	Notochord at some life stage
Vertebrata	Backbone made of vertebrae
Gnathostomata	Jaws (jawed vertebrates)
Tetrapoda	Four limbs or descended from four-limbed ancestors
Mammalia	Mammary glands, hair, and three middle-ear bones
Theria	Live birth (excludes egg-laying monotremes)
Placentalia	Complex placenta enabling long gestation
Boreoeutheria	Genetic clade joining Laurasiatheria and Euarchontoglires
Euarchontoglires	Shared ancestor of primates, rodents, rabbits, treeshrews
Euarchonta	Primates + treeshrews + colugos
Primatomorpha	Primates + colugos (closest sibling groups)
Primates	Grasping hands/feet, nails not claws, enhanced vision

Primate Characteristics

Members of the Primate Order generally have the following characteristics:

- Forward-facing eyes
- Grasping hands and feet
- Nails instead of claws
- Large brain-to-body ratio (compared to other animals)
- Complex social structures
- Dietary flexibility
- Parental care and learning

Clades

When studying evolution, inheritance, and genetics, ancestry is important; therefore clades are used. A **clade** is a group of organisms based on their last common ancestors with shared derived traits. Clades are organized by groups like family trees. Here are some of the clades that contain human ancestry:

- Bilateria
- Nephrozoa
- Amniota
- Sarcopterygii (Lobe-finned fish)
- Synapsida
- Mammaliaformes
- Eutheria
- Olfactores

- ParaHoxozoa

Living Primates

In this section, we will explore all living primates, except humans. Yes, humans are primates. Humans also are considered apes -great apes, specifically.

Before we explore the wet-nosed primates, take a moment to review the two reference materials. First, the **Taxonomic Hierarchy of Living Primates from Order to Species** provides an overview of primate classification. Second, the **Geographic Distribution of Living Primates, Extinct Hominins, and Global Dispersal of *Homo sapiens*** shows where these species are found today and where our ancestors once lived.

Taxonomic Hierarchy of Living Primates from Order to Species

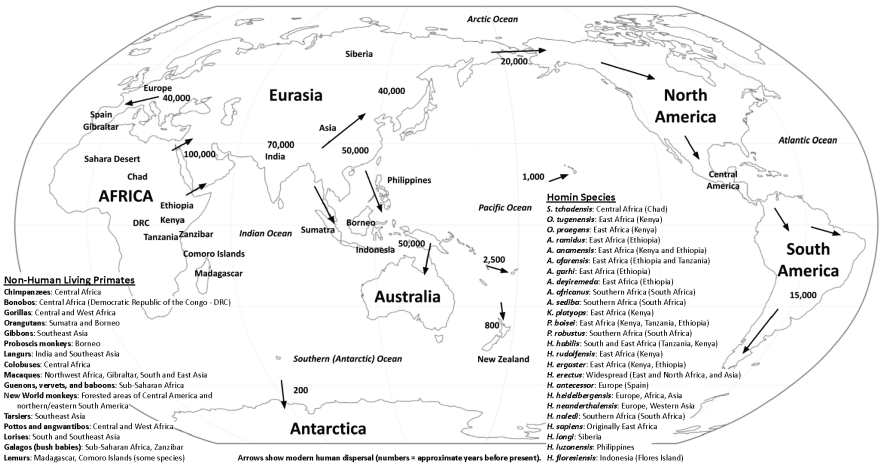
Order	Suborder	Infraorder	Parvorder	Superfamily	Family	Subfamily	Tribe	Subtribe	Genus	Species	Common Names
					Cheirogaleidae					>14	Dwarf and mouse lemurs
					Daubentoniidae					1	Aye-aye
					Indriidae					19	Indris, avahis, and sifakas
		Lemuriformes			Lemuridae					21	Ring-tailed and ruffed lemurs
					Lepilemuridae					24-26	Sportive lemurs
	Strepsirrhini[1]				Galagidae					>18-9	Galagos (or bush babies)
		Lorisiformes			Lorisidae					16	Lorises, pottos, and angwantibos
		Tarsiformes			Tarsiidae					10-14	Tarsiers
					Aotidae					11	Night or owl monkeys
					Atelidae					24-26	Howler, spider, and woolly monkeys
					Callitrichidae					~53	Marmosets and tamarins
					Cebidae					~18	Capuchins and squirrel monkeys
			Platyrrhini[4]		Pithecidae					40-61	Titis, sakis, and uakaris
						Cercopithecinae				~78	Guenons, vervets, baboons, macaques, etc.
				Cercopithecoidea[5]	Cercopithecidae	Colobinae				80-83	Colobuses, langurs, and proboscis monkeys
					Hylobatidae[8]					~20	Gibbons
						Ponginae				3	Orangutans
							Gorillini			2	Gorillas
										paniscus	Bonobos
								Panina	*Pan*	*troglodytes*	Chimpanzees
Primate	Haplorrhini[2]	Simiformes[3]	Catarrhini[6]	Hominoidea[7]	Hominidae[9]	Homininae[10]	Hominini[11]	Hominina[12]	*Homo*[13]	*Sapiens*[14]	Humans

Many of the categories above are interchangeable with other labels and/or have been used differently across time.

1. Strepsirrhini: Wet-nosed primates
2. Haplorrhini: Dry-nosed primates
3. Simiformes: Anthropoids, Simians, Higher primates
   (tarsiers and wet-nosed primates are collectively also known as 'prosimians' and 'lower primates')
4. Platyrrhini: New World monkeys
5. Catarrhini: Old World Anthropoids
6. Cercopithecoidea: Old World monkeys
7. Hominoidea: Apes
8. Hylobatidae: Lesser apes
9. Hominidae: Hominids, Geat apes
10. Homininae: African hominids, African apes
11. Hominini: Hominins
12. Hominina: Australopithecines (not to be confused with Australopithecus)
13. *Homo*: Humans
14. *sapiens*: Wise

Note: Within Tribe Hominini, all three living species are named rather than by species count. The number of species varies depending on the classification system used and as new species are discovered. Taxonomy terms and categories change over time, and multiple competing systems exist at any given moment.

Geographic Distribution of Living Primates, Extinct Hominins, and Global Dispersal of *Homo sapiens*



Wet-Nosed Primates

Lemur

- Endemic to Madagascar
- Primitive primates
- Diverse species
- Arboreal
- Large, reflective eyes
- Keen sense of smell
- Varied social structures

- Omnivorous diet
- Conservation challenges

Loris

- Found in Africa and Southeast Asia
- Primitive primates
- Nocturnal
- Arboreal
- Slow-moving
- Solitary or small groups
- Specialized grip for clinging to branches
- Slow metabolism
- Omnivorous diet
- Camouflaged fur
- Venomous saliva in some species

Dry-Nosed Primates (Except Apes)

Next, let's explore the dry-nosed, non-Ape Simiiformes. We'll study apes below.

Tarsiers

- Southeast Asia
- Small to medium-sized
- Nocturnal
- Large eyes
- Long fingers and toes
- Grooming claw
- Solitary or small family groups
- Territorial
- Delayed implantation
- Insectivorous (only primarily carnivorous primate)

New World Monkeys

- Found in the Americas
- Prehensile tails
- Arboreal
- Varied sizes
- Broad, side-facing nostrils
- Frugivorous and omnivorous
- Varied social structures
- Sexual dimorphism
- Capuchins, howler monkeys, spider monkeys, etc.

Old World Monkeys

- Africa and Asia
- Non-prehensile tails
- Arboreal and terrestrial
- Larger sizes
- Downward-pointing narrow nostrils
- Varied diets, including fruits, leaves, insects
- Complex social structures
- Sexual dimorphism

Apes

Now, we have the non-Hominina apes.

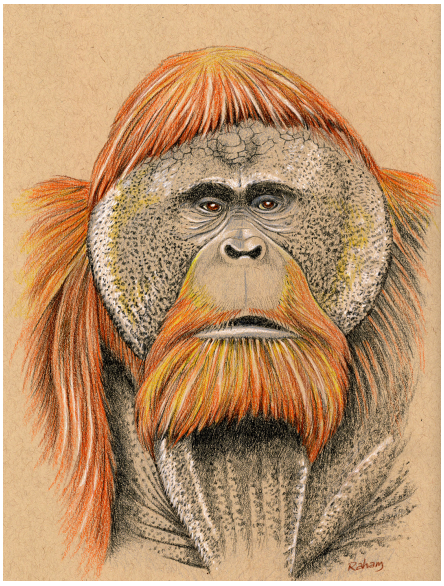
First, let's explore the **"lesser apes"** more commonly known as the **Gibbons**.



- Southeast Asia
- Small to medium-sized apes
- Exceptional brachiation
- Monogamous and pair-bonded
- Vocal with territorial songs
- Herbivorous diet
- Agile climbers
- No tail
- Sexual dimorphism
- Endangered due to habitat loss and hunting

Next, we will examine the non-Hominina **Great Apes**.

Orangutans



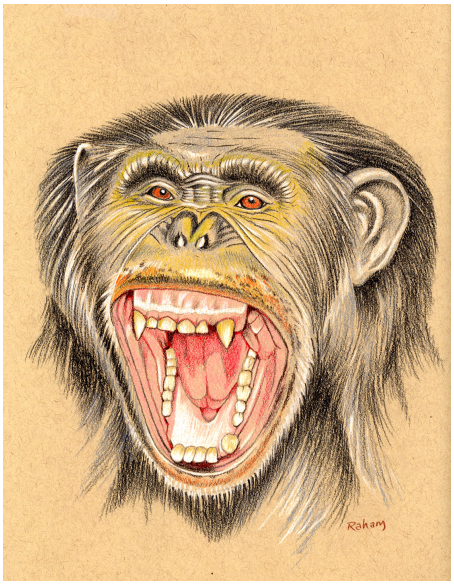
- Southeast Asia (Borneo and Sumatra)
- Large, solitary apes
- Arboreal and spend most of their lives in trees
- Pronounced sexual dimorphism
- Herbivorous diet
- Strongly built with long arms
- Solitary lifestyle
- No tail
- Endangered due to habitat destruction and poaching

Gorillas



- Central and western Africa
- Largest of great apes
- Pronounced sexual dimorphism
- Herbivorous diet
- Stable, cohesive family groups led by silverback
- Communication through vocalizations and gestures
- Strong and heavily built
- Terrestrial but also climb trees
- Important role in seed dispersal
- Face conservation challenges

Chimpanzees



- Central and West Africa
- Pronounced sexual dimorphism
- Highly intelligent and tool users
- Complex and flexible social groups
- Communication through vocalizations, gestures, and body language
- Omnivorous diet
- Arboreal and terrestrial

Bonobos



- Central Africa, primarily Democratic Republic of Congo
- Slightly smaller and slenderer than chimpanzees
- Peaceful and matriarchal social structures
- Solve conflicts through bonding and sexual behaviors
- Strong female-female bonds
- Vocal and use vocalizations for communication
- Primarily frugivorous
- Agile climbers and spend time on the ground
- Endangered due to habitat destruction and poaching

The only remaining great apes and primates we have to study are the subtribe Hominina, which includes modern humans and other extinct species. We'll explore them in another chapter.

Conservation Biology

Some biological anthropologists work in conservation biology, which is an interdisciplinary field focusing on the following issues:

- Habitat Loss and Fragmentation: Addressing the loss, degradation, and fragmentation of primate habitats due to human activities, agriculture, logging, urbanization, and infrastructure development.
- Illegal Wildlife Trade: Combating the illegal trade of primates for pets, traditional medicine, bushmeat, and other commercial purposes.
- Climate Change: Understanding and addressing the impacts of climate change on primate habitats, food resources, and survival.
- Human-Wildlife Conflicts: Managing conflicts between humans and primates, implementing strategies for coexistence, and reducing negative interactions.
- Endangered Species Protection: Identifying endangered and critically endangered primate species, implementing conservation strategies, captive breeding programs, and reintroduction efforts.
- Biodiversity Conservation: Promoting biodiversity conservation by protecting primate habitats, ecosystems, and the interconnected web of life.
- Community-Based Conservation: Engaging local communities in conservation efforts, promoting sustainable livelihoods, and empowering communities to protect primates and their habitats.
- Research and Monitoring: Conducting scientific research, monitoring primate populations, behavior, health, genetics, and implementing evidence-based conservation strategies.
- Policy and Legislation: Advocating for policies, legislation, international agreements, and enforcement mechanisms to protect primates, their habitats, and combat illegal activities.
- Education and Outreach: Raising awareness, educating the public, stakeholders, and policymakers about primate conservation issues, threats, and the importance of biodiversity conservation.

Hominins

About seven million years ago, the Hominini tribe split into two subtribes... the Panina and the Hominina. They are distinguished from each other by their size, brain size, dental features, and other characteristics. Hominina are characterized by bipedalism, increased brain size, tool use, and various environmental adaptations, social structures, and behavioral traits. The Panina subtribe eventually results in chimpanzees and bonobos, our closest living relatives. In this chapter, we explore the Hominina subtribe, which developed into a variety of genera and species, including humans and proto-humans.

Here are a couple of things to note about vocabulary:

- **Homo** and human mean the same thing.
- The term **modern human** refers to the species *Homo sapiens*.
- **Proto-human** or proto-homo refers to the non-Homo genera of the subtribe Hominina. In other words, it includes all species of Sahelanthropus, Orrorin, Ardipithecus, Australopithecus, Kenyanthropus, and Paranthropus.
- **Archaic-human** or archaic-homo refers to the significant, pre-Homo sapiens species of the genus Homo. The term archaic homo is often used to refer to the following species:
    - *Homo habilis*: lived 2.4 to 1.4 million years ago and is associated with the Oldowan stone tool industry.
    - *Homo erectus*: lived 1.9 million years ago to about 100,000 years ago and is known for its advanced stone tool technology and adaptation to diverse environments.
    - *Homo heidelbergensis*: lived 600,000 to 200,000 years ago and is a transitional species exhibiting characteristics shared with both earlier and later hominin species.
    - *Homo neanderthalensis* (Neanderthals): lived 400,000 to 40,000 years ago. Neanderthals exhibited unique morphological features, cultural practices, and genetic contributions to modern human populations.

Refer to the **Taxonomic Hierarchy of Hominina Subtribe Genera and Species with Characteristics** chart as you review the species.

Taxonomic Hierarchy of Hominina Subtribe Genera and Species with Characteristics

Subtribe	Genus	Species	Common Names and Notable Specimens	Distribution	Lived (millions of years ago)
	Sahelanthropus	*tchadensis*		Central Africa (Chad)	7 - 6
		tugenensis		East Africa (Kenya)	6.1 - 5.7
	Orrorin	*praegens*		East Africa (Kenya)	5.0 - 4.5
	Ardipithecus	*ramidus*	Ardi	East Africa (Ethiopia)	5.8 - 4.4
		anamensis		East Africa (Kenya and Ethiopia)	4.2 - 3.8
		afarensis	Lucy	East Africa (Ethiopia and Tanzania)	3.9 - 2.9
		garhi		East Africa (Ethiopia)	2.6 - 2.5
		deyiremeda		East Africa (Ethiopia)	3.5 - 3.3
		africanus	Taung child	Southern Africa (South Africa)	3.3 - 2.1
	Australopithecus	*sediba*		Southern Africa (South Africa)	1.98
	Kenyanthropus	*platyops*		East Africa (Kenya)	3.3 - 3.2
		boisei	Nutcracker man	East Africa (Kenya, Tanzania, Ethiopia)	2.5 - 1.15
	Paranthropus	*robustus*		Southern Africa (South Africa)	2.2 - 0.8
		habilis	Handy man	South and East Africa (Tanzania, Kenya)	2.3 - 1.6
		rudolfensis		East Africa (Kenya)	2.3 - 1.6
		ergaster	Working man, Turkana boy	East Africa (Kenya, Ethiopia)	2 - 1.5
		erectus	Upright man, Java man, Peking man	Widespread (Africa, Eurasia)	2 - 0.1
		antecessor	Pioneer man	Europe (Spain)	1.2 - 0.8
		heidelbergensis	Mauer jaw	Europe, Africa, Asia	0.7 - 0.2
		neanderthalensis	Neanderthals	Europe, Western Asia	0.4 - 0.04?
		naledi		Southern Africa (South Africa)	0.33 - 0.23
		sapiens	Modern humans	Originally East Africa	0.3 - present
		longi	Dragon man, Denisovans	Siberia	0.146
		luzonensis		Philippines	0.06 - 0.05
Hominina	*Homo*	*floresiensis*	Flores man, Hobbit	Indonesia (Flores Island)	0.19 - 0.05

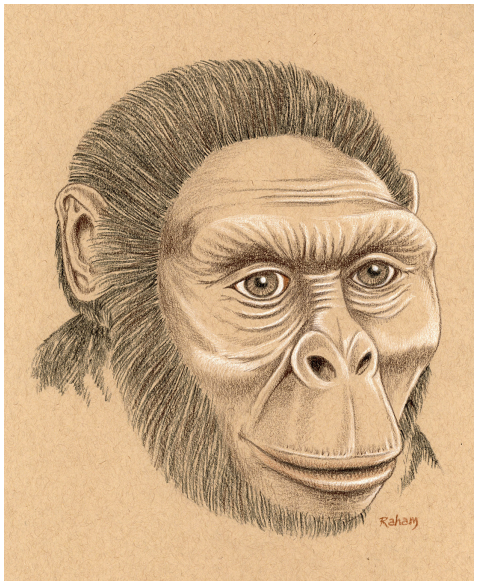
Earliest Hominins

Sahelanthropus tchadensis



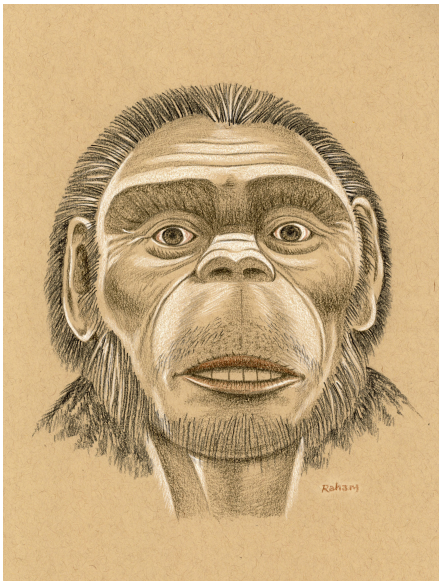
- Lived approximately 6 to 7 million years ago
- Considered one of the earliest known hominins
- Fossil remains discovered in Chad, Africa
- Ape-like and human-like features, with a small brain size
- Likely bipedal, suggesting some form of upright walking
- Controversial and debated status as a direct human ancestor

Orrorin tugenensis



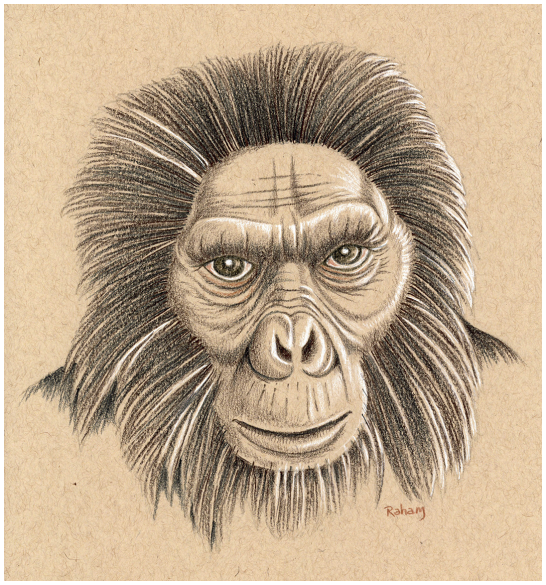
- Lived approximately 6 million years ago
- Fossil remains discovered in Tugen Hills, Kenya
- Considered one of the earliest known hominins
- Displays both ape-like and human-like traits
- Likely walked upright on two legs, indicating bipedalism
- Limb bones suggest adaptations for climbing and walking

Orrorin praegens



- Lived approximately 6 to 5.7 million years ago
- Around the size of a chimpanzee and has tooth characters most similar to Ardipithecus ramidus
- Debate about how this is a separate species from tugenensis

Ardipithecus ramidus



- Lived approximately 4.4 million years ago
- Fossil remains discovered in the Afar Rift, Ethiopia
- One of the earliest known hominins
- Exhibits a mix of ape-like and human-like characteristics
- Likely capable of both bipedalism and tree-climbing
- The pelvis and foot structure suggest adaptations for upright walking

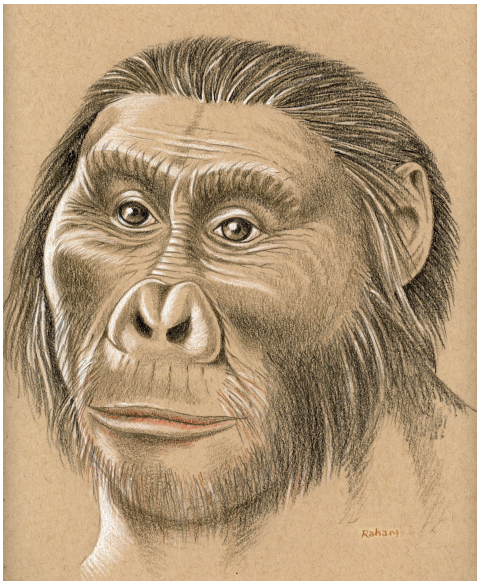
Australopithecus and Close Relatives

Australopithecus anamensis



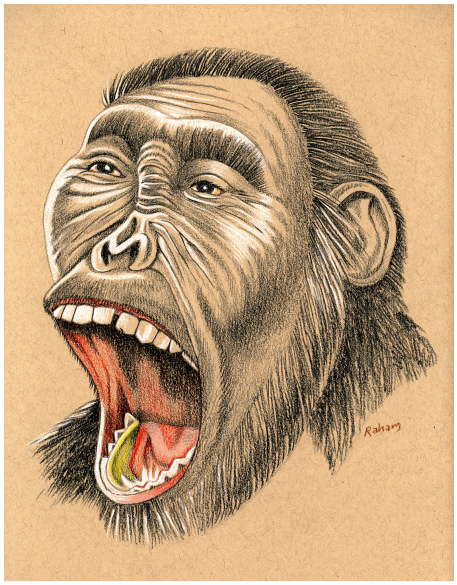
- Lived approximately 4.2 to 3.9 million years ago
- Fossil remains discovered in East Africa, including Kenya and Ethiopia
- An early member of the Australopithecus genus
- Displayed a combination of ape-like and human-like traits
- Likely walked upright on two legs, showing signs of bipedalism
- Dental and skeletal evidence provide insights into its diet and lifestyle

Australopithecus afarensis



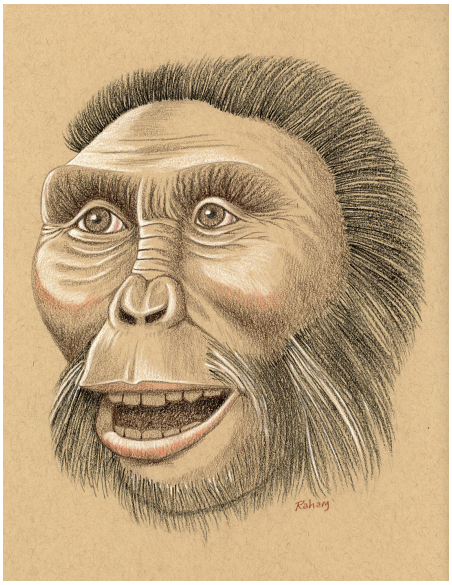
- Lived approximately 3.9 to 2.9 million years ago
- Fossil remains discovered in East Africa, including Ethiopia and Tanzania
- Famous for the discovery of "Lucy," one of its most well-known specimens
- Displayed a mixture of ape-like and human-like characteristics
- Definitive evidence of bipedalism, with skeletal adaptations for upright walking
- An omnivorous diet based on dental and isotopic studies
- Australopithecus afarensis is a key species in the study of human evolution
- It provides critical insights into the early stages of hominin development and locomotion

Australopithecus garhi



- Lived approximately 2.5 million years ago
- Fossil remains discovered in Ethiopia, particularly in the Bouri Formation
- Exhibited a blend of ape-like and human-like characteristics
- Fossil evidence suggests possible tool use and butchery

Australopithecus deyiremeda



- Lived approximately 3.4 to 3.3 million years ago
- Fossil remains discovered in the Woranso-Mille area of Ethiopia
- Exhibited a combination of ape-like and human-like features
- The evidence suggests a diet that included a variety of foods

Australopithecus africanus



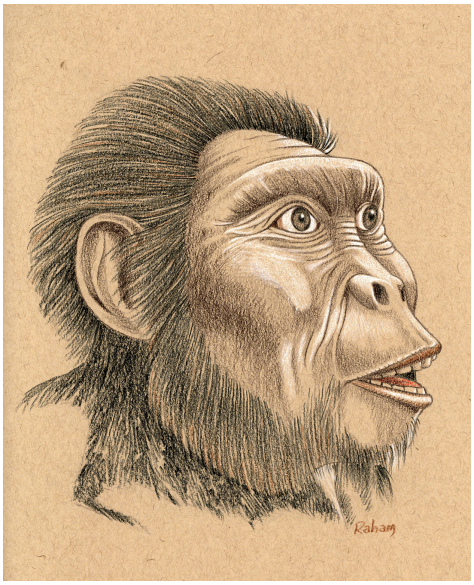
- Lived approximately 2 to 3 million years ago
- Fossil remains discovered in South Africa, notably in the Taung and Sterkfontein Caves
- Belongs to the Australopithecus genus
- Displayed a mixture of ape-like and human-like characteristics
- Evidence of bipedalism, although with some primitive traits
- Australopithecus africanus is associated with a varied diet, including fruits and plants

Australopithecus sediba



- Lived about 2 million years ago
- Fossil remains found in South Africa
- Smaller teeth than other Australopithecines

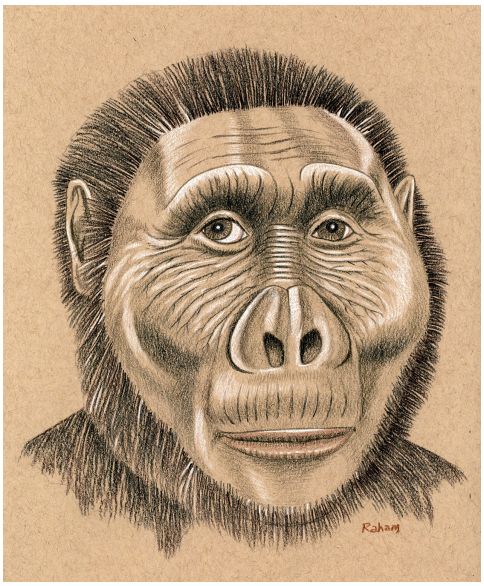
Kenyanthropus platyops



- Lived approximately 3.5 million years ago
- Fossil remains discovered at Lomekwi in Kenya
- Notable for its flat and relatively small face
- Displayed a mixture of primitive and more modern features

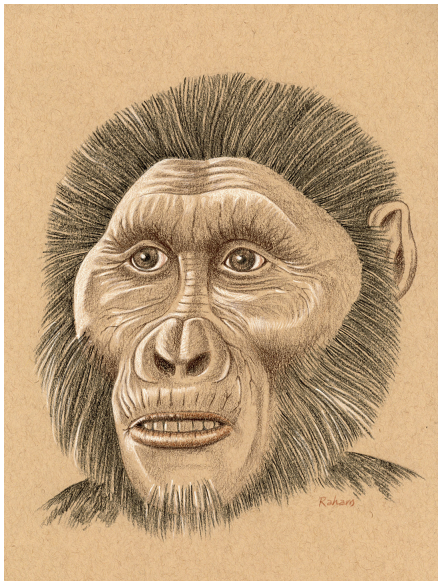
Robust Australopithecines

Paranthropus boisei



- Lived approximately 2.3 to 1.2 million years ago
- Fossil remains discovered in East Africa, including Tanzania and Kenya
- Distinctive for its robust cranial and dental features
- Displayed adaptations for a diet primarily consisting of tough plant material

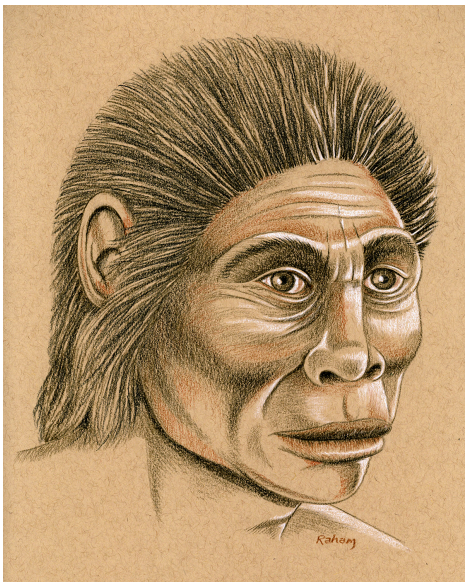
Paranthropus robustus



- Lived approximately 2 to 1.2 million years ago
- Fossil remains discovered in South Africa, particularly in the Cradle of Humankind
- Recognized for its robust cranial and dental features
- Adapted for a diet that included hard or abrasive foods

Genus Homo

Homo habilis



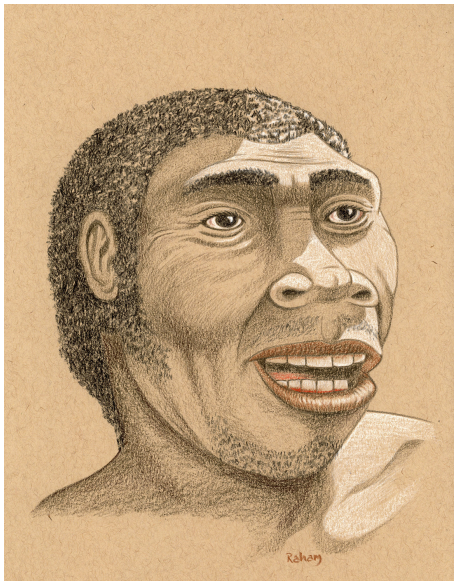
- Lived approximately 2.4 to 1.4 million years ago
- Fossil remains discovered in East and South Africa
- Considered one of the earliest members of the Homo genus
- Exhibited a mixture of primitive and more advanced traits
- Associated with the use of tools, indicating increased cognitive abilities
- Homo habilis is recognized as a key transitional species in human evolution
- Its existence marks a significant step in the development of the Homo lineage

Homo rudolfensis



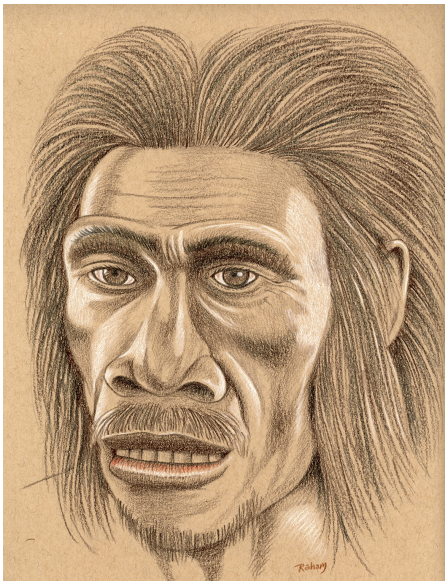
- Lived approximately 1.9 to 1.8 million years ago
- Fossil remains discovered in the Koobi Fora region near Lake Turkana, Kenya
- Classified as a possible member of the Homo genus
- Characterized by a relatively large brain size and distinctive facial features
- The species is known from limited fossil evidence. Fossils include cranial remains, particularly a well-known specimen known as "KNM-ER 1470"
- Some researchers consider it a distinct species, while others suggest it may represent variation within a different species, such as Homo habilis

Homo ergaster



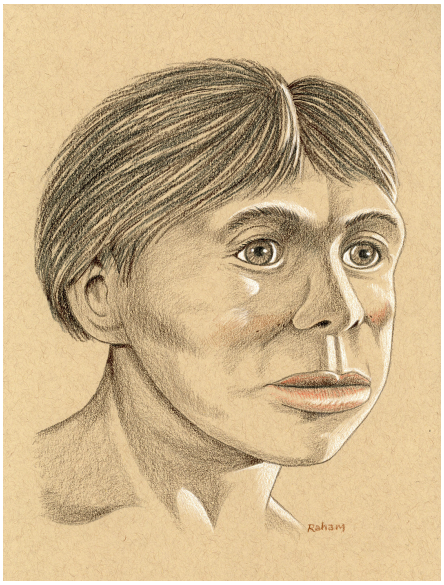
- Lived approximately 1.9 to 1.4 million years ago
- Fossil remains discovered in East Africa, including Kenya and Tanzania
- Distinguished by a relatively modern body structure and limb proportions
- Likely the first hominin species to exhibit full-time bipedalism
- Associated with an increased reliance on tools and technology

Homo eretus



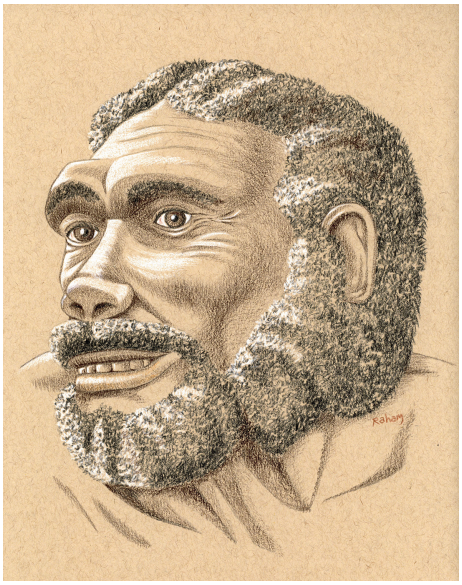
- Lived approximately 1.9 million to about 140,000 years ago
- The species exhibited a wide geographical distribution with fossil remains discovered in Africa, Asia, and Indonesia
- Characterized by a more modern body structure, including an upright posture
- Known for using tools and evidence of controlled use of fire
- Homo erectus represents an important stage in human evolution, often associated with the "Out of Africa" hypothesis

Homo antecessor



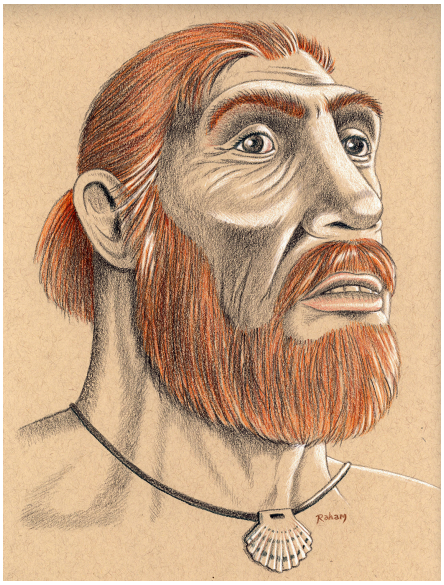
- Lived approximately 1.2 million to 800,000 years ago
- Fossil remains discovered at the Gran Dolina site in Atapuerca, Spain
- Displayed a mixture of primitive and more modern anatomical features
- Associated with evidence of tool use and butchery

Homo heidelbergensis



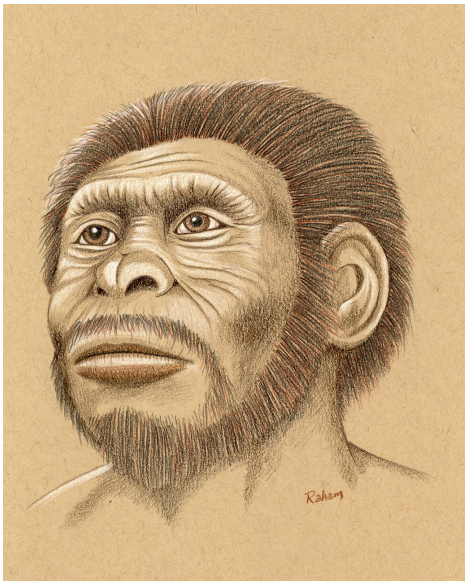
- Lived approximately 600,000 to 200,000 years ago
- Fossil remains discovered in various locations across Europe, Africa, and possibly Asia
- Classified as an archaic member of the Homo genus
- Displayed a combination of primitive and more modern traits
- Associated with evidence of complex tool use and potential symbolism
- *Homo heidelbergensis* represents a key species in human evolution
- Its existence has implications for the emergence of the Neanderthals and modern *Homo sapiens*

Homo neanderthalensis



- Lived approximately 400,000 to 40,000 years ago
- Fossil remains discovered primarily in Europe and parts of Asia
- Classified as a distinct species within the Homo genus, closely related to Homo sapiens
- Recognized for its robust physique and distinctive anatomical features
- Associated with evidence of sophisticated tool use, symbolic behavior, and burial practices
- *Homo neanderthalensis* represents a remarkable branch of the human family tree
- Interbreeding with *Homo sapiens*
- Boule (1911) wrongly characterized Neanderthals as unintelligent, perpetuating a misconception that persists despite evidence to the contrary (Hammond, 1982)

Homo naledi



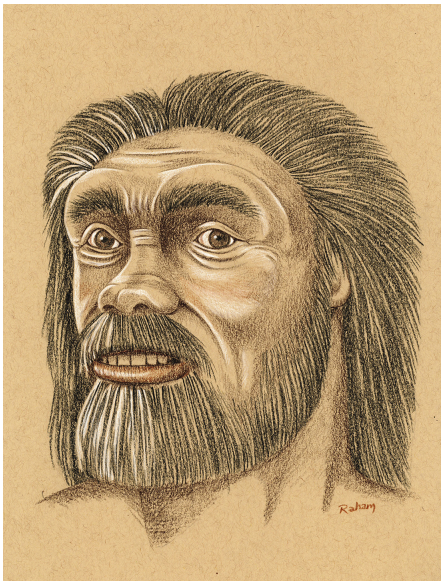
- Fossils of *Homo naledi* have been dated to around 250,000 years ago
- Relatively small brain size, similar to early hominins
- *Homo naledi* had a small stature, with a slender build
- Modern human-like limb proportions, indicating bipedalism (walking on two legs)
- Modern human-like hands and feet with grasping capabilities, but also some primitive traits
- Small teeth with some similarities to both early hominins and modern humans
- A small, rounded skull with a distinctive shape and small brow ridges
- Found in the Rising Star Cave system in South Africa
- Controversially, there is evidence to suggest that *Homo naledi* may have engaged in deliberate burial practices
- The dating of *Homo naledi* fossils raises questions about their coexistence with early Homo sapiens in Africa

Homo sapiens



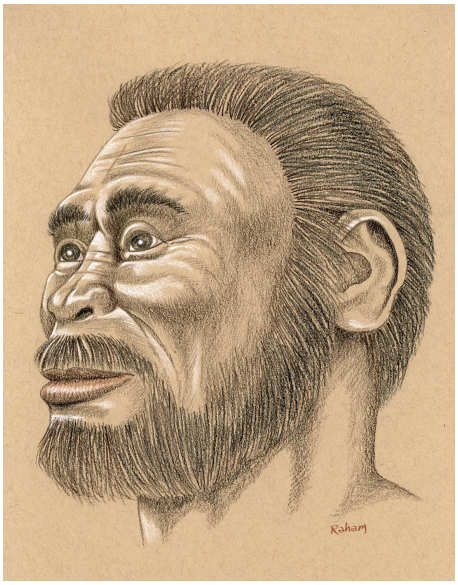
- Emerged around 300,000 years ago in Africa.
- Large brain (~1,300–1,400 cc), supporting complex cognition and problem-solving.
- Modern human body proportions: long legs, shorter arms, adapted for endurance walking/running.
- Hands and feet fully adapted for precise manipulation and bipedal locomotion.
- Small teeth with a parabolic dental arch.
- Rounded skull, high forehead, reduced brow ridges, and prominent chin.
- Fossils first found in Omo Kibish (Ethiopia) and Jebel Irhoud (Morocco).
- Evidence of symbolic behavior: cave art, personal ornaments, burial practices.
- Developed complex tools (Middle Stone Age, Upper Paleolithic), hunting strategies, and clothing.
- Global dispersal began ~70–60 kya, replacing or interbreeding with local archaic populations (Neanderthals, Denisovans).
- Cultural innovations: agriculture, cities, writing, trade, social stratification, permanent settlements.

Homo longi



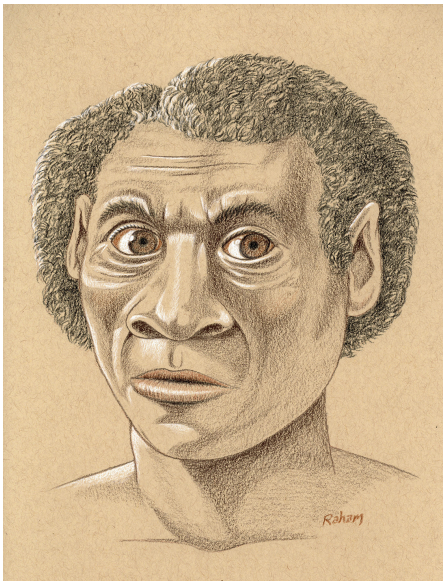
- Lived at least 146,000 years ago
- Dragon man skull found in China
- Low skull, prominent brow, wide eye sockets, and a large mouth

Homo luzonensis



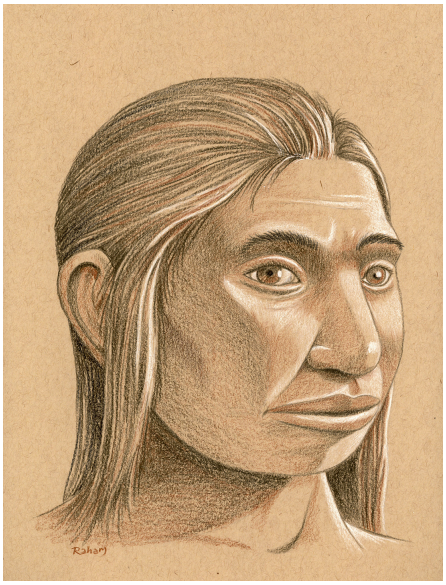
- Lived approximately 67,000 to 50,000 years ago
- Fossil remains discovered in the Callao Cave on the island of Luzon in the Philippines
- Displayed a mix of primitive and more modern traits, with small stature
- Associated with evidence of tool use and adaptation to a unique island environment

Homo floresiensis



- Lived approximately 100,000 to 60,000 years ago
- Fossil remains discovered on the island of Flores in Indonesia
- Classified as a distinct species within the Homo genus
- Characterized by small stature and a relatively small brain size
- Associated with evidence of sophisticated tool use and hunting
- *Homo floresiensis* is often referred to as the "Hobbit" due to its diminutive size

Denisovans



- Denisovans are an extinct group of hominins
- They are known primarily from DNA evidence extracted from a finger bone found in the Denisova Cave in Siberia
- Classified as a distinct group within the broader hominin family
- Denisovans are closely related to Neanderthals but genetically distinct
- The Denisovan genome has provided insights into their genetic contributions to modern humans
- Their interbreeding with Homo sapiens has left a genetic legacy in some modern human populations, particularly in Asia and Oceania
- Genetic evidence suggests that the population identified as Denisovans may actually represent *Homo longi*, indicating that these fossils and DNA traces belong to the same lineage rather than separate species (Fu et al., 2025a; Fu et al., 2025b).

Biological Evolution

To understand how these species are related to each other, we must know during which historical time periods they existed and how their characteristics distinguish them in our shared evolutionary history.

Evolutionary Milestones

We discussed the various genera and species of subtribe Hominina. Some of these may be referred to as transitional forms as they have evolutionary transitions. A **transitional form** is a fossilized organism that displays characteristics of both ancestral and derived forms, illustrating gradual changes in evolutionary lineages. These species are "in between" since they have characteristics similar to species before and after their occurance. An **evolutionary transition** marks a shift in traits or characteristics over evolutionary time. Review the taxonomy chart and the species below, along with their evolutionary transitions. We will use common abbreviations for millions of years ago (mya) and thousands of years ago (kya).

- *Ardipithecus ramidus* (~4.4 mya)
  - Represents a transitional form between late Miocene apes and the Australopithecus genus, offering insights into bipedal locomotion
- *Australopithecus afarensis* (Lucy's species) (3.9 - 2.9 mya)
  - Illustrates further adaptations to bipedalism and the transition from arboreal to terrestrial environments
- *Australopithecus africanus* (3.3 - 2.1 mya)
  - Marks continued adaptations to bipedalism and provides evidence of an expanding hominin diversity in Africa
- *Homo habilis* (2.3 - 1.6 mya)
  - Marks the transition from Australopithecus to the Homo genus, showing increased brain size and tool use
- *Homo erectus* (2- 0.1 mya)
  - Represents the first hominin species to migrate out of Africa, displaying advanced tool technology and larger brain size
- *Homo sapiens* (0.3 mya)
  - Represents the emergence of anatomically modern humans, characterized by advanced cognitive abilities, complex societies, and widespread migration

Human Ancestry

We explored various proto- and archaic-humans. How are modern humans related to them? Are we descended from them? The human family tree and the various relationships between the species of subtribe Hominina is the subject of much research and debate among paleoanthropologists.

The exact relationships among the species of subtribe Hominina still are subjects of ongoing research and debate in paleoanthropology. Homo sapiens are believed

to have evolved from earlier hominin species. Among the potential direct ancestors include *Homo heidelbergensis*, a species considered a common ancestor of both Neanderthals and Homo sapiens, with fossils found in Africa and Europe. *Homo antecessor*, identified through evidence from Atapuerca in Spain, is considered an early precursor to both Neanderthals and Homo sapiens. Neanderthals (*Homo neanderthalensis*) also are part of the evolutionary story, representing a closely related group with evidence of interbreeding with Homo sapiens. The human evolutionary path is complex, and ongoing research continues to refine our understanding of the specific ancestors leading to *Homo sapiens*. The other Homo species not listed here can be considered siblings or cousins to modern humans. The Australopithecus and other proto-homo genera and species can be thought of as more distant cousins.

Behavioral Evolution

Just as we study hominin biological evolution, we also can study behavioral evolution. We'll explore some of these issues in greater depth as we progress through the course.

Tool Use and Technology

Technology refers to the practical application of knowledge and tools to solve problems or achieve goals. Our ancient ancestors and relatives of subtribe Hominina used various stone tools. Review the significant milestones in the history of tool use below.

- Early Stone tools (Lower Paleolithic)
    - *Homo habilis* and Oldowan tools (approximately 2.6 to 1.7 mya)
- Acheulean Tradition (Lower Paleolithic)
    - *Homo erectus* and the Acheulean tools (approximately 1.7 mya to 200 kya)
- Transition to Middle Paleolithic
    - *Homo neanderthalensis* and *Homo heidelbergensis* and the Mousterian tools (approximately 200 kya to 40 kya)
- Upper Paleolithic innovations
    - *Homo sapiens* and advanced stone tools, bone tools, and symbolic artifacts in Upper Paleolithic cultures (approximately 40 kya to 10 kya)

We'll explore additional tools and technology as we continue in the future units of the course.

Cultural Advancements

Since there is an entire course unit on cultural anthropology, we won't spend much time here. For now, you should be familiar with the following milestones.

- Religious and Philosophical traditions:
    - Development of early belief systems and symbolic expressions.
    - Cultural practices related to burial, rituals, and symbolic behavior.
    - Time range: difficult to pinpoint, but evidence of symbolic behavior from the Paleolithic onwards.
- Symbolic representation
    - Evidence of symbolic representation in the form of cave art, body ornamentation, or other non-verbal symbolic communication.
    - Time range: upper Paleolithic period, approximately 40 kya to 10 kya.
- Agricultural revolution
    - Transition from nomadic lifestyles to settled farming.
    - Impacts on human diet, settlement patterns, and social structures.
    - Time range: approximately 10 kya to 8 kya.
- Formation of complex societies
    - Emergence of larger and more organized hominin communities.
    - Development of social hierarchies within early human groups.
    - Time range: varies, but notable developments from 12 kya to 4 kya.
- Urbanization
    - Growth of early settlements and communities.
    - Impact on resource utilization and social dynamics.
    - Time range: depending on region, significant urbanization from 5 kya.
- Trade Networks
    - Exchange of tools, raw materials, and cultural artifacts among early human groups.
    - Connections and interactions between different hominin populations.
    - Time Range: Extends throughout prehistoric periods, with increased trade from 10 kya

Language Development

Since there is an entire course unit on linguistics, we won't spend much time here. For now, you should be familiar with the following milestones.

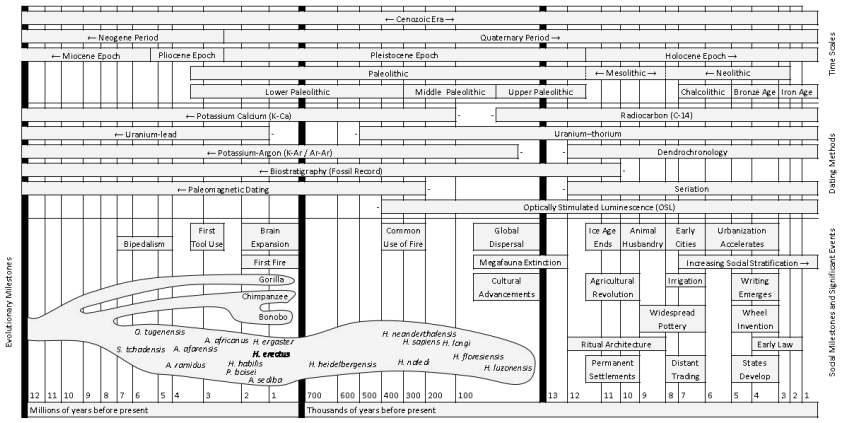
- Emergence of Hominin communication
    - Development of basic communication systems among early hominins
    - Use of non-verbal cues and gestures
    - Time Range: Varies, but early forms of communication likely existed several million years ago
- Early Hominin vocalizations
    - Evolution of early vocalizations for communication
    - Limited but increasing complexity in vocal expression
    - Time Range: Over the course of several million years, with more refined vocalizations in later hominin species
- *Homo neanderthalensis* and language development

- Neanderthals were probably the first to use human language. Neanderthal remains found in Palestine showed a developed hyoid bone, which moves the tongue and is necessary for speech communication (Arensburg & Tiller, 1991; D'Anastasio et al., 2013). Fossilized skulls and **endocasts** (casts of the brain's interior) of early hominins provide insights into brain size and organization. Neanderthals had developed Broca's and Wrnicke's areas. The **Broca area** is a part of the brain associated with language production and speech formation, and the **Wernicke area** is a part of the brain associated with language comprehension).
    - Time range: *Homo neanderthalensis* existed from approximately 1.9 mya to 143 kya.
- Transition to *Homo sapiens*
    - Time range: *Homo sapiens* emerged around 300 kya years ago, with the development of complex language likely evolving over tens of thousands of years.

Timeline

The **Timeline of Human Evolution, Cultural Milestones, Dating Methods, and Time Scales** brings together geological eras, archaeological periods, major cultural developments, evolutionary milestones, and the dating methods used to understand them. Spanning early primate evolution through human prehistory, it highlights key shifts across the past 12 million years and places hominin evolution within broader environmental and cultural change.

Timeline of Human Evolution, Cultural Milestones, Dating Methods, and Time Scales



Chapter 4 Study Guide

1. List the general characteristics of primates
2. Explain how clades are different from taxonomy.
3. Identify some of the issues studied by conservation biologists.
4. Learn about the various non-human primates and where native to.
5. Distinguish between modern human, proto-human, and archaic-human.
6. Review the extinct genera and species of subtribe Hominina. (No, there will not be test questions about the smallest details here. As long as you've spent some time exploring these, you will be fine.)
7. Distinguish between transitional forms and evolutionary transitions. Identify the relevant transitional forms for our study of Homo sapiens, as well as their evolutionary transitions and general time periods.
8. Explore issues of human ancestry. Identify the species from subtribe Hominina that are considered potential direct ancestors of modern humans.
9. Define technology.
10. Explore technological, cultural, and linguistic developments.

This page titled 4: Primates and Human Evolutionary Relatives is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

5: The Fossil Record and Human Ancestry

The word paleoanthropology can be broken into three parts: paleo, anthropo, and logy. “Paleo” means ancient; “anthropo” means human; and “logy” means study. Combined, these are **paleoanthropology**, or the study of ancient humans.

Methods

There are several methods used by paleoanthropologists when studying ancient humans.

Studying Fossils

Paleoanthropologists often study **fossils**, which are the remains of ancient plants and animals. The **fossil record** refers to the amassed collection of preserved remains and traces of ancient organisms found in geological formations, representing the total body of fossil evidence available for scientific study. There are a few types of fossils:

- **Trace fossils**: foot tracks, bite marks on bones, nests (with eggs), and **coprolite** (fossilized poop)
- **Mold fossils**: animal or plant dies and the mud around it quickly makes a mold of its shape
- **Resin fossils**: animal or plant is trapped in the resin of a plant. A specific type of resin fossil is an **amber inclusion**, in which an animal's remains are preserved in amber. This type of fossil was popularized in the film *Jurassic Park*.
- **Body fossils**: animal whose body underwent a process of **permineralization**, in which minerals, such as silica or calcite, gradually replace teeth and bones over time.

Key figures and pivotal fossil discoveries in paleoanthropology include Raymond Dart's (1925) identification of the Taung Child (*Australopithecus africanus*) in South Africa, Eugene Dubois's (1894) uncovering of Homo erectus remains in Java, Mary Leakey's discoveries of early hominin footprints and significant findings in Tanzania (refer to Leakey and Hay, 1979), and Louis and Richard Leakey's extensive fossil discoveries in East Africa (Morell, 1995), along with the Neanderthal fossils in Europe. These landmark contributions have collectively deepened our understanding of human evolution.

Dating Methods

Paleoanthropologists use a variety of dating methods when trying to discern the age of a fossil or other remnants from past humans, such as tools. We'll cover this topic in much greater detail during the final course unit, which is on archaeology. For now, we can explore some of the basics of dating, including the distinction between absolute and relative dating. **Absolute dating** provides a specific numerical age for something, whereas **relative dating** establishes where something fits within a chronological sequence of events or objects. As an easy example, consider a phone. If you found a first-generation iPhone, it's pretty easy to figure out how old it is since we know it was created in 2007. That would be absolute dating. Now, imagine you found an old flip phone, but you did not know when it was made or how old it is. Through relative dating, you would know it's older than an iPhone, but newer than landline phone technology. You might not know its exact age, but you can place it within a range of other objects for which you do know their age.

There are various forms of absolute and relative dating. Again, we'll explore these in greater detail later, but here are a few of their types.

Absolute dating

- **Radiocarbon dating** (Carbon-14): Measures the decay rate of carbon-14 isotopes in organic materials like bone or charcoal to determine ages; effective for dating materials up to approximately 50,000 years old.
- **Potassium-argon dating** (K-Ar): Evaluates the decay of potassium-40 isotopes to argon-40 in volcanic rocks or minerals, providing ages for volcanic eruptions or associated fossil-bearing layers; useful for dating volcanic rocks and associated fossil layers ranging from about 20,000 years to millions of years old.

Relative Dating

- **Stratigraphy**: Relies on the principle of superposition, where older layers of sediment or rock are found beneath younger layers, establishing a relative chronology of events or artifacts within a site.
- **Biostratigraphy** (fossil succession): Uses the principle of fossil succession, where specific fossils with known evolutionary ages correlate with rock layers or sedimentary deposits, aiding in the relative dating of geological or archaeological materials.

Comparative Anatomy and Morphology

You may remember from Chapter 2, Edward Tyson (1699) compared the anatomy of what he called a pygmie, monkey, ape, and human. While there is some confusion regarding what he actually compared, he formalized a process of comparative anatomy, which is the study of the physical similarities and differences between species, including humans and our ancestors.

There are some significant differences when comparing *Homo sapiens* with subtribe Panina related to bipedalism. Refer to the differences in the list and images below. Remember, Panina includes bonobos and chimpanzees, our closest living relatives.

Humans have an **S-shaped spine** curvature, which includes the cervical (neck), thoracic (upper back), and lumbar (lower back) regions. This curvature helps humans maintain balance and stability while standing and walking.

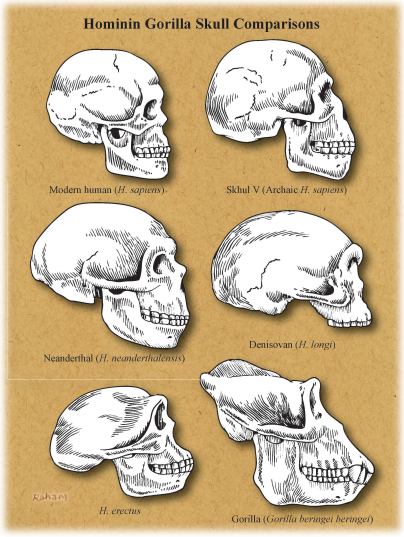
There also are several differences regarding the **pelvis**, which is the bony structure connecting the spine to the lower limbs.

- Pelvic shape
  - *Homo sapiens*: bowl-shaped, which provides a stable platform for the upper body and helps support the weight
  - Panina: narrow and elongated, which provides flexibility for climbing and a narrower base for quadrupedal walking
- Sacrum (triangular bone at the base of the spine, connecting to the pelvis)
  - *Homo sapiens*: wide, which helps to distribute the weight of the upper body to the pelvic girdle
  - Panina: narrow, which allows for a more flexible spine during climbing and quadrupedal walking
- Ilium (upper hip bone)
  - *Homo sapiens*: short and wide, which supports the lower back and provides stability during bipedal locomotion
  - Panina: elongated and flatter, which facilitates muscle attachments for climbing and knuckle-walking
- Hip joint orientation
  - *Homo sapiens*: laterally oriented for stability, which allows for efficient weight-bearing and minimizes side-to-side swaying
  - Panina: more anteriorly oriented for flexibility; provides greater flexibility in the hip for climbing and quadrupedal locomotion

Another significant difference is the **bicondylar angle**, which is the angle between the femur (thigh bone) and the knee joint. In humans, this angle is greater than in non-bipedal primates, allowing for a more stable knee joint during upright walking (Shefelbine et al., 2002).

The following charts visually illustrate the anatomical differences discussed above, highlighting how bipedal adaptations in Homo sapiens compare with those of our closest relatives, the Panina (chimpanzees and bonobos), as well as earlier hominins. By examining skulls, pelves, spines, and overall body structure, these side-by-side comparisons make clear the structural changes that support upright walking and distinguish humans from other primates.

1. **Hominin and Gorilla (Skull Comparison)**



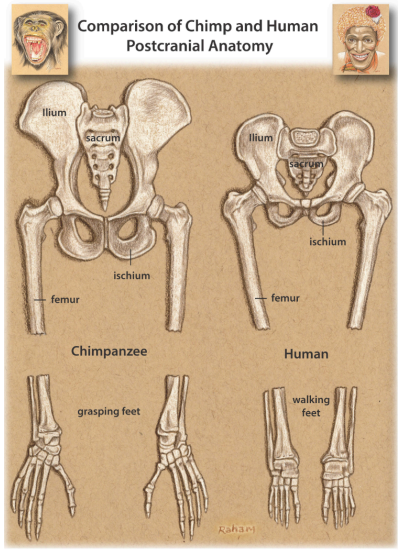
Line-up of multiple hominin skulls compared with a gorilla skull, showing differences in braincase size, brow ridges, facial projection, and dental structure across species.

2. **A. ramidus ('Ardi') and A. afarensis ('Lucy') (Pelvis Comparison)**



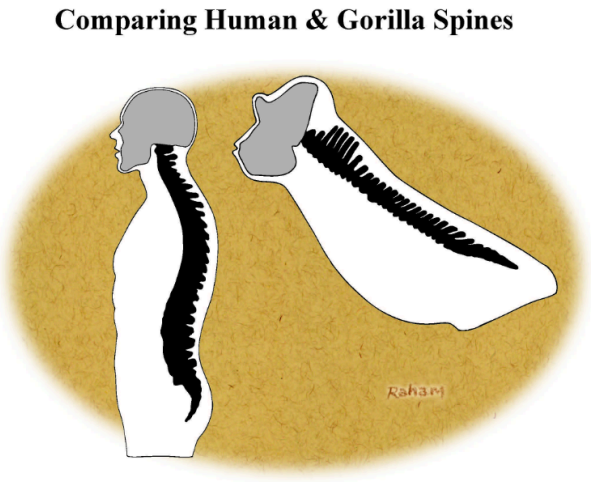
Side-by-side comparison of the reconstructed pelvises of Ardipithecus ramidus (Ardi) and Australopithecus afarensis (Lucy), showing differences in ilium shape, pelvic width, and adaptations for upright walking.

3. **Human and Chimpanzee (Pelvis and Foot Comparison)**



Side-by-side comparison of a chimpanzee pelvis and feet and a human pelvis and feet, highlighting differences in iliac flare, pelvic inlet shape, foot anatomy, and adaptations for bipedal versus quadrupedal locomotion.

4. **Human and Gorilla (Spine Comparison)**



Side-by-side illustration comparing human and gorilla spines, highlighting differences in spinal curvature, vertebral shape, and overall alignment related to bipedalism in humans and quadrupedal locomotion in gorillas.

DNA Analysis and Genetic Evidence

Deoxyribonucleic acid (DNA) is a molecule that encodes the genetic instructions used in the development and functioning of all known living organisms. DNA is in the shape of a "double-helix" containing two spirals that go around each other. These spirals consist of nucleotides. There are four of them: A, C, T, and G. The nucleotides of each strand of DNA are bonded to each other, with As and Ts going together and Cs and Gs going together. The human genome contains about three billion of these pairings. Only one out of every thousand nucleotides varies. In other words, all humans have 99.9% the same genetic makeup as all other humans (Herbes-Sommers, 2003). Genes are the segments of DNA that contain information about heredity.

Mitochondrial DNA (mtDNA) is the genetic material found in a cell's mitochondria, which are the energy-producing structures within cells. Unlike nuclear DNA, which is inherited from both parents, mtDNA is passed down exclusively from the individual who provided the egg during reproduction. The **Out of Africa hypothesis**

posits that anatomically modern humans originated in Africa and subsequently migrated to populate other regions. By analyzing variations in mtDNA among diverse populations, researchers can trace maternal lineages and reconstruct migratory patterns. Comparisons of mtDNA sequences provide insights into the common ancestry and divergence of human populations over time, supporting the notion of a single African origin for Homo sapiens (Cann et al., 1987).

There are some traits that we easily can assign to genes, such as Mendelian traits governed by a single gene locus. **Mendelian traits** have only two possible variations of a gene (one dominant, and one recessive). These traits follow predictable inheritance patterns, like earlobe attachment (attached or free), cheek dimples (present or absent), and the ability to roll the tongue (rolling or non-rolling). These characteristics often are explained by the presence or absence of specific alleles at a particular gene location.

Not all traits are solely determined by genetics; some result from complex interactions between genes and the environment. For instance, variations in skin color are influenced by multiple genes and environmental factors like sun exposure (Jablonski, 2004). Genes and environment also work together to influence our weight, height, and body mass index (Dubois et al., 2012). The connections between genetics and behavioral traits, including intelligence and personality, are unclear.

Using DNA, we can investigate our inheritance of traits and explore the degrees of closeness in our relationships with other species.

Historical Time Periods

Since we're studying ancient humans, now is a good time to familiarize ourselves with some of the basic language used when describing historical periods. We will use common abbreviations for millions of years ago (mya) and thousands of years ago (kya).

Geological Time Scale

The **geologic time scale** is a chronological framework that divides Earth's history into distinct intervals based on significant geological events. Just as scientists have organized all life into a classification, we've done the same thing with time by organizing history into periods. We currently are living in the third "age" (the Meghalayan) of the second "epoch" (Holocene) of the third "period" (the Quaternary) of the third "era" (the Cenozoic) of the fourth "eon" (the Phanerozoic). Don't worry, that won't be on a test.

Again, we currently are living in the epoch Holocene. Take note of the Holocene below as well as the four epochs that preceded it.

- **Oligocene**: 33.9 to 23 mya
  - Final epoch of the Paleogene Period.
  - Emergence of early primates
  - *Apes split from Old World monkeys (25-30 mya)
- **Miocene**: 23 to 5.3 mya
  - First epoch of the Neogene Period.
  - Early primates and divergence of hominoids.
  - *Subtribe Hominina split from subtribe Panina containing the chimpanzees and Bonobos (7 mya)
- **Pliocene**:5.3 to 2.6 mya
  - Second and final epoch of the Neogene Period.
  - Emergence of hominins and early hominin diversity
  - *Bipedalism (4-6 mya)
- **Pleistocene**: 2.6 mya to 11.700 kya
  - First epoch of the Quarternary Period.
  - Diversification of hominin species, glaciations, and adaptation to various environments
  - Roughly corresponds with the Paleolithic archaeological time scale, also known as the Old Stone Age
- **Holocene**: 11.7 kya to present
  - Second and current epoch of the Quarternary Period.
  - Rise of Homo sapiens, development of agriculture, and the establishment of complex societies

Archeological Time Scales

Now let's consider the classic archaeological time scale originally created by C.J. Thomsen (1836) and since refined by other scientists.

- **Stone Age**: Approximately 3.3 mya to 2 kya
- **Bronze Age**: Approximately 3300 to 1200 BCE
- **Iron Age**: Approximately 1200 BCE to 500 CE

The Stone Age has since been divided into the following categories:

- **Paleolithic** (Old Stone Age): Approximately 3.3 mya to 10 kya (roughly corresponds with the Pleistocene epoch above). The Paleolithic also is sub-divided
  - **Lower Paleolithic**: Approximately 3.3 mya to 300 kya
  - **Middle Paleolithic**: 300 kya to 30-40 kya
  - **Upper Paleolithic**: 30-40 kya to 10 kya
- **Mesolithic** (Middle Stone Age): Approximately 10 kya to 8 kya
- **Neolithic** (New Stone Age): Approximately 8 kya to 2 kya

We'll explore the archaeological time scales in more detail when we study tool use, and again during the archaeology unit of the course.

History and Prehistory

Another time scale to be aware of is the distinction between historical and prehistoric. **Historic** refers to all history since the beginning of writing. **Prehistoric** refers to all history before writing. The historical time period is generally considered to start around 3,200 BCE (with the invention of cuneiform in Mesopotamia) but varies depending on region.

Chapter 5 Study Guide

1. Define paleoanthropology.
2. Distinguish between fossils and the fossil record.
3. Distinguish between the types of fossils, and include their related material such as coprolite, amber inclusions, and the process of permineralization.
4. Distinguish between absolute and relative dating and the provided types of each.
5. Define comparative anatomy, and describe some of the differences between modern humans and subtribe Panina.
6. Describe DNA, including mtDNA, genes, and Mendelian traits.
7. Distinguish between the relevant geological and archaeological time scales for subtribe Hominina. (No, there will not be test questions about the smallest details here. As long as you've spent some time exploring these, you will be fine. Do take note of the asterisks in the section on geological time scales.)
8. Distinguish between history and prehistory.

This page titled 5: The Fossil Record and Human Ancestry is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

6: Homo sapiens and Human Biological Variation

Finally, we have modern Homo sapiens. We will explore their characteristics, variation, development, and growth.

Characteristics

Here are some of the general characteristics of Homo sapiens.

- Highly intelligent and advanced cognitive abilities (self-described)
- Bipedal locomotion (walk upright on two legs)
- Varied cultures and societies
- Complex languages and communication
- Extensive use of tools and technology
- Omnivorous diet
- Wide geographic distribution
- Impact on ecosystems and environment
- Unique art, music, and abstract thinking
- Global adaptability and population growth
- Varied physical characteristics among populations

Variation

Homo sapiens have some variations regarding health outcomes and superficial physical characteristics, such as skin tone, hair color and texture, and facial features.

The prevailing notion once suggested that various modern human races stemmed from distinct archaic Homo species like Homo erectus in Asia, Homo antecessor in Spain, and Neanderthals in Europe. This belief theorized that these archaic species gave rise to biologically distinct human races. However, this perspective has been disproved by advances in DNA analysis. Modern research indicates that all humans are descendants of a single mass migration, with some interbreeding occurring with Neanderthals and Denisovans, closely related species to Homo sapiens. In short, there is no biological category of race.

Contrary to the earlier belief of distinct racial origins, the genetic makeup among humans is remarkably uniform. In fact, the genetic diversity within any racial group often surpasses the variation observed between different racial groups. Human populations have not remained isolated long enough to evolve into separate subspecies, making humans among the most genetically homogeneous species. To illustrate, the genetic difference between any two humans is minuscule; only one out of every thousand nucleotides vary. In contrast, penguins exhibit twice as much genetic difference between individuals, while fruit flies possess tenfold the genetic variation seen in humans. There is as much diversity between two fruit flies as there is between humans and chimpanzees (Herbes-Sommers et al., 2003).

Such findings underscore that our genetic and phenotypic similarities far outweigh superficial differences like skin color or hair texture. Comparatively, even within a single species like cattle, the range of phenotypic variation exceeds that found across human populations, highlighting the minimal biological distinctions among humans.

Growth and Development

Refer to the lists below, which provide details for the major biological stages of modern human development: prenatal development, infancy, childhood, adolescence, and adulthood.

Prenatal Development

Germinal stage

- About two weeks from fertilization
- It begins with fertilization, resulting in the formation of a zygote
- The zygote undergoes rapid cell division, forming a blastocyst
- During this stage, the blastocyst travels down the fallopian tube to the uterus
- Implantation occurs when the blastocyst attaches to the uterine wall
- The gestational age is measured in weeks from the first day of the last menstrual period (LMP)

Embryonic stage

- The embryonic stage follows the germinal stage and lasts from weeks 3 to 8 (6 weeks total).
- It's characterized by the rapid development of major organs and systems (organogenesis).
- The neural tube forms, leading to the development of the nervous system
- Limb buds start to appear during this stage.
- Critical periods exist for the development of various organs.
- Pregnancy symptoms may become more noticeable during this stage.

Fetal stage

- The fetal stage follows the embryonic stage and lasts from week 9 until birth.
- During this stage, organs and systems continue to grow and mature.
- Fetal movements, known as quickening, begin.
- The brain undergoes rapid growth.
- Reflexes such as swallowing, sucking, and grasping develop.
- Vernix (a protective coating) and lanugo (fine hair) cover the fetus.

Infancy

Newborn reflexes and abilities

- Newborns exhibit a range of reflexes and innate abilities.
- Reflexes include the rooting reflex, Moro reflex, and sucking reflex.
- Newborns have a strong grasp reflex.
- They display the startle reflex and the stepping reflex when supported.
- Abilities such as crying, blinking, and eye tracking develop from birth.

Physical growth and motor development

- Physical growth is rapid during the first year of life.
- Infants gain weight and length, with head growth matching body growth.
- Motor development includes milestones like head control, rolling, and sitting.
- Crawling, standing, and eventually walking are significant achievements.
- Muscle development and coordination improve over time.

Cognitive and social development

- Cognitive development involves learning, memory, and problem-solving.
- Infants start to recognize faces and respond to their caregivers.
- Social development includes forming attachments and emotional bonds.
- Language development begins with cooing and babbling.
- Early interactions with caregivers lay the foundation for future relationships.

Environmental influences

- The environment plays a crucial role in shaping infant development.
- Nutrition is essential for growth and brain development.
- Sensory stimulation and a safe, nurturing environment are vital.
- Cultural practices and parenting styles impact infant development.
- The presence of stressors or adverse conditions can have negative effects.

Childhood

Physical growth and development

- Childhood is marked by continued physical growth and development.
- Growth spurts occur during different stages of childhood.
- Children develop fine and gross motor skills.
- Puberty is a significant physical milestone in adolescence.
- Nutrition and healthcare profoundly impact physical development.

Cognitive milestones

- Cognitive development in childhood includes memory, problem-solving, and reasoning.
- Children develop language skills, expanding vocabulary and grammar.
- Piaget's stages of cognitive development (e.g., sensorimotor, preoperational) are relevant.
- School-age children learn abstract thinking and critical reasoning.
- Cognitive milestones can vary based on individual and cultural factors.

Social and emotional development

- Childhood involves forming relationships and understanding emotions.
- Attachment to caregivers during infancy influences social development.
- Peer relationships become more important in later childhood.
- Emotional regulation and empathy are key aspects of emotional development.
- Cultural norms and family dynamics play a significant role in socialization.

Environmental and cultural influences

- The environment and culture profoundly shape childhood experiences.
- Socioeconomic factors impact access to resources and opportunities.
- Cultural values and beliefs influence parenting styles and child-rearing practices.
- Early childhood education and extracurricular activities contribute to development.
- Understanding the cultural context is crucial for assessing child development.

Adolescence

Puberty and physical changes

- Puberty typically begins between the ages of 9 and 16
- Physical changes, such as growth spurts, hormonal changes, and the development of secondary sexual characteristics
- Individual variation in the timing and pace of puberty

Cognitive development and identity formation

- Development of abstract thinking and critical reasoning
- Erikson's (1968) theory of identity development and the challenges adolescents face in forming their identities
- Self-concept and self-esteem in identity formation

Social and peer influences

- Significance of peer relationships and peer pressure
- Impact of family dynamics and the need for autonomy
- Influence of media and technology on adolescents' social lives

Adulthood

Stages

- Adulthood is divided into stages: early (18-40), middle (40-65), and late (65+).
- Each stage comes with unique challenges and opportunities.
- Early adulthood often involves major life transitions, such as career and family for many.
- Middle adulthood focuses on career consolidation and family responsibilities.
- Late adulthood may involve retirement and reflection on life.

Physical changes and aging

- Adulthood is marked by gradual physical changes and aging.
- Skin wrinkles, muscle mass decreases, and bone density declines.
- Cognitive changes may include a decline in processing speed.
- Cardiovascular health and chronic diseases become more prominent.
- Healthy lifestyle choices can mitigate some age-related changes.

Cognitive and emotional development

- Cognitive development continues in adulthood, with different focuses.
- Wisdom and expertise can develop with age.
- Emotional regulation and coping strategies evolve.
- Midlife crises and changes in life goals may occur.
- Emotional intelligence becomes increasingly important.

Cultural and environmental factors

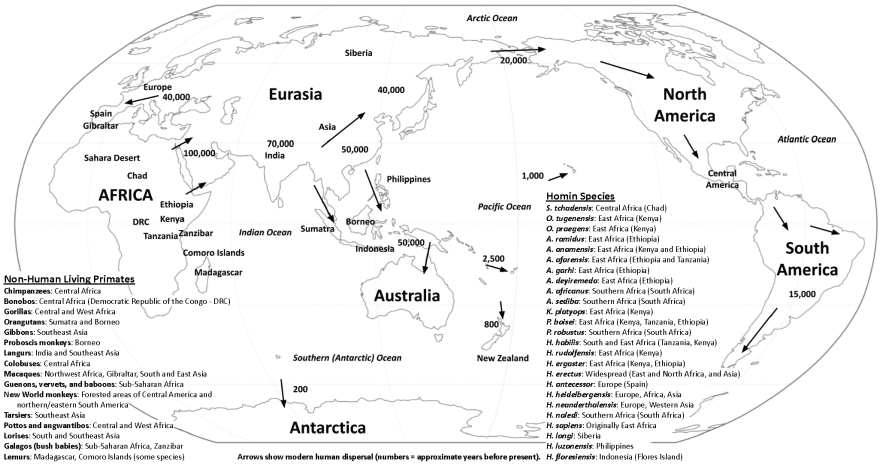
- Cultural norms influence attitudes toward aging and elderly care.
- Family dynamics vary across cultures, impacting support systems.
- Economic factors and access to healthcare affect the aging process.
- Retirement policies and social programs differ globally.
- The role of older adults in society can vary widely.

Human migration

The global dispersal of humans began about 60-80 kya. For most of *Homo sapiens* history (over two thirds), we were a dark-skinned species living in Africa. As we expanded beyond Africa, our skin tones slowly adapted to new environments over the course of 20-50 kya. Human evolution and migration are ongoing projects as humans continue to move and adapt with each generation to the environment. The map below shows the geographic ranges and migrations of *H. sapiens*, *H. neanderthalensis*, *H. erectus,* and other hominin species. Here are some key things to note:

- *Homo erectus* was throughout Africa, the Arabian Peninsula, South and East Asia, and Indonesia.
- *Homo neanderthalensis* was throughout Europe and West Asia.
- Notable *Homo sapiens* origins and migrations:
  - 300 kya began life in East Africa
  - 100 kya traveled across Arabian Peninsula
  - 40 kya arrived in Europe
  - 70 kya arrived in South Asia
  - 50 kya arrived in Australia
  - 20 kya crossed the Bering Straits from Asia to North America
  - 15 kya populated South America

Geographic Distribution of Living Primates, Extinct Hominins, and Global Dispersal of *Homo sapiens*



Chapter 6 Study Guide

1. Describe the characteristics of Homo sapiens.
2. Describe aspects of human variation, including whether or not race is a biological category.
3. Distinguish between the biological stages of modern human development. (No, there will be test questions about the smallest details here. As long as you've spent some time exploring these, you will be fi ne.)
4. Identify how long ago humans expanded beyond Africa and how long ago humans reached North America.

This page titled 6: Homo sapiens and Human Biological Variation is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

7: Forensic Anthropology

Forensic anthropology is the scientific study of human skeletal remains in the context of legal investigations. This chapter explores the human skeletal anatomy, methods used by forensic anthropologists, and examples of work related to criminal and human rights investigations, as well as mass disasters. Forensic anthropologists work to understand the causes of death, collection of remains, and identification of remains.

Biological Profile

A **biological profile** is the set of characteristics derived from the analysis of skeletal remains. The human skeletal system comprises distinct bones and skeletal elements, each serving specific functions. Forensic anthropologists employ systematic methods to identify and classify these elements, allowing for accurate analysis during investigations.

Demographic Characteristics

Infants are born with approximately 270 bones, but as they grow, some fuse together, resulting in an adult human skeleton of around 206 bones. This process, known as **ossification**, involves the gradual hardening and fusion of bones over time. Understanding these developmental changes is crucial in forensic anthropology to accurately estimate the age of individuals based on their skeletal remains. The degeneration of bones also reveals one's age.

Forensic anthropologists often can determine a person's sex assigned at birth based on the examination of sexually dimorphic features present in the skeleton, such as the pelvis and skull. Sexually dimorphic features are those characteristics that differ between those assigned female and male at birth.

Stature, or height, are also estimations done by forensic anthropologists. By analyzing long bones such as the femur, tibia, and humerus, forensic anthropologists can provide estimates of an individual's height, contributing valuable information to the investigative process.

Since race is not a biological category, forensic anthropologists cannot determine race from genes or skeletal remains. However, through various methods, forensic anthropologists can determine one's ancestry or affinity group (Flouri et al., 2022). From that, we can infer phenotypic traits such as skin color... and from this we can infer which social conception of race would be applied in a given context.

Trauma Analysis

When constructing biological profiles, forensic anthropologists also check for signs of trauma. There are a few types of trauma analysis:

- **Fracture analysis**: Forensic anthropologists carefully examine fractures to determine their type (e.g., linear, oblique, spiral) and assess whether they occurred before or after death. Perimortem fractures that happened around the time of death may suggest foul play.
- **Blunt force trauma**: Blunt force trauma is identified by examining bone surfaces for areas of impact, such as depressed fractures or bone fragments that fit together. The size and shape of these injuries can provide information about the weapon or object used.
- **Sharp force trauma**: Stab wounds or cut marks on bones are indicative of sharp force trauma. The analysis may include measuring the length, depth, and angle of such wounds.
- **Gunshot trauma**: Gunshot wounds can leave characteristic marks on bones, including entrance and exit wounds. The size and shape of these defects can indicate the caliber of the firearm used.

Pathological Assessments

Forensic anthropologists also can conduct pathological assessments.

- Arthritis: Examination for signs of joint degeneration, including erosion of joint surfaces, bone spurs, and changes in bone density.
- Infections: Identification of evidence of infections, such as osteomyelitis (inflammation of bone caused by infection) or periosteal reaction (new bone growth due to infection).
- Tumors: Detection of bone tumors or neoplastic growths, which may appear as abnormal bone growth or lesions on the skeleton.
- Cranial conditions: Assessment of cranial bones for conditions like craniosynostosis (premature fusion of cranial sutures) or abnormalities in cranial shape.
- Metabolic disorders: Identification of skeletal features associated with metabolic conditions such as rickets (caused by vitamin D deficiency) or osteoporosis (decreased bone density).
- Traumatic lesions: Differentiation between pathological conditions and trauma-related injuries like fractures or dislocations.
- Dental pathology: Examination of dental remains for dental caries (cavities), abscesses, tooth loss, and dental anomalies.
- Anomalies: Recognition of congenital anomalies or developmental abnormalities that may be present in the skeleton.
- Periosteal reactions: Evaluation for periosteal reactions, which are changes in bone tissue in response to injury, infection, or other factors.
- Musculoskeletal diseases: Detection of musculoskeletal diseases such as myositis (muscle inflammation) or conditions affecting ligaments and tendons.
- Skeletal stress markers: Identification of stress markers on bones, which can indicate strenuous physical activity or nutritional deficiencies.
- Degenerative conditions: Assessment for degenerative conditions like spondylosis (degeneration of the spinal column) or degenerative joint disease (osteoarthritis).
- Calcified tissues: Examination of calcified tissues, including the presence of calcified atherosclerotic plaques in blood vessels.
- Metastatic lesions: Recognition of potential metastatic cancer lesions, which may appear as abnormal bone growths.
- Inflammatory diseases: Identification of signs of inflammatory diseases like rheumatoid arthritis.
- Skeletal anomalies: Detection of skeletal anomalies such as exostoses (bony growths) or variations in bone structure.

Methods in Forensic Anthropology

Excavation and Recovery of Human Remains

The process of excavating and recovering human remains is a meticulous task in forensic anthropology. Forensic anthropologists work in collaboration with archaeologists and law enforcement to carefully unearth and document skeletal remains, preserving the context for a thorough analysis. Within archaeology, **context** refers to the precise location of each archaeological find. We will discuss context more in the archaeology section.

Laboratory Analysis Techniques

Osteology, the study of bones, is a fundamental laboratory technique in forensic anthropology. Detailed examination of skeletal elements helps identify individual bones, assess the characteristics discussed above, as well as identify any pathologies or signs of trauma.

By analyzing DNA extracted from skeletal remains, forensic anthropologists can determine the genetic profile of an individual. This genetic information can be compared to existing DNA databases or used for familial searching to potentially identify the person. In cases where the identity of the deceased is unknown, DNA analysis can help establish relationships with living relatives, aiding in the process of identification. Additionally, DNA analysis can provide insights into aspects such as ethnic origin, susceptibility to certain genetic disorders, and other biogeographical information. This information contributes significantly to legal investigations by confirming or establishing the identity of individuals and facilitating the resolution of cases involving missing persons or unidentified remains.

Isotopes are different forms of an element that have the same number of protons but differ in the number of neutrons, resulting in variations in atomic mass. These isotopic variations, when analyzed in skeletal tissues, offer valuable information about an individual's life history, including dietary patterns, geographic origin, and aspects of their lifestyle.

The application of forensic anthropological methods is best exemplified through case studies. By presenting real-world examples, the following sections will illustrate how these methods contribute to solving legal investigations, documenting human rights abuses, and assisting during mass disasters.

Forensic Anthropology in Criminal Investigations

Forensic anthropologists assist in criminal investigations.

Louise Luetgert Murder Investigation

In the late 1890s, Adolph Luetgert, a Chicago sausage maker, murdered his wife and attempted to dispose of her body at his sausage and meat packing operation. In the trial, anthropologist George Dorsey attested that bone fragments in the vat's greasy sediment likely belonged to an adult woman, presumably Luetgert's wife. Incidentally, Dorsey was the first American to earn a Ph.D. in anthropology (Harakas, 1992).

Green River Killer

During the 1980s and 1990s, Gary Ridgway killed dozens of young women and girls in the Seattle area. Many of these victims were caught in the vulnerable circumstances of engaging in sex work for survival and/or were runaways from home. Before he was identified, the media nicknamed him the Green River Killer, citing the location where his initial victims were found. Many of his victims were identified shortly after being discovered. Finally, in 2020 forensic anthropologists were able to conduct genetic testing on some of the remains that hadn't been identified. After compiling a forensic genealogy, or family tree, the anthropologists were able to identify the remains as belonging to as Wendy Stephens. She was 14 years old when she ran away from home in Colorado and was killed by Gary Ridgway in Seattle in 1986 (Nystrom, 2021).

The Body Farm

At UT's Anthropology Research Facility, commonly known as the Body Farm, investigators brought the body of a woman found dead on January 1, 1985. They recorded her fingerprints and various physical features, such as eye color, hair color, and age. Her skeletal remains were part of the laboratory's collection until she finally was identified as Tina Marie McKenney Farmer in 2018 (Schneibel, 2018).

Forensic Anthropology in Human Rights Violations Investigations

Forensic anthropologists assist with investigations of human rights abuses.

Guatemalan Forensic Anthropology Foundation

In 1951, the Guatemalan people elected Jacobo Arbenz as their president after he pledged to maintain local control over Guatemala's agricultural production. In protest, the United States CIA orchestrated a coup d'état, through which Arbenz was ousted from power. Once Arbenz was out of power, the United States government worked to ensure that the Guatemalan government was organized in the interests of the United Fruit Company rather than in the interests of the local people. In other words, the United States government removed a democratically elected official to maintain domination over Guatemala's agriculture industry (Ferreira, 2008).

What followed were four decades of civil war during which hundreds of thousands of people were killed and tens of thousands went missing. After a peace accord

finally was reached in 1996, the Guatemalan Forensic Anthropology Foundation was created to identify the deceased and shed light on the human rights violations that occurred during the conflict. Through exhumations, DNA collection efforts, and forensic examinations, the lab has identified almost 3,500 of Guatemala's missing. Yet, more than 1,500 sets of remains await identification (Strochlic, 2019).

Peru's Dirty War

In the 1980s, Peruvian groups sought to overturn the capitalist system. The Peruvian government, backed by the United States, fought a violent uprising focused on class inequality. In the following decades, tens of thousands of people died. The violence involved human rights abuses, massacres, and atrocities committed by both government forces and insurgent groups, primarily the Shining Path and the Tupac Amaru Revolutionary Movement. Today, forensic anthropologists are exhuming the bodies of those killed during the Dirty War to identify them. So far, 2,925 sets of remains have been recovered, and 1,689 have been identified (Kirkpatrick, 2014).

Srebrenica Massacre

In 1995, 3,000 unarmed civilians were massacred by Bosnian Serbs in Srebrenica. Forensic anthropologists investigated the remains of people to construct biological profiles and facial reconstructions of the unknown, as well as identify signs of torture (James, 1996). Following the Bosnian War, the International Court of Justice concurred with Bosnia and Herzegovina's accusation, associating Serbia and Montenegro with the genocide of Bosnian Serbs.

Forensic Anthropology in Mass Disasters

Forensic anthropologists also assist in the aftermath of mass disasters.

2010 Haiti Earthquake

In January 2010, an earthquake struck Haiti killing over 100,000 people. Forensic anthropologists assisted in mass fatality management, including recovery, cataloging, identification, and analysis of human remains (McEntire et al., 2012).

Grenfell Tower Fire

In 2017, a fire erupted at the 24-story Grenfell Tower in London. More than 70 people died, and more than 70 more were injured. Forensic anthropologists relied on fingertip searches, DNA matching, and forensic dentistry to identify the deceased.

Malaysia Airlines Flight 17 Crash

Russian politician and former intelligence officer Vladimir Putin was enabling pro-Russian separatists in Ukraine during an armed conflict when Malaysia Airlines Flight 17 crashed over Ukraine. The plane was likely shot down by Russia. Forensic anthropologists collected the remains, X-rayed them, and worked to identify them (Vermeij et al., 2022).

Chapter 7 Study Guide

1. Define forensic anthropology.
2. Define biological profile.
3. Identify how many bones human infants and adults have.
4. Define ossification and sexually dimorphic features.
5. Identify the characteristics that can often be determined from skeletal remains.
6. Distinguish between the forms of trauma analysis, and explore pathological analysis.
7. Define archaeological context.
8. Define osteology.
9. Explain how DNA and isotope analyses are useful for forensic anthropologists.
0. Review the case studies of forensic anthropology in criminal investigations, human rights investigations, and mass disasters.

This page titled 7: Forensic Anthropology is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

8: Introduction to Linguistics

Linguistics is the scientific study of language, encompassing its structure, evolution, and social functions. In the context of anthropology, linguistics plays a crucial role in examining how language shapes cultures, societies, and human interactions. This chapter provides an introduction to the fundamental principles of linguistics, exploring its significance within the broader field of anthropology.

Pre-history of Linguistics

There is a long history of people who studied language, contributing significantly to the foundation of linguistics before its formal establishment as an academic discipline.

- Pāṇini (c. 520–460 BCE): An ancient Indian grammarian, Pāṇini's work, *Ashtadhyayi*, is a foundational text in Sanskrit linguistics, showcasing systematic rules for grammar and linguistic analysis (Pawate & Pāṇini, 1987).
- Ferdowsi (935–1020 CE): The Persian poet Ferdowsi, through his epic *Shahnameh*, played a key role in preserving and promoting the Persian language and its cultural significance (Dabashi, 2019).
- Abū Ḥayyān Athīr ad-Dīn al-Gharnāṭī (circa 1256–1344): An Andalusian linguist and philologist, al-Gharnāṭī made significant contributions to Arabic linguistics, particularly in the study of grammar and rhetoric (Knysh, 1999).
- Johannes Goropius Becanus (1519–1572): A Dutch physician and linguist, Goropius proposed a theory that all languages derived from Dutch, though his ideas are now considered linguistically unsound (Goropius Becanus, 1569).
- Émilie du Châtelet (1706–1749): Although primarily known for her contributions to physics and mathematics, du Châtelet also had an interest in language and linguistics. She produced a translation and commentary on Isaac Newton's *Principia Mathematica* and engaged in discussions on language theory in her correspondence (Châtelet & Newton, 1756).

What is Language?

Characteristics of Human Language

Human language is a complex and dynamic system that serves as a fundamental tool for communication and expression. One key feature of language is its **compositional** nature, wherein smaller units, such as words, combine to create larger, meaningful structures like phrases, sentences, and paragraphs. This compositional aspect allows for the infinite generativity of language, enabling speakers to convey an endless array of thoughts and ideas through the creative arrangement of linguistic elements.

Time, in the context of language, encompasses the past, present, and future. **Temporality** involves the experience and perception of time. This temporal dimension allows individuals to articulate events and experiences that occurred before, during, or after the present moment. Through verb tenses – such as past, present, and future – language provides a framework for organizing and expressing temporal relationships. While temporality may be more philosophical than linguistic, it is a common feature of many languages.

Finally, **referentiality** is another crucial aspect of human language, referring to the capacity of language to denote and convey meaning about the external world. Words and linguistic expressions have referential power, allowing speakers to point to, describe, or symbolize objects, events, concepts, and relationships. This referential function is a cornerstone of effective communication, as it allows for the transmission of shared knowledge and understanding among members of a linguistic community. Through referentiality, language becomes a tool for expressing thoughts, sharing information, and building a collective understanding of the world.

Non-Human Animal Vocalizations

Non-human animal communication systems, while diverse and complex, often lack these key features of true compositionality, referentiality, and a fully developed system for expressing temporality. Instead, non-human animal vocalizations often serve specific immediate purposes related to survival, mating, and social interactions.

Vervet monkeys provide an intriguing example of non-human animal communication. These primates use distinct alarm calls to warn their group members of specific types of predators. For instance, they have different alarm calls for ground predators (such as leopards), aerial predators (such as eagles), and a specific call for snakes (Seyfarth et al, 1980). While this showcases a level of specificity and referentiality, it does not entail the complex structure and compositional flexibility seen in human language.

In the marine world, whales exhibit another form of sophisticated communication. Humpback whales, for example, are known for their intricate songs that can last for hours (Dunlop et al, 2007). These songs, while complex, often lack the full compositional structure found in human language. They may serve purposes related to mating or establishing territory, but the absence of referential abstraction and true compositionality distinguishes theirs from human language.

Language and the Body

The relationship between human language and the body involves a complex interplay of genetics, neural structures, and anatomical features. At the genetic level, the **FOXP2** gene has garnered significant attention for its association with language development (Marcus & Fisher, 2003). This gene is found in modern humans, Neanderthals, and the other great apes (bonobos, chimpanzees, gorillas, and orangutans), though with minor sequence differences between lineages. However, modern humans have a small number of derived changes in FOXP2 compared to other primates. Researchers suggest that FOXP2 may have contributed to neural

and motor processes involved in speech and language, contributing to the distinct linguistic capabilities of Homo sapiens.

Examining the neural basis of language reveals critical regions in the brain responsible for different linguistic functions. **Wernicke's area**, typically located in the left temporal lobe, is associated with aspects of language comprehension (Ardila et al., 2016). Damage to this region can lead to language comprehension deficits, illustrating its pivotal role in processing the meaning of words and sentences. Complementing this, **Broca's area**, located in the frontal lobe, is associated with aspects of speech production and language processing (Musso et al., 2003). Lesions in Broca's area can result in difficulty articulating speech and constructing grammatically correct sentences, though language impairment patterns vary across individuals.

The human **hyoid bone**, a unique component of the vocal tract, plays a supportive role in speech production by anchoring muscles of the tongue and larynx (Auvenshine & Pettit, 2020). This U-shaped bone is suspended by muscles and ligaments rather than directly articulating with other bones supporting the positioning and movement of the tongue and larynx during speech. Additionally, the hyoid bone influences vocal pitch and quality, contributing to the diverse range of sounds humans can produce by supporting the vocal tract structure.

Ethical Considerations

The study of language and its evolution raises ethical considerations, particularly in the realm of linguistic research involving humans. Genie's case is emblematic of the ethical challenges inherent in studying language development. Genie, a pseudonym given to a girl who experienced severe social isolation and abuse during her childhood, became the subject of an intensive study in the 1970s (Curtiss, 1977). While the research aimed to understand the critical period hypothesis and the effects of language deprivation, it sparked ethical concerns due to the nature of Genie's mistreatment and the potential long-term consequences on her well-being. This case underscores the importance of balancing scientific inquiry with ethical considerations, emphasizing the necessity of protecting the welfare of research participants, especially vulnerable populations.

The Monster Study, conducted in the late 1930s by Wendell Johnson and Mary Tudor at the University of Iowa, is another instance highlighting ethical lapses in linguistic research. The study aimed to investigate the effects of negative feedback on children's speech development by labeling them as stutterers, leading to psychological distress and lasting consequences for the participants. The ethical violations in the Monster Study include the lack of informed consent, causing harm to the participants, and the potentially irreversible impact on their psychological well-being. This study remains a cautionary tale in the field, emphasizing the ethical imperative of ensuring the dignity, rights, and well-being of individuals involved in linguistic research (Ambrose & Yairi, 2002).

Chapter 8 Study Guide

1. Define linguistics.
2. Review the early linguists. (You won't be tested on the details here. Just review the information, and you will be prepared for the exam.)
3. Identify and define the characteristics of human language.
4. Identify some non-human animal vocalizations, and explain why they are not considered language.
5. Identify aspects of the body associated with human language.
6. Review the Genie and Monster studies.

This page titled 8: Introduction to Linguistics is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

9: Language Culture and Society

In anthropology, **culture** refers to shared beliefs, values, and practices, while **society** denotes organized groups of individuals. In other words, culture refers to shared meanings and practices, while society refers to the organized relationships and institutions within which culture is produced and maintained. **Ethnolinguistics** studies how language reflects culture, while **sociolinguistics** examines language variation influenced by social factors like class, gender, race, and so on.

Ethnolinguistics

Language as a Cultural System

Language serves as a fundamental **cultural marker**, encapsulating the essence and heritage of individuals. It reflects values, beliefs, and traditions, shaping perceptions and behaviors while playing a pivotal role in identity formation. Through language, individuals align themselves with specific cultures and communities, signaling aspects of social identity such as education, class, and regional background. Furthermore, language serves as a bridge connecting people to their cultural heritages and ancestral roots, preserving traditions across generations. In anthropology, cultures often are distinguished based on language groups, highlighting the profound influence of language as a cultural marker in defining and preserving societal norms and practices. In multicultural and linguistically diverse nations like India, where over 1652 languages are spoken, language acts as a binding marker of culture and identity (Priya, 2019).

Dialects

Dialects are variations of a language that occur within specific regions, social groups, or communities. They encompass differences in pronunciation, vocabulary, and grammar, reflecting the unique linguistic traits of particular speech communities. Dialects can emerge due to geographical isolation, historical factors, or social distinctions, serving as markers of regional identity and cultural diversity. For instance, people in the South speak a little bit differently than people in the Midwest versus people in New York City. There are different ways to speak the same language. Dialects also may vary based on gender and sexuality. Ancient Sumerian women and men both spoke a Sumerian dialect called eme-ĝir. However, women also spoke a specific dialect called eme-sal (Whittaker, 2002).

Polari is a secret language or sociolect that originated in the British gay subculture in the mid-20th century. Developed as a form of coded communication to evade persecution and facilitate social interaction within the underground LGBTQ+ community, Polari incorporates elements from various sources, including Romani, Yiddish, Italian, and Cockney rhyming slang. It features distinctive vocabulary and slang expressions used primarily by gay men in the United Kingdom, with terms related to being gay, fashion, and social interactions. While Polari's usage declined with the decriminalization of gayness and increased social acceptance, it remains a fascinating example of how marginalized communities develop unique linguistic codes to navigate societal challenges and assert their identity. In a scene from the film Velvet Goldmine (Vachon et al., 1998), people speak in Polari.

Pronouns

Pronouns are linguistic tools used to refer to entities previously mentioned or to replace nouns in a sentence. They streamline communication by avoiding repetition and allowing for more concise expression. Common examples of pronouns include "he," "she," "it," "they," and "we," each serving a specific grammatical function within a sentence.

Many languages, such as Spanish, French, and German, feature gendered pronouns. For instance, Spanish uses "él" for "he" and "ella" for "she," while French employs "il" and "elle" respectively. In some languages with gendered pronouns, efforts have been made to introduce non-gendered alternatives to promote inclusivity. For example, in French, the gender-neutral pronoun "iel" has emerged as an alternative to "il" and "elle," aiming to accommodate non-binary and gender-nonconforming individuals (Kosnick, 2021). Many individuals simply use their name as their pronoun.

Conversely, some languages do not rely on gender-based pronouns. For instance, Turkish utilizes a single pronoun, "o," which can mean "he," "she," or "it," depending on the context. Similarly, Finnish lacks gendered pronouns altogether, using "hän" to refer to individuals regardless of gender. In these languages, pronouns are not tied to gender distinctions, reflecting a different approach to linguistic categorization and expression of identity.

Grammatical Gender

Grammatical gender is a linguistic feature found in many languages whereby nouns and pronouns are categorized into classes or genders based on characteristics such as biological sex, animacy, or arbitrary assignment (Comrie, 1999). This classification system often extends beyond living beings to inanimate objects and abstract concepts, influencing the agreement of other grammatical elements such as adjectives, articles, and verbs within a sentence.

In Spanish, grammatical gender is a fundamental aspect of the language, affecting the forms of articles, adjectives, and other grammatical elements. Nouns are categorized as either masculine or feminine, with corresponding articles such as "el" for masculine nouns and "la" for feminine nouns. For example, "el libro" (the book) uses the masculine article "el," while "la mesa" (the table) employs the feminine article "la." Adjectives must also agree in gender with the nouns they modify, as in "el libro pequeño" (the small book) and "la mesa pequeña" (the small table).

In Russian, grammatical gender is similarly significant, with nouns classified as masculine, feminine, or neuter. This classification impacts the forms of articles, adjectives, and verbs in sentences. For instance, "стол" (table) is masculine, requiring masculine agreement in phrases like "большой стол" (big table). Conversely, "книга" (book) is feminine, leading to feminine agreement in constructions like "хорошая книга" (good book). Neuter nouns, such as "окно" (window), follow a different pattern of agreement.

In Swahili, a Bantu language spoken in East Africa, nouns are grouped into different classes, each denoting a specific grammatical gender. These noun classes are

marked by prefixes attached to the noun stem and influence agreement with other parts of speech. For example, "kitabu" (book) belongs to class 7, which takes the prefix "ki-," so "kitabu kizuri" means "a good book." Similarly, "meza" (table) is in class 9, marked by the prefix "me-," resulting in "meza nzuri" for "a good table." Grammatical gender in Swahili extends beyond animate objects and encompasses various semantic categories.

Sociolinguistics

Language reflects and perpetuates social hierarchies and power dynamics. Linguistic choices can reinforce existing inequalities and shape perceptions of social identities. Understanding this relationship is crucial for addressing issues of inequality and discrimination.

Pejoration and Amelioration

Pejoration and amelioration are linguistic processes through which the connotations of words or phrases change over time, impacting their perceived social status or value. **Pejoration** involves the deterioration or negative transformation of a word's meaning, often leading to its association with unfavorable or derogatory concepts. Conversely, **amelioration** refers to the improvement or positive transformation of a word's meaning, resulting in its association with more favorable or esteemed notions. In the context of language and power, these processes highlight how linguistic shifts can influence social perceptions and power dynamics (Borkowska & Aleparski, 2007).

Pejoration can occur when terms originally neutral or positive in meaning acquire negative connotations over time. For example, the term "barbarian" initially referred to non-Greek-speaking peoples but later became associated with uncivilized or savage behavior due to cultural biases. “Black" is frequently linked with negative connotations, as observed in phrases like "black market" and "blackmail." Similarly, the word "dark" carries negative associations, as evident in terms like "dark humor" and "dark money" in politics. "Lame," originally referring to the inability to walk, underwent a shift in meaning and now often is used to describe something dull or uninteresting. Similarly, "dumb," once used to describe the inability to speak, has evolved to connote foolishness or lack of intelligence.

Conversely, amelioration can occur when words originally associated with negative or marginalized groups undergo a positive transformation in meaning. For instance, the term "queer," once used as a slur against LGBTQ+ individuals, has been reclaimed by many in the community as a term of empowerment and self-identification. Similarly, words like "geek" or "nerd," originally derogatory labels, have been embraced in certain contexts to denote expertise or passion in particular subjects, reflecting a shift towards more positive connotations. These examples illustrate how language can be a site of struggle and negotiation in shaping social attitudes and power dynamics.

Infantilization

Infantilization is a process whereby individuals or groups are treated or referred to in a manner that diminishes their autonomy, maturity, or authority, often by equating them with children or using language associated with childhood. This phenomenon is pervasive in language and power dynamics, where certain groups are systematically disempowered or marginalized through linguistic practices. For example, referring to adult women as "girls" can trivialize their experiences and expertise, perpetuating stereotypes of femininity and undermining their credibility in professional or authoritative contexts. Being referred to as "girl" rather than "woman" can negatively impact women's confidence in their leadership abilities and perceptions of their own maturity and strength, as evidenced by experimental manipulations in feedback scenarios (Macarthur, 2015). Similarly, calling black men "boys" not only diminishes their status as adults but also reinforces historical narratives of racial inferiority and subservience. By examining instances of infantilization in language, we uncover how power imbalances are maintained and perpetuated through linguistic norms and conventions.

Androcentrism

Many languages exhibit an androcentric bias, rooted in **androcentrism**, which prioritizes men's experiences in understanding the world. This bias manifests in language usage, where male-centric terms are employed to represent all genders. For instance, words including, "guys," are used inclusively to refer to mixed-gender groups, erasing the presence of women. In Spanish, the use of "nosotros" for "us" disregards the presence of women, as the "-os" suffix masculinizes the term. Similarly, Arabic employs "habibi" to refer to female romantic partners, despite its masculinized form. Chinese writing further exemplifies this bias, using the symbol for "he" (他) to represent all genders, neglecting the distinct symbol for "she" (她). This linguistic bias extends to the norm of using "men" to signify "everyone," perpetuating the dominance of the male perspective. However, this gender-centric approach is not applied uniformly; we do not generalize other social groups, such as "whites," "English speakers," or "Christians," to represent all individuals (Trinh, 1989, p. 66). In other words, while we may say "hey guys" to refer to everyone (regardless of their gender), we do not say "hey whites" to refer to everyone (regardless of their race).

Language Manipulation

Language manipulation involves the deliberate use of language to distort, control, or deceive. It encompasses various tactics aimed at influencing perceptions, behaviors, or beliefs through linguistic means. This manipulation can take the form of euphemisms, doublespeak, gaslighting, and other strategies designed to shape narratives, obscure truths, or manipulate emotions.

Euphemisms are linguistic tools employed to replace harsh, blunt, or uncomfortable terms with milder or more socially acceptable alternatives. They serve various purposes, from softening the impact of sensitive subjects to maintaining social decorum in delicate situations. For example, the phrase "collateral damage" often is used in the context of military operations to refer to unintentional civilian casualties, offering a less confronting portrayal of the tragic loss of innocent lives.

Moreover, euphemisms can serve as tools of subtle resistance or reluctance, allowing individuals to convey their sentiments with nuance and finesse. Consider the phrase "freed the slaves after he died." Here, the euphemism delicately obscures the act of resisting the liberation of enslaved people, veiling the harshness of direct confrontation. Imagine instead the statement, "The slaves will be free over my dead body!"

However, euphemisms are not always employed to convey negative or controversial topics. In some cases, they are used to convey sensitivity or respect in discussing delicate matters, such as illness or death. For instance, phrases like "passed away" or "lost their battle with cancer" serve as euphemisms for dying, providing a gentler way to discuss mortality and loss. While euphemisms can facilitate communication by navigating sensitive topics with greater tact, they also can obscure truth and

dilute accountability by sanitizing language used to describe challenging or uncomfortable realities.

Doublespeak is a form of language deliberately employed to deceive or obscure meaning, often using ambiguous or contradictory terms. For example, in George Orwell's "1984," the slogans "War Is Peace," "Freedom Is Slavery," and "Ignorance Is Strength" exemplify doublespeak by twisting the meanings of words to manipulate perception. The Doublespeak Award, presented annually by the National Council of Teachers of English (NCTE), recognizes individuals who demonstrate exceptional skill in manipulating language to obscure truth or deceive. Below are a few winners.

- 1991: The Tobacco Industry received the award for portraying themselves as charitable benefactors of vulnerable groups while actively marketing a deadly, addictive drug.
- 2016: Donald Trump received the award for obfuscation and inconsistency during his presidential campaign, with the committee highlighting his ability to exploit his opponent's perceived dishonesty while making unsubstantiated claims of his own.
- 2017: Kellyanne Conway was honored for popularizing the term "alternative facts" to defend President Trump's false statements about inauguration crowd sizes, epitomizing the essence of doublespeak.
- 2018: Rudy Giuliani earned the award for his assertion on Meet the Press that "truth isn't truth," encapsulating the epitome of language manipulation.

Gaslighting refers to a form of psychological manipulation through which one person systematically undermines another's sense of reality, often by denying or distorting facts, events, or perceptions (Sweet, 2019). The term originates from the 1938 play "GasLight" by Patrick Hamilton, later adapted for films, where a husband manipulates his wife into doubting her sanity by dimming the gaslights in their home and then denying that they are flickering.

- Workplace gaslighting: A manager consistently undermines an employee's confidence by denying valid concerns or achievements, causing the employee to doubt their abilities and perception of reality.
- Gaslighting in relationships: A partner repeatedly denies or dismisses their significant other's feelings or experiences, making them question their own emotions and sanity.
- Gaslighting in politics: Politicians may use gaslighting tactics by denying facts or events, leading the public to question the validity of information and fostering confusion or distrust.
- Gaslighting in social media: Individuals may engage in gaslighting behaviors online by invalidating others' experiences or perceptions through manipulation or distortion of facts or events, leading to confusion or self-doubt among users.

Language Loss and Preservation

Language loss or **language death** occurs when a language ceases to be spoken or used by a community, often due to factors such as globalization, colonization, or cultural assimilation. This loss can lead to the erosion of cultural identity, knowledge, and traditions unique to that language. Language preservation efforts aim to document, revitalize, and promote endangered languages through education, advocacy, and community engagement, recognizing the intrinsic value of linguistic diversity and the vital role languages play in shaping collective heritage and identity.

Types of Language Death

There are various ways in which languages die.

Sudden language death refers to the abrupt extinction of a language due to the simultaneous death of its speakers, often caused by catastrophic events or deliberate acts of violence. An example of this phenomenon is seen in the case of the Nicoleño people, inhabitants of San Nicolas Island in California, near Los Angeles. In the early 19th century, the Nicoleño population, which numbered hundreds or possibly a few thousand, was decimated through massacres during the 1810s. By the 1830s, only a few dozen survivors remained, who were forcibly relocated to the mainland in 1835. The stress of displacement and loss of their cultural homeland led to further deaths from disease and health issues among the survivors. Despite attempts by fur traders and seal hunters to locate any remaining inhabitants, only one person was found living on the island, taking refuge in a whale carcass. This survivor, believed to be the last member of the Nicoleño community, lived in isolation for nearly two decades until her discovery in 1853. Although she may have been able to communicate with a few others from her community who were still alive, within seven weeks of her arrival on the mainland, she contracted dysentery and died, marking the extinction of the Nicoleño language.

Radical language death refers to the abrupt demise of a language due to its speakers shifting to a different language, often because of intense political oppression or genocide. An example of this occurred in El Salvador, where the Pipil (Nahua) people, who previously called the region "Cuzhcatlán" before the arrival of the Spanish, faced significant persecution. In 1932, a peasant uprising led to a massacre of approximately 25,000 people, prompting many to cease speaking their native languages out of fear of identification. As a result, languages such as Lenca and Cacaopera were abandoned and became extinct, with efforts to document and preserve them revealing only fragmented knowledge among subsequent generations.

Gradual language death refers to the slow replacement of one language by another over time. An example of this is the decline of Scottish Gaelic in parts of Scotland. Early contact led to bilingualism but influences such as Anglo-Norman culture and Middle English gradually favored English. Political, economic, and educational factors further promoted English dominance, with policies like the 1872 Education Act accelerating Gaelic's decline. Additionally, events like the Highland Clearances in the late 18th and early 19th centuries forcibly displaced Gaelic-speaking communities, contributing to the language's gradual demise.

Bottom-to-top language death refers to a phenomenon where a language ceases to be used in everyday conversation but remains preserved in formal, ritualistic contexts or official settings. Latin exemplifies this process, originally spoken by everyday people during the Roman Empire. Over time, it underwent linguistic changes and regional adaptations, diversifying into various dialects. However, as Latin gradually lost its status as a spoken language, it persisted primarily in written and scholarly domains, giving rise to the Romance languages. Similarly, in ancient India, Sanskrit transitioned from a spoken language to a mainly religious and scholarly one, with regional languages like Prakrits taking over daily communication. Despite these shifts, both Latin and Sanskrit continue to exert influence in various fields, demonstrating the prolonged impact of bottom-to-top language death.

Top-to-bottom language death refers to a process whereby a language shift begins at the top levels of society, often initiated by government or elite circles, while still persisting in casual contexts. An example of this is the decline of the Rusyn language, historically spoken by the Rusyn people in Eastern Europe. Initially used in formal contexts, literature, and education, Rusyn faced displacement by dominant languages such as Ukrainian, Russian, Slovak, and Hungarian due to historical factors. This shift towards more dominant languages in formal and public life led to Rusyn primarily being spoken at home among older generations. Additionally, political factors, such as the ban on Rusyn language and nationality during USSR rule, further accelerated its decline. Top-to-bottom language death can be seen in instances like the Gaelic Scottish example of gradual language death, where language loss begins with official contexts before spreading to everyday use (Magocsi,

1996).

Language Documentation

Language documentation involves collaborative efforts with native speakers to record and preserve endangered languages. This process typically includes audio and video recording sessions conducted during linguistic fieldwork. These recordings are then transcribed to create written records of the language's structure and vocabulary. Utilizing technology plays a crucial role in language documentation, aiding in preservation and revitalization efforts. Digital archives, linguistic databases, and online resources provide valuable tools for researchers and communities alike in storing and accessing language data for future generations. Through these methods, language documentation aims to safeguard linguistic diversity and cultural heritage worldwide.

Language Revitalization

Language revitalization entails efforts to revive endangered or dormant languages, aiming to preserve linguistic diversity and cultural heritage. Strategies for revitalization include language preservation initiatives, educational programs, and community-driven projects aimed at fostering language use and transmission. Central to the success of revitalization efforts is community involvement and ownership, as communities play a pivotal role in maintaining and perpetuating their language and cultural identity. By empowering communities to take ownership of their language revitalization efforts, initiatives are more likely to be sustainable and impactful in preserving linguistic diversity for future generations.

Hebrew, an ancient Semitic language, originally was spoken by the ancient Israelites but gradually transitioned to a liturgical and literary language over the centuries. Hebrew gradually declined as a widespread spoken vernacular between roughly the 2nd and 5th centuries CE, with Jewish communities worldwide adopting other languages for daily communication. Its revival in the late 19th century was fueled by the Zionist movement, led by figures like Eliezer Ben-Yehuda, who championed its use as a spoken language. With the establishment of the State of Israel in Palestine in 1948, Hebrew became the country's official language, used in education, government, and daily life. Modern Hebrew has evolved to incorporate loanwords and adaptations, making it a living language with millions of native speakers (Shlomo, 2010).

The Bible has played a significant role in the revitalization of several languages, including Agutaynen in the Philippines, Moro in Sudan, Cherokee in North America, Natqgu in the Solomon Islands, Ap Ma in Papua New Guinea, and Shor in Russia (Beetle-Moore & Voinov, 2015). Historically, the translation of the Bible into these languages often was part of colonial efforts to convert local populations to Christianity. However, despite the problematic origins of these translations, the Bible has become one of the few resources available for speakers of these endangered languages to reconnect with their linguistic and cultural heritage. Unfortunately, this reliance on the Bible as the primary source of written material in their language can create challenges, as it may perpetuate colonial legacies and limit the development of contemporary language resources. Thus, while the Bible has been instrumental in preserving aspects of these languages, efforts to revitalize them must also involve broader community initiatives aimed at language documentation, education, and cultural revitalization beyond religious texts.

Purépecha language maintenance and revitalization in Michoacán, Mexico, varies across communities depending on whether intergenerational transmission has been maintained or disrupted. In Ichán and Tacuro, Purépecha is still used in the home and transmitted between generations despite ongoing pressure from Spanish and widespread bilingualism (Canuto, 2017). In Morelia, a mural titled *Uandákua Tsïuaxati / Brota la Lengua*, named after a poem by bilingual Purépecha poet Rubí Huerta, features text from her work alongside imagery by the artist Spaik, aka Israel Guerra Romero (Secretaría de Cultura, 2019). The mural incorporates Purépecha-language poetry and cultural symbols, extending around the corner of a building and embedding language and culture into public urban space. Communities such as Huecorio show revitalization through language reclamation efforts tied to renewed Indigenous identity, even where everyday fluency has largely declined (Gutiérrez de Jesús & Chávez González, 2022). Together, these cases show Purépecha vitality as a continuum ranging from maintenance to active reclamation.

POEM VIDEO





Photos taken by jeffrey mccully in Morelia, Michoacán, Mexico on February 13, 2026.

Chapter 9 Study Guide

1. Differentiate between culture and society.
2. Differentiate between ethnolinguistics and sociolinguistics.
3. Explore cultural markers in language.
4. Discuss dialects and language varieties.
5. Analyze pronouns in language.
6. Examine grammatical gender.
7. Discuss language and power dynamics, including pejoratives, amelioration, infantilization, and androcentrism.
8. Discuss language manipulation, including euphemisms, doublespeak, and gaslighting.
9. Explore the concept of language death and its implications.
10. Distinguish between the forms of language death.
11. Define language documentation, and explore its methods and techniques.
12. Define language revitalization, and explore its efforts.
13. Explore the use of the Bible as a documentation tool for certain languages.

This page titled 9: Language Culture and Society is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

10: Language Structure

Language structure consists of the fundamental components that govern human communication. This chapter explores phonetics, phonology, morphology, and syntax — the building blocks of language. Refer to Anderson et al. (2022).

Morphology

Morphology refers to the study of the structure and formation of words in a language. It involves analyzing the smallest meaningful units of language, called morphemes, and understanding how they combine to create words. Morphology explores processes such as affixation (adding prefixes or suffixes), compounding (combining multiple words), derivation (creating new words from existing ones), and inflection (altering the form of a word to indicate grammatical information such as tense, number, or gender). Additionally, morphology investigates patterns of word formation and the rules that govern the construction of words within a language's **lexicon**, which is the repository of words and their meanings stored in the mind of a speaker or community of speakers.

Syntax

Syntax is the branch of linguistics concerned with the structure and organization of sentences in a language. It examines how words are combined to form phrases and sentences, as well as the rules governing their arrangement. Syntax deals with the order of words, the relationships between them, and the ways in which they convey meaning within a sentence. For example, in English, the basic word order is typically subject-verb-object (SVO) as in, "The cat chased the mouse." However, a deviation from this order, such as, "Chased cat mouse the," is syntactically incorrect and would not clearly convey the intended meaning. Syntax plays a crucial role in understanding how language is structured and how meaning is conveyed through sentence formation.

SYNTAX VIDEO 1

SYNTAX VIDEO 2

Semantics

Semantics is the branch of linguistics concerned with the meaning of words, phrases, and sentences in a language. It explores how words and linguistic expressions convey meaning and how this meaning is interpreted by speakers. Semantics examines both the denotative (literal) and connotative (associative or implied) meanings of linguistic units, as well as the relationships between them. For example, in English, the word "dog" refers to a domesticated mammal of the Canidae family. However, the word "hound" may be used to refer to a specific breed of dog or can be used metaphorically to describe someone who relentlessly pursues a goal. Conversely, a sentence like, "Colorless green ideas sleep furiously," is syntactically correct but semantically nonsensical, as it violates the principles of meaning and does not convey a coherent message. Semantics is essential for understanding how language communicates meaning and how speakers interpret and convey information through linguistic expressions.

SEMANTICS VIDEO

Pragmatics

Pragmatics concerns the study of language in context, focusing on how meaning is influenced by factors such as speaker intention, social context, and cultural norms. For instance, the statement, "Please pass the salt?" not only seeks the literal action of passing salt but also implies a polite request in social interactions. Pragmatics examines how speakers use language to achieve communicative goals effectively, considering aspects beyond literal meaning, such as implications, presuppositions, and conversational implicature.

PRAGMATICS VIDEO

Phonetics

Phonetics is the branch of linguistics that deals with the study of speech sounds. The smallest distinctive units of sound in a language are called **phonemes**. There is a lot to explore here. **Articulatory phonetics** focuses on the physical processes involved in producing speech sounds, such as the movements of the articulators (lips, tongue, etc.). **Acoustic phonetics**, on the other hand, examines the physical properties of speech sounds, such as their frequency and amplitude as they travel through the air. **Auditory phonetics** studies how speech sounds are perceived by the human ear.

The **International Phonetic Alphabet** (IPA) is a standardized system for representing the sounds of human language. It provides a set of symbols that correspond to specific speech sounds, allowing linguists to transcribe and analyze the pronunciation of words across different languages. In the examples below, characters in brackets refer to sounds, not letters.

PHONETICS VIDEO

Consonants

Places of Articulation

When producing sounds, we use various parts of the body. Lungs push air through the vocal folds, also known as the vocal cords, and out the mouth. The path from the lungs to outside the mouth and nose is called the **vocal tract**. There are various places of articulation, including the lips, front of mouth, back of mouth, and nose. A consonant is a basic speech sound in which the breath is at least partly obstructed. Consider the following:

- **Bilabial**: Uses both lips.
  - Examples: [p], [b], [m]
- **Labiodental**: Involves pressing the bottom lip against the top teeth.
  - Examples: [f], [v]
- **Dental**: Involves the tongue pressing against or near the teeth.
  - Examples: [θ] (as in "think"), [ð] (as in "this")
- **Alveolar**: Presses the tongue against the hard ridge behind the upper teeth (the alveolar ridge).
  - Examples: [t], [d], [s], [z], [n], [l]
- **Postalveolar**: Involves the tongue contacts or approaches the area just behind the alveolar ridge.
  - Examples: [ʃ] (as in "shoe"), [ʒ] (as in "measure"), [tʃ] (as in "church"), [dʒ] (as in "judge")
- **Palatal**: Involves raising the middle part of the tongue towards the hard palate.
  - Examples: [j] (as in "yes"), [ʎ] (as in "million")
- **Velar**: Presses the back part of the tongue against the soft part at the back of the mouth (the soft palate or velum).
  - Examples: [k], [g], [ŋ] (as in "sing")
- **Glottal**: Involves the action of the glottis, the space between the vocal cords.
  - Examples: [h], [ʔ] (glottal stop- less common in English)

Phonation

Phonation refers to the process of sound production in the larynx, specifically the vibration or lack of vibration of the vocal cords during the production of speech sounds. **Voiced sounds** involve vibration of the vocal cords, while **voiceless sounds** do not.

Compare the “s” sound with the “m” sound.

- Imagine the “s” sound in the word "sister." Imagine the “s” sound all by itself. If you can, make the “s” sound.
- Now, imagine the “m” sound in "mother." Imagine the “m” sound all by itself. If you can, make the “m” sound.
- Go back and forth between the “s” sound and the “m” sound. Notice the feeling in the back of your mouth and throat when you make the “m” sound. That sound is considered voice.
- The “s” sound doesn't use voice, and the “m” sound does.
- Thus, the “s” sound is voiceless, and the “m” sound is voiced.

Manners of Articulation

- **Plosive**: Complete closure of the vocal tract followed by a sudden release of air
  - [p] (voiceless bilabial plosive): Example: "pat," "spin," "top"
  - [b] (voiced bilabial plosive): Example: "bat," "rib," "web"
  - [t] (voiceless alveolar plosive): Example: "top," "cat," "bat"
  - [d] (voiced alveolar plosive): Example: "dog," "mad," "red"
  - [k] (voiceless velar plosive): Example: "cat," "back," "pick"
  - [g] (voiced velar plosive): Example: "go," "big," "bag"
- **Nasal**: Airflow through the nose instead of the mouth
  - Examples: [m], [n], [ŋ] (as in "sing")
- **Fricative**: Airflow through a narrow channel causing friction
  - [s] (voiceless alveolar fricative): Example: "sea," "bus," "pass"
  - [f] (voiceless labiodental fricative): Example: "fish," "coffee," "roof"
  - [ʃ] (voiceless postalveolar fricative): Example: "shoe," "shore," "fish"
- **Affricate**: Begins as a plosive and releases as a fricative
  - Examples: [tʃ] (as in "church"), [dʒ] (as in "judge")
- **Approximant**: Slight constriction of the airflow
  - Examples: [ɹ] (as in "red"), [j] (as in "yes"), [w] (as in "wet")
- **Trill**: Rapid vibration of an articulator against another
  - Example: [r] (as in Spanish "perro")
- **Lateral**: Airflow along the sides of the tongue
  - Example: [l] (as in "light")

Vowels

Vowels are sounds that are made without closing the vocal tract and by changing the shape of the tongue. Unlike consonants, we can move between vowel sounds without fixed lines between them.

Articulatory Features

Generally, we use three articulatory features to make vowel sounds:

- **Height of the tongue**: Refers to how high or low the tongue is positioned in the mouth when producing a vowel sound
  - High: [i] as in "see"
  - Mid: [ɛ] as in "bed"
  - Low: [ɑ] as in "father"
- **Frontness/backness of the tongue**: Refers to whether the tongue is positioned towards the front or back of the mouth when producing a vowel sound
  - Front: [i] as in "see"
  - Central: [ə] as in "about"
  - Back: [u] as in "blue"
- **Roundedness of the lips**: Refers to whether the lips are rounded when producing a vowel sound
  - Rounded: [u] as in "blue"
  - Unrounded: [i] as in "see"

Distinctions

- **Length**: Refers to the duration of vowel sounds
  - Short: "bit" (/ɪ/)
  - Long: "beat" (/iː/)
- **Nasalization**: Involves the addition of nasal airflow to vowel sounds
  - Not Nasally: "man" (/mæn/)
  - Nasally: "manned" (/mænd/)
- **Tone**: Involves pitch variation in vowel sounds to convey lexical or grammatical meaning, particularly in tonal languages
  - Example: Mandarin Chinese distinguishes:
    - "mā" (mother) with a high-level tone
    - "má" (hemp) with a rising tone
    - "mǎ" (horse) with a falling-rising tone
    - "mà" (to scold) with a falling tone

The example highlighting tone is drawn from Mandarin Chinese, as English primarily utilizes intonation, rather than vowel tone, to convey nuanced meaning. In English, intonation—marked by changes in pitch within phrases or sentences—fulfills various communicative functions, such as questioning, emphasizing certain points, or conveying emotions. For instance, consider the different intonations in the following phrases. It may be helpful if you try saying these out loud:

- I am here.
- I am here?

Vowel Type

Vowel types categorize the various sounds produced by the vocal tract based on their articulatory qualities.

- **Monophthongs**: Vowel sounds characterized by a single, stable articulatory quality throughout their duration
  - [æ] as in "cat"
  - [iː] as in "see"
  - [ɔ] as in "thought"
- **Diphthongs**: Vowel sounds characterized by a glide or transition from one vowel quality to another within the same syllable
  - [eɪ] as in "day"
  - [aʊ] as in "now"
  - [ɔɪ] as in "boy"
- **Triphthongs**: Vowel sounds characterized by a glide or transition through three vowel qualities within the same syllable
  - [aɪə] as in "fire"
  - [eɪə] as in "layer"
  - [aʊə] as in "power"

If you're able, practice saying the words above. Notice how the same sound is consistent for monophthongs. Try saying the diphthongs and triphthongs slowly. Notice how the vowels make two and three separate sounds, respectively.

VOWELS VIDEO

Phonology

Phonology examines how speech sounds are organized in language. For instance, in Nahuatl, the tl [tɬ] sound is a common phoneme, while English lacks this specific sound. Such differences in phonetic inventories between languages highlight the importance of understanding how sounds function within their respective linguistic systems. Phonology allows linguists to analyze patterns of sounds within words and sentences, shedding light on how languages utilize speech sounds to convey meaning.

Chapter 10 Study Guide

1. Define language structure.
2. Define morphology, syntax, semantics, and pragmatics .
3. Define phonetics and phonemes.
4. Distinguish between articulatory phonetics, acoustic phonetics, and auditory phonetics.
5. Explain the international phonetic alphabet (IPA).
6. Identify the components of the vocal tract.
7. Define consonants.
8. Distinguish between bilabial, labiodental, dental, alveolar, postalveolar, palatal, velar, and glottal vocalizations.
9. Define phonation.
10. Distinguish between voiced and voiceless phonation.
11. Distinguish between the following manners of articulation: plosive, nasal, fricative, affricate, approximant, trill, and lateral.
12. Define vowels.
13. Distinguish between the following vowel articulatory features: height of tongue, frontness/backness of the tongue, and roundedness of the lips.
14. Distinguish between the following vowel distinctions: length, nasalization, and tone.
15. Distinguish between the following vowel types: monophthongs, diphthongs, and triphthongs.
16. Define phonology.

This page titled 10: Language Structure is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

11: Historical Linguistics

Historical linguistics is the branch of linguistics that studies how languages change over time. It examines the relationships between languages, reconstructs their common ancestors, and explores the processes that lead to linguistic diversity and change.

Comparative Method

The **comparative method in historical linguistics** is a technique used to establish relationships between languages and to reconstruct their common ancestral forms. It involves comparing languages to identify similarities in vocabulary, grammar, and phonology, which can then be used to infer their shared history and evolution from a common source.

Steps

Here are the basic steps of the comparative method in historical linguistics:

- Select Languages: Choose related languages for comparison.
- Choose Vocabulary: Select basic, stable words for analysis.
- Gather Data: Collect words in each language.
- Identify Cognates: Find words with potential common origins.
- Phonological Analysis: Compare sounds for regular correspondences.
- Semantic Analysis: Examine word meanings for consistency.

Examples

In the context of phonology, the following examples illustrate how different languages pronounce similar concepts:

- "One": English /wʌn/, German /aɪns/, Dutch /eːn/, Swedish /ɛt/
- "Hand": English /hænd/, German /hant/, Dutch /hɑnt/, Swedish /hɑnd/
- "Book": English /bʊk/, German /buːχ/, Dutch /buk/, Swedish /buːk/
- "Eat": English /iːt/, German /ˈɛsən/, Dutch /ˈeːtə(n)/, Swedish /ˈɛːta/

Limitations

The comparative method in historical linguistics has several limitations that can affect its accuracy and applicability. One major constraint is the availability and quality of data. Historical linguists rely on written records and linguistic evidence, which may be scarce or incomplete for many languages and time periods. This limitation can make it challenging to establish accurate language relationships and reconstruct proto-languages with certainty.

Another limitation is the issue of language isolation. Some languages lack close relatives or have undergone extensive language change, making it difficult to find suitable comparison points. Lexical gaps, where not all words have clear cognates in related languages, can also pose challenges. This can lead to incomplete or inaccurate reconstructions of vocabulary and grammar.

Furthermore, the comparative method assumes a regularity in sound change, but in reality, sound changes can be irregular and unpredictable. This variability can make it challenging to determine which linguistic features are due to inheritance and which are the result of borrowing or chance similarities. Cultural and historical factors, such as language contact and borrowing, can further complicate the analysis, leading to potential misinterpretations of linguistic relationships.

Overall, while the comparative method is a powerful tool for reconstructing language history, it is not without its limitations. Researchers must carefully consider these limitations and use multiple lines of evidence to support their conclusions in historical linguistic analysis.

Proto-Language Reconstruction and Genealogy

Proto-language reconstruction is a foundational aspect of historical linguistics, aiming to reconstruct the common ancestor of a group of related languages, known as a **language family**. By comparing related languages and identifying systematic correspondences in vocabulary, grammar, and phonology, linguists can infer the features of the proto-language. This process enables the construction of language family trees, known as genealogies, illustrating the historical relationships between languages.

Major language families worldwide include the Indo-European family, which encompasses languages such as English, Spanish, Hindi, and Russian, among others. The Sino-Tibetan family includes Mandarin, Cantonese, Tibetan, and several other languages spoken in East Asia. The Afro-Asiatic family includes Arabic, Hebrew, and several languages of North Africa and the Middle East. The Niger-Congo family includes Swahili, Yoruba, and many other languages of sub-Saharan Africa. These language families are characterized by shared features and a common ancestral language.

Language classification methods and techniques vary, but often involve comparing vocabulary, grammar, and phonology to establish similarities between languages. The comparative method, for example, compares languages to identify systematic correspondences and reconstruct proto-languages. The comparative method is essential for establishing language families and understanding linguistic evolution.

Language evolution theories propose different models for how languages change over time. One prominent theory is the **wave model**, which suggests that language change spreads in waves across populations (Wolfram & Schilling-Estes, 2003). Another theory is the **punctuated equilibrium model**, which posits that languages remain stable for long periods and then undergo rapid change. These theories help explain the complex processes underlying language evolution (Dixon, 1997).

Language divergence refers to the process by which a single language splits into multiple distinct languages over time. This can occur due to geographical or social factors that lead to isolation and linguistic differentiation. In contrast, language convergence occurs when languages come into contact and influence each other, leading to the adoption of similar linguistic features.

Tree models are visual representations that display the relationships between languages within a language family, similar to a family tree. These models illustrate how languages have evolved from a common ancestor and help linguists understand the historical development of languages. Language family trees provide a visual representation of the connections between languages and are crucial for studying language evolution and classification.

Sound Change

Sound change and phonological shifts are core elements of language evolution, gradually altering word pronunciation over time. These shifts, influenced by factors like language contact and natural phonetic tendencies, are key to understanding historical linguistics and language family relationships.

Grimm's Law

Grimm's Law, formulated by linguist Jacob Grimm in the early 19th century, describes a systematic sound change in the history of the Germanic languages (Douse, 1876).

Before we can get into Grimm's Law, there are some important things to know about the context. The languages of Europe and Western/Southwestern Asia are part of the Indo-European language family. These languages share a common ancestor known as Proto-Indo-European. Grimm's Law describes a consonant change that occurred in the transition from Proto-Indo-European to the Germanic languages. The Germanic languages, including German, English, Dutch, Frisian, Yiddish, and the Scandinavian languages (Swedish, Norwegian, Faroese, Icelandic, and Danish), as well as extinct languages like Gothic, are all part of this language group.

During the transition from Proto-Indo-European to the Germanic languages, several significant consonant shifts occurred. Voiceless stops, which are sounds produced without vibrating the vocal cords, shifted to voiceless fricatives, which are sounds produced with friction in the vocal tract. Voiced stops, produced with vocal cord vibration, shifted to voiceless stops. Voiced aspirated stops, produced with both vocal cord vibration and a burst of air, shifted to voiced stops. These shifts are central to Grimm's Law and characterize the evolution of the Germanic languages. Let's cover each of these individually.

Voiceless Stops to Voiceless Fricatives (First Consonant Shift)

Voiceless stops, sounds produced by briefly stopping airflow, evolved into voiceless fricatives, sounds produced with friction in the vocal tract.

The * below represents reconstruction of Proto-Indo-European (PIE) language (since there is no documented record of it). I'll use Latin as an example, not because it's the ancestor of English (it isn't), but because Latin is a widely used non-Germanic language descended from PIE that preserves much of the PIE consonant pronunciation. The examples below contain mostly Latin and English cognates. **Cognates** are words in different languages that have a common origin, typically because they evolved from the same ancestral language. Cognates often have similar meanings and sound structures, reflecting their shared linguistic heritage.

- PIE *p becomes Germanic f
  - Latin pater is cognate to English father.
  - Latin piscis is cognate to English fish.
- PIE *t becomes Germanic þ (thorn, th sound)
  - Latin tenuis is cognate to English thin.
- PIE *k becomes Germanic h
  - Latin cord- (coronary) is cognate to English heart.
  - Latin canini (canine) is cognate to English hound.

Voiced Stops to Voiceless Stops (Second Consonant Shift)

Voiced stops, sounds produced with vibration of the vocal cords, shifted to voiceless stops, sounds produced without vibrating the vocal cords.

- PIE *b becomes Germanic p (Hard to find examples of b → p because of a lack of b sounds in PIE languages.)
  - Latin bibere (to drink) is cognate to English sip.
- PIE *d becomes Germanic t
  - Latin dent is cognate to English tooth.
    - Notice the Latin dent to English tooth illustrates the previous Voiceless Stops to Voiceless Fricatives (First Consonant Shift).
- PIE *g (hard g) becomes Germanic k
  - Latin gel is cognate to English cold.

Voiced Aspirated Stops to Voiced Stops (Third Consonant Shift)

Voiced aspirated stops, sounds produced with both vocal cord vibration and a burst of air, shifted to voiced stops, sounds produced with vibration of the vocal cords. Latin loses these voiced aspirated stops, so we must switch to different languages that still preserve the PIE sound. These sounds can be found in Sanskrit and Greek.

- PIE *bh becomes Germanic b
  - Sanskrit bhrātā is cognate to English brother.
    - Notice the Sanskrit bhrātā to English brother is another example of the previous Voiceless Stops to Voiceless Fricatives (First Consonant Shift).
- PIE *dh becomes Germanic d
  - Sanskrit Mádhu (honey or sweet drink) is cognate to English mead (drink made from honey).
- PIE *gh becomes Germanic g (Gh disappears in sanskrit, so let's switch to Greek, where it's written as kh (aka chi, pronounced like ky, using the character x.)
  - Greek khḗn is cognate to English goose.

Difficulties with Grimm's Law

Grimm's Law applies to Germanic languages and explains sound changes in native Germanic words. However, it does not apply to many English words borrowed from non-Germanic Indo-European languages like Latin and French. For example, the word "father" in English (native Germanic) follows Grimm's Law, where the Proto-Indo-European *p becomes "f" in Germanic languages, but the word "paternal" (borrowed from Latin) does not follow this pattern. Other examples include "brother" (native) versus "fraternity" (borrowed). Refer to the video in which Old Norse linguist Jackson Crawford explains all of this.

Great Vowel Shift in English

The Great Vowel Shift was a significant sound change that occurred in the English language between the 14th and 18th centuries (Wolfe, 1972). It affected the pronunciation of long vowels in Middle English, leading to the modern English vowel system. The Great Vowel Shift is crucial for understanding the evolution of English pronunciation and spelling.

Key Points

- Timing: The Great Vowel Shift began around the 14th century and continued into the 18th century.
- Scope: It affected the long vowels of Middle English, particularly those at the top and front of the mouth.
- Cause: The exact cause of the Great Vowel Shift is not known, but it was likely influenced by various linguistic, social, and cultural factors.
- Outcome: The Great Vowel Shift resulted in a significant change in the pronunciation of English vowels, leading to the modern English vowel system.

Effects of the Great Vowel Shift

- Vowel raising: Many long vowels were "raised" or pronounced higher in the mouth.
- Diphthongization: Some vowels became diphthongs, which are complex vowel sounds that glide from one vowel to another within the same syllable.
- Lengthening and shortening: Some vowels were lengthened or shortened, depending on their position in the word.

Examples of the Great Vowel Shift

- Middle English "name" [naːmə] > Early Modern English "name" [neːm]
- Middle English "bīte" [biːtə] > Early Modern English "bīte" [baɪt]
- Middle English "goose" [goːs] > Early Modern English "goose" [guːs]

Impact on Spelling

The Great Vowel Shift is one reason why English spelling is often irregular, as the pronunciation of many words changed while their spelling remained the same.

This led to a disconnect between the spelling and pronunciation of many English words, which continues to present challenges for learners of the language.

Significance

The Great Vowel Shift marks a crucial stage in the development of the English language, leading to the modern pronunciation and spelling of many words.

It contributed to the uniqueness and complexity of the English language, as well as its rich linguistic history.

Refer to the video in which Harvard English Professor Daniel Donoghue explains the Great Vowel Shift.

Grammatical Change

Grammatical change refers to the evolution of a language's grammar over time, including changes in syntax, morphology, and grammatical structures.

Loss of Grammatical Gender in English

Old English had a complex system of grammatical gender, with three genders (masculine, feminine, neuter) that influenced not only nouns, but also adjective agreement and pronouns. However, over time, English underwent a significant simplification, resulting in the loss of grammatical gender for nouns. This change occurred gradually, with the gender system fading away and leaving only remnants in the form of gendered pronouns. Today, English retains gendered pronouns like

"he," "she," and "it," but these are the last vestiges of the Old English gender system (Jones, 1988).

Word Order Shifts in Germanic Languages

Proto-Germanic, the ancestor of Germanic languages, had a flexible word order and relied heavily on inflections to convey grammatical information. This flexibility allowed speakers to emphasize certain elements of a sentence without changing the overall meaning. However, over time, Germanic languages underwent a shift from a more inflectional system to a greater reliance on word order to determine sentence structure. This shift led to a more fixed word order in modern Germanic languages, such as English, German, Dutch, and Swedish. For example, in English, the subject-verb-object (SVO) order is standard, as in "I eat apples." This shift in word order has simplified the grammar of Germanic languages compared to their Proto-Germanic ancestor, where inflection played a more prominent role in determining sentence meaning (Struik, 2022).

Simplification of Case Systems in Romance Languages

In Latin, nouns, pronouns, and adjectives had different forms depending on their grammatical function in a sentence. These various forms are known as **cases**. Each case had a specific ending that indicated its role (e.g., subject, object, possession) in the sentence. However, in Romance languages, many of these different forms were simplified or merged, leading to fewer distinct forms for each word. This simplification resulted in a more streamlined system where the same word form is often used for different grammatical functions, with the role determined by word order or prepositions (Nicolae, 2021).

For example, consider the Latin word for girl, which is puella. This word will be formatted differently depending on its case. Here are a few examples.

- Nominative Case (subject): puella
- Accusative Case (direct object): puellam
- Genitive Case (possession): puellae

However, when we examine the following Romance languages, they simply use the same word repeatedly regardless of the case.

- Italian: ragazza
- Spanish: chica
- French: fille

Here's another example with the word book, which is liber in Latin:

- Nominative Case (subject): liber
- Accusative Case (direct object): librum
- Genitive Case (possession): libri
- Dative Case (indirect object): libro

Again, the Romance languages simply use the same word in each of these cases.

- Italian: libro
- Spanish: libro
- French: livre

Here is one more example with the word hand, which is manus in Latin:

- Nominative Case (subject): manus
- Accusative Case (direct object): manum
- Genitive Case (possession): manus
- Dative Case (indirect object): manui
- Ablative Case (movement away from): manu

Again, the Romance languages simply use the same word in each of these cases.

- Italian: mano
- Spanish: mano
- French: main

Changes in Politeness (Social Distance) Levels in Japanese

Politeness and social distance in language refer to the ways in which speakers show respect or familiarity towards others. In Spanish, for example, the use of "tu" (informal "you") and "usted" (formal "you") illustrates this concept. "Tu" is used with close friends or family, while "usted" is used with strangers, elders, or in professional settings.

Similarly, in Japanese, politeness levels, or "keigo," have evolved to reflect social distance. Traditionally, Japanese had a complex system of honorifics and humble forms to show respect. However, with societal changes and modernization, the use of these forms has become less rigid. There is now a trend towards simplification, with fewer people using the most formal language forms in everyday speech. This shift reflects broader changes in Japanese society towards a more casual and egalitarian communication style (Haugh & Obana, 2011).

- Classical Japanese (Nara and Heian Periods, 8th-12th centuries): More emphasis on honorific language, but less on humble language.
- Medieval Japanese (Kamakura and Muromachi Periods, 12th-16th centuries): Samurai culture emphasized codes of conduct that influenced language use. Development of humble and honorific language continued.
- Early Modern Japanese (Edo Period, 17th-19th centuries): Full development of the complex system of politeness levels. It became more codified and structured.

- Modern Japanese (Late 19th century - present): Continued use of politeness distinctions. Ongoing evolution of Japanese language and culture.

Development of Tense and Aspect Markers in Chinese

The development of tense and aspect markers in Chinese involves the evolution of linguistic features to indicate the timing and completion of actions. In the past, Chinese lacked explicit markers for tense or aspect, relying on context and other cues. However, modern Chinese has adopted more explicit markers, such as "了" (le), "过" (guò), "着" (zhe), and "在" (zài), to indicate completion, experience, ongoing actions, and progressiveness, respectively. This shift has enhanced the clarity of temporal and aspectual meanings in the language (Wu, 2022).

- Ancient Chinese: Classical Chinese (Approx. 11th century BC - 3rd century AD):
  - Minimal tense and aspect markers.
  - "已" (yǐ) indicated completion, while "者" (zhě) indicated ongoingness.
- Middle Chinese (3rd-13th centuries AD):
  - Development of a more complex tonal system and phonological changes, but tense and aspect markers remained minimal.
  - "已" (yǐ) and "者" (zhě) persisted.
- Modern Chinese (Late 19th century - present):
  - Significant linguistic reforms and changes in China led to the emergence of Modern Standard Chinese (Mandarin) as the national language.
  - "了" (le) became a commonly used aspect marker indicating completion.
  - Time expressions like "昨天" (zuótiān, yesterday) and "明天" (míngtiān, tomorrow) indicated past and future actions.

Lexical Change

Lexical change in language refers to the evolution and transformation of words over time.

Borrowing and Loanwords

Borrowing and loanwords are linguistic phenomena that occur when languages come into contact, leading to the adoption of words from one language into another. This process is a significant driver of language change and evolution, as it introduces new vocabulary and concepts. Language contact can occur through various means, such as trade, migration, colonization, and cultural exchange, and it often results in the enrichment and diversification of languages (Durkin, 2014).

The impact of borrowing and loanwords on language evolution is profound. It not only adds new words to a language, but also influences pronunciation, grammar, and even cultural concepts. For example, English has borrowed extensively from French, Latin, and Greek, resulting in a lexicon that reflects its historical contact with these languages. Similarly, Spanish has borrowed from Arabic, reflecting the centuries-long presence of Arabic-speaking communities in the Iberian Peninsula.

- English
  - Chocolate (comes from Nahuatl chocolātl)
  - Guitar (comes from Spanish guitarra)
- Spanish
  - Alcohol (comes from Arabic al-kuḥl)
  - Jardín (garden) (comes from Old French jardin)

Pidgin and creole languages are fascinating examples of how language contact can lead to the development of new linguistic systems. **Pidgin** languages arise when speakers of different languages come into contact and need to communicate, often for trade or other practical purposes. These languages are simplified forms of communication, with limited vocabulary and simplified grammar. **Creole** languages, on the other hand, emerge when a pidgin language becomes the native language of a community, leading to its expansion and elaboration into a fully developed language with its own grammar, vocabulary, and identity. Pidgin languages are characterized by their simplified grammar and vocabulary, while creole languages are more complex and fully developed, often with unique features that distinguish them from their parent languages. These processes demonstrate the dynamic nature of language and its ability to adapt and evolve in response to contact and interaction between different linguistic communities (Burling, 1992).

Semantic Shift

Semantic shift refers to the phenomenon where the meaning of a word changes over time. This can happen for various reasons, such as cultural changes, linguistic influences from other languages, or simply through the natural evolution of language. Semantic shift can lead to words acquiring new meanings, losing old meanings, or shifting in nuance.

Broadening refers to the expansion of a word's meaning to encompass a broader or more general sense than its original meaning. For example, the word "dog" originally referred to a specific breed of domesticated canine (mastiff), but has since broadened to include all breeds of domesticated dogs. The term "emotional labor," introduced by sociologist Arlie Hochschild (1983), initially referred to performing emotions while on the job, such as flight attendants who have to smile. Now, the concept encompasses a broader range of emotional work, including managing and regulating emotions in various interpersonal interactions, both in and out of the workplace. This expansion illustrates how the term has broadened in its scope and application beyond its original context.

Narrowing, on the other hand, involves a word's meaning becoming more specific or limited compared to its earlier, more general sense. An example of narrowing is the word "meat," which once referred to any kind of food, but has narrowed to specifically mean the flesh of animals used for food, excluding fruits and vegetables. Similarly, the word "fraction" originally referred to portions of a whole. While 99/100 is a fraction, people often use the term "only a fraction" to imply a small portion, such as 1/100, illustrating how the term has narrowed in its meaning to denote a small or insignificant part of a whole.

Amelioration occurs when a word acquires a more positive or elevated connotation compared to its earlier neutral or negative sense. For instance, "knight" originally referred to a young servant or attendant, but underwent amelioration to signify a person granted an honorary title for valor and service. Similarly, the term "bargain" has shifted in meaning from simply referring to a deal to now often being used to indicate getting a good deal or value for something purchased, illustrating how the word has taken on a more positive connotation over time.

Pejoration, conversely, describes a word taking on a more negative or lower connotation than it had originally. An example is the word "villain," which used to mean a common peasant or farmer, but later underwent pejoration to denote a wicked or malicious person. Similarly, the term "performativity," as described by Butler (1989), refers to how identities are constructed by the actions taken by individuals. However, people commonly use the word "performative" to describe superficial actions that people take. In Butler's sense, an anti-racist identity is constituted by actions such as protesting, legislating, and doing the hard work to eradicate racism. However, the common conception of a performative identity might have to do with simply sharing an anti-racist meme, which does not necessarily indicate any behavior or action that backs up the idea that someone is genuinely anti-racist.

We already explored some examples of pejoration and amelioration in a previous chapter.

Chapter 11 Study Guide

1. Define historical linguistics.
2. Explain the comparative method in historical linguistics.
3. Explain what language families are.
4. Distinguish between the wave model, the punctuated equilibrium model, and language divergence.
5. Briefly explain Grimm's Law.
6. Explain what cognates are.
7. Briefly explain the Great Vowel Shift in English.
8. Briefly explain the loss of grammatical gender in English.
9. Briefly explain the word order shifts in Germanic languages.
10. Define cases, and briefly explain the simplification of case systems in Romance languages.
11. Explore politeness and social distance in language.
12. Briefly explain the development of tense and aspect markers in Chinese.
13. Define lexical change.
14. Explain word borrowing/loanwords.
15. Distinguish between pidgin and creole.
16. Explain semantic shift, and distinguish between broadening, narrowing, amelioration, and pejoration.

This page titled 11: Historical Linguistics is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

12: Language Acquisition

Language acquisition refers to the process through which humans acquire the capacity to perceive, produce, and use language. This complex process begins in infancy and continues throughout one's life, involving various stages and mechanisms that enable individuals to learn their native language(s). Understanding how individuals acquire language is fundamental to understanding the nature of human communication and the diversity of languages around the world.

Models of Language Acquisition

Language acquisition is a complex process that has been studied through various theoretical frameworks. Behaviorist theories, such as Skinner's (1957) **behaviorism**, suggest that language learning is a result of conditioning and reinforcement. According to this view, children learn language through imitation and reinforcement from caregivers.

In contrast, **nativist theories** propose that humans are born with an innate capacity for language acquisition. Chomsky's (2007) concept of universal grammar is a prominent example of nativist theory, suggesting that children are born with a set of linguistic principles and structures that guide language learning. Nativist theories argue that the complexity of language acquisition cannot be solely attributed to environmental factors.

Interactionist theories emphasize the role of social interaction and cultural context in language development. Vygotsky's (1978) sociocultural theory, for example, highlights the importance of social interactions with more knowledgeable individuals in language learning. According to this view, language development is a collaborative process that occurs through communication and interaction with others.

Additionally, the **Critical Period Hypothesis** proposes there is a biologically determined period during which language acquisition must occur for an individual to attain native-like proficiency (Penfield & Roberts, 1959; Lenneberg, 1967). This hypothesis suggests that there is a critical period in early childhood during which the brain is most receptive to language input, and if language learning does not occur within this window, it becomes much more difficult to achieve native-like fluency later in life. With very limited success, Curtiss et al. (1974) worked to teach language to an isolated child ("Genie") beyond the so-called critical period.

These theoretical frameworks offer different perspectives on how humans acquire language, highlighting the interplay between biological, cognitive, social, and environmental factors in the development of linguistic competence.

Linguistic Development

Prelinguistic Development

Prelinguistic development encompasses the period before a child begins to use words to communicate. During this stage, infants develop essential skills that lay the foundation for language acquisition. Prelinguistic communication skills include various forms of nonverbal communication, such as eye contact, facial expressions, and body movements. These early forms of communication are crucial for establishing social connections and developing language skills (Locke, 1993).

Vocalizations and babbling are important aspects of prelinguistic development. Infants begin making cooing sounds and vowel-like sounds in the first few months of life. This stage of vocalization helps infants practice controlling their vocal cords and developing the muscles needed for speech production (Oller, 2000). Babbling typically starts around six months of age and involves the repetition of consonant-vowel combinations (e.g., "bababa"). Babbling is considered a universal phenomenon in language development and is believed to be a precursor to spoken language (Oller & Eilers, 1988).

Gestures and nonverbal communication also play a significant role in prelinguistic development. Infants begin using gestures, such as pointing, waving, and reaching, to communicate their needs and intentions before they can speak. These early gestures help infants interact with others and convey meaning, laying the groundwork for the development of more complex language skills (Iverson & Goldin-Meadow, 2005). Gesture use is closely related to language development, and studies have shown that children who use more gestures early in life tend to have larger vocabularies and better language skills later on (Rowe & Goldin-Meadow, 2009).

Phonological Development

Phonological development refers to the process through which children acquire the ability to produce and perceive speech sounds in their native language. This process begins in infancy and continues throughout childhood, involving the acquisition of phonological rules and patterns that govern sound production in a given language. One of the key aspects of phonological development is the acquisition of speech sounds, which typically begins with the production of vowel-like sounds and progresses to the production of consonant sounds (Ferguson & Farwell, 1975).

As children continue to develop their phonological skills, they begin to learn the phonological rules and patterns of their native language. These rules govern how sounds are combined to form words and how different sounds can change depending on their position in a word or sentence. For example, in English, the sound /k/ at the beginning of a word is often pronounced as /k/, as in "cat," but it can also be pronounced as /s/, as in "cent," depending on the following vowel sound.

During the early stages of phonological development, children may make errors and simplifications in their speech as they learn to produce the complex sounds of their native language. These errors can include substituting one sound for another (e.g., saying "wabbit" instead of "rabbit"), omitting certain sounds or syllables (e.g., saying "nana" instead of "banana"), or simplifying the pronunciation of complex consonant clusters (e.g., saying "fum" instead of "thumb"). These errors are a normal part of the phonological development process and typically resolve as children's speech skills continue to mature.

Lexical Development

Lexical development refers to the process by which individuals acquire and expand their vocabulary. It is a crucial aspect of language development that begins in infancy and continues throughout life. Vocabulary growth involves the gradual accumulation of words and their meanings, which is essential for effective communication (Bloom, 2000).

One important aspect of lexical development is word learning, which involves acquiring the meanings of new words. Children employ various strategies to learn new words, including fast mapping and word association. **Fast mapping** is a cognitive process that allows individuals, particularly children, to quickly acquire the meaning of a new word after a single exposure or a few exposures. It involves creating a temporary link between the new word and its referent or concept, enabling the individual to use the word in context even though they may not have a full understanding of its meaning (Carey, 1978). For example, a child might hear the word "elephant" for the first time while reading a book and quickly associate it with the image of an elephant in the book.

Word association, on the other hand, involves linking a new word to words or concepts that are already known or familiar to the individual. This process helps in consolidating the new word's meaning in memory by connecting it to existing knowledge (Roux, 2003). For instance, if a child learns the word "horse" and already knows the word "cow," they might associate "horse" with "cow" to help remember the new word's meaning.

Categorization and concept formation are also integral to lexical development. One way this occurs is through learning some types of words before other types of words. For instance, according to the **natural partitions hypothesis**, we learn nouns before verbs. This is because nouns refer to concrete, easily observable objects or entities, which are conceptually more basic and accessible to infants compared to the abstract concepts represented by verbs (Gentner, 1982). As children acquire new words, they learn to categorize objects, actions, and concepts based on similarities and differences. This process helps in organizing and expanding their vocabulary by grouping words that share common attributes (Waxman & Markow, 1995). Additionally, concept formation allows children to develop a deeper understanding of the world around them by forming mental representations of abstract ideas and relationships between words (Mandler, 1992).

Morphological and Syntactic Development

Morphological and syntactic development in language acquisition involves the gradual mastery of grammatical structures and rules. One key aspect is the acquisition of grammatical morphemes and inflections, which are elements added to words to indicate aspects such as tense, number, and possession. For example, English-speaking children typically start using "-ing" for present progressive tense (e.g., "I am playing"), "-s" for plural nouns (e.g., "dogs"), and "'s" for possession (e.g., "Mommy's book") around the age of two (Brown, 1973).

Another crucial aspect of morphological and syntactic development is the development of sentence structure and word order. Children initially start with simple, telegraphic speech (e.g., "Want cookie"), gradually acquiring more complex sentence structures as they develop (Bloom, 1970). They also learn the rules governing word order in sentences, such as subject-verb-object (SVO) order in English, which varies across languages (Slobin, 1985).

Additionally, children learn to use grammatical forms for asking questions, expressing negation, and other functions. For example, they learn to use auxiliary verbs like "do" for forming questions (e.g., "Do you want to play?") and negative structures like "not" (e.g., "I do not want to play") (Brown, 1973). This development of grammatical forms is essential for expressing a wide range of meanings and functions in language.

Furthermore, the development of morphological and syntactic skills is closely linked to word association and learning grammar. As children acquire new words and expand their vocabulary, they also learn how these words are used in sentences and how they relate to other words. This process of word association helps children understand and use grammatical structures correctly (Brown & Berko, 1960).

Pragmatic Development

Pragmatic development refers to the acquisition of social language skills that enable effective communication in various social contexts. It involves understanding and using language in ways that are appropriate to the social context and the communicative intent. One key aspect of pragmatic development is the ability to engage in turn-taking and maintain conversational exchanges. Children learn to take turns in conversations, respond appropriately to others' contributions, and understand when it is their turn to speak.

Another important aspect of pragmatic development is the ability to understand and use non-literal language, such as sarcasm, irony, and indirect speech. This involves recognizing when speakers are using language figuratively or to convey meanings that are not explicitly stated. For example, understanding sarcasm requires recognizing the discrepancy between the literal meaning of the words and the intended meaning (Winner, 1988). Mastery of these aspects of language is crucial for successful social interactions and effective communication.

Pragmatic development is also closely linked to the development of **Theory of Mind** (ToM), which is the ability to attribute mental states, such as beliefs, desires, and intentions, to oneself and others (Astington & Jenkins, 1999). ToM development enables children to understand that people may have different perspectives and beliefs, which is essential for interpreting and responding appropriately to the intentions and emotions of others in social interactions.

Multilingualism

Multilingualism refers to the ability of an individual to speak two or more languages. **Bilingualism**, specifically, is the ability to speak two languages fluently, while **multilingualism** extends this to three or more languages. Language acquisition in a multilingual context can occur from an early age, where children are exposed to and learn multiple languages simultaneously. Research suggests early exposure to multiple languages can lead to successful bilingual or multilingual development, with children showing the ability to differentiate between languages and acquire their grammar and vocabulary (Genesee, 2004).

Second language acquisition (SLA) refers to the process of learning a new language after acquiring one's first language. This process can occur at any age, but it is often studied in the context of adults learning a new language. SLA research examines various factors that influence language learning, such as age of acquisition, language aptitude, motivation, and learning strategies (Ellis, 2008). Studies have shown that while children tend to achieve native-like proficiency in a second language more easily, adults can also achieve high levels of proficiency with sufficient exposure and practice (Krashen, 1982).

Overall, multilingualism, whether acquired from an early age or later in life, offers cognitive, cultural, and social benefits. It enhances cognitive flexibility, improves communication skills, and provides access to different cultures and perspectives. Understanding the processes involved in bilingual and multilingual language acquisition is essential for educators, policymakers, and individuals seeking to learn new languages and navigate multilingual environments.

Language Acquisition Differences

Language acquisition differences encompass a range of variations in the typical development of language skills among individuals. Some children experience language delays or disorders, which can manifest as difficulties in acquiring language skills at the expected rate or in the typical manner. **Specific Language Impairment** (SLI) is one such disorder characterized by significant and unexplained difficulties in language acquisition, despite normal development in other areas (Leonard, 2014). Children with SLI may have trouble with grammar, vocabulary, and understanding and producing complex sentences.

Autism Spectrum Disorder (ASD) is another condition that can be associated with language difficulties. Individuals with ASD may exhibit a range of language challenges, including delays in language development, echolalia (repeating words or phrases), and difficulty understanding and using non-literal language (American Psychiatric Association, 2013). The language difficulties experienced by individuals with ASD can vary widely, with some individuals having strong language skills and others experiencing significant challenges.

Additionally, there are individuals who are nonverbal or have limited verbal communication abilities. These individuals may use alternative forms of communication, such as gestures, pictures, or assistive technology, to communicate their needs, thoughts, and feelings (Mirenda, 2003). Understanding and supporting the communication needs of nonverbal individuals is essential for ensuring that they can participate fully in social interactions and access educational and community resources.

Understanding language acquisition differences and the specific language difficulties associated with conditions like SLI, ASD, and nonverbal communication is crucial for early identification and intervention. Early intervention can help mitigate the impact of language delays and disorders, improve language skills, and enhance overall communication and social interactions for individuals affected by these conditions.

Language Acquisition in a Digital Age

In the digital age, technology has significantly influenced language acquisition, providing new tools and methods for learning. Technology has made language learning more accessible, convenient, and engaging for learners of all ages. Digital tools, such as language learning apps like Duolingo, Babbel, and Rosetta Stone, offer interactive and personalized learning experiences that cater to individual learning styles and preferences. These digital tools feature games, quizzes, and interactive lessons that make language learning more enjoyable and effective. They also allow for real-time feedback and progress tracking, enabling learners to monitor their improvement and stay motivated.

However, the rise of digital tools in language acquisition also presents ethical considerations and challenges. Concerns include data privacy, algorithmic bias, and the commodification of education. Additionally, there are concerns about the quality and accuracy of content provided by some language learning apps, as well as the potential for over-reliance on technology to replace traditional language learning methods. Despite these challenges, the use of digital tools for language acquisition continues to grow. It is important to address ethical considerations and ensure that technology is used in a way that enhances, rather than hinders, language learning.

Chapter 12 Study Guide

1. Define language acquisition.
2. Distinguish between the behaviorist approach, nativist (innate) perspective, and the sociocultural theory.
3. Explain the critical period hypothesis.
4. Discuss prelinguistic development and phonological development.
5. Discuss lexical development, including fast mapping, word association, and the natural partitions hypothesis.
6. Discuss morphological and syntactic development.
7. Discuss pragmatic development, including the Theory of Mind.
8. Discuss bilingualism and multilingualism.
9. Discuss second language acquisition.
10. Discuss language acquisition differences, including issues related to Specific Language Impairment, Autism Spectrum Disorder, and being nonverbal.
11. Discuss issues related to language acquisition in the Digital Age.

This page titled 12: Language Acquisition is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

13: Introduction to Cultural Anthropology

Cultural anthropology is a branch of anthropology that focuses on the study of contemporary human cultures and societies. It seeks to understand the diversity of human cultures, their customs, beliefs, practices, social organization, and material traits. Cultural anthropologists often conduct fieldwork, immersing themselves in a particular culture to observe, interview, and participate in the daily lives of the people they study.

History of Cultural Anthropology

Early Origins and Explorations

Before the emergence of modern cultural anthropology, there were historical figures whose travels and writings paved the way for understanding and studying cultures around the world. Figures like Herodotus, Marco Polo, Ibn Battuta, and Isabella Bird embarked on journeys that spanned continents, documenting the customs, societies, and landscapes they encountered. Their explorations, though driven by different motivations and contexts, laid a foundation for cultural understanding and appreciation that continues to influence anthropological thought today.

Herodotus, known as the "Father of History," was a Greek historian born in Halicarnassus (modern-day Bodrum, Turkey) around 484 BCE (Herodotus et al., 2013). He is remembered as having embarked on several trips, notably between 460 and 450 BCE, during which he made significant observations about various cultures. In Egypt, he studied the culture, geography, history, and customs, including the pyramids and the annual flooding of the Nile. In Babylon and Persia, he documented aspects of society, governance, religion, and the renowned hanging gardens. His travels also took him to Scythia, where he studied the customs and lifestyles of the people in what is now modern Ukraine and southern Russia. Herodotus' works laid the foundation for the field of historical inquiry, and his detailed accounts of these societies provide valuable insights into the ancient world.

Marco Polo, a Venetian explorer born in 1254, embarked on a journey to the East from 1271 to 1295 (Polo, 2004). He served under Kublai Khan and made numerous observations about Asian cultures. In China, he marveled at the grandeur of the Chinese imperial court and noted the use of paper money, a concept unfamiliar in Europe at the time. He was fascinated by the opulence and vibrant trade in cities like Hangzhou. Polo also spent time among the Mongols, experiencing their pastoral life and gaining insights into the court of Kublai Khan. Upon his return to Venice, he was imprisoned after a naval battle between Venice and Genoa in 1298, during which he dictated his experiences and observations, later compiled into the famous book *The travels of Marco Polo*. His writings became a key source of information about Asia for Europeans during the Middle Ages and significantly influenced later explorers and geographers.

Ibn Battuta, a Moroccan explorer born in 1304, embarked on a remarkable journey that spanned over 75,000 miles from 1325 to 1354 (Ibn Battuta & Mackintosh-Smith, 2002). His travels began with the Hajj pilgrimage to Mecca, but extended far beyond, taking him to diverse lands and cultures. Throughout his journey, he held official roles in various localities, which provided him with unique insights into the societies he encountered. In India, he documented customs, Hindu temples, and festivals, offering a vivid portrayal of the country's cultural richness. In Africa, he marveled at Mali's wealth, its gold production, and the significant role of griots, who were the oral historians of the region. He described Chinese architectural marvels of the Yuan Dynasty, the rigorous examination system, and the use of paper currency. In Persia, he detailed the Persian language, customs, and the beauty of Persian gardens, showcasing his appreciation for the aesthetics of the region. Ibn Battuta's travels and observations were later compiled into the renowned travelogue *Rihla*, or The Journey, which remains a valuable historical document detailing the medieval world.

Isabella Bird, an English explorer born in 1831, embarked on extensive travels that took her across the globe (Barr, 1970). She explored North America, where she immersed herself in the culture of Hawaii, experiencing hula dancing and local customs. In Colorado, she encountered the rugged lifestyle of the "Pioneers," which left a lasting impression on her. Her adventures continued in Asia, where she delved into the intricacies of Japanese culture, particularly noting aspects of gender roles and tea ceremonies. In China, she studied the lives of Hakka villagers in Fujian Province, gaining insights into their unique way of life. Bird's explorations extended to the Middle East, where she explored the religious practices and festivals of India, the cuisine and clothing of Persia (Iran), and the monastic traditions and stunning landscapes of Tibet. Her writings about her travels not only provide valuable historical insights, but also reflect her deep curiosity and appreciation for the diverse cultures she encountered.

Birth of Modern Cultural Anthropology

Modern anthropology emerged in the 19th century, focusing on systematic studies of human societies and cultures. Pioneers like Franz Boas, Ruth Benedict, and Margaret Mead emphasized culture's role through symbols and meanings. Their work highlighted cultural diversity and complexity. Together, they laid the foundation for modern anthropology, stressing cultural relativism, fieldwork, and contextual understanding of human societies.

Franz Boas (1858-1942), often regarded as the father of American anthropology, made significant contributions to the field, particularly in his critique of racial determinism. In his 1912 book *Changes in Bodily Form of Descendants of Immigrants*, Boas demonstrated how environmental factors influenced human physical traits, challenging prevailing notions of racial hierarchy. Despite his groundbreaking work, many at the time ignored his findings, preferring to maintain racist beliefs. Boas emphasized the importance of fieldwork, cultural relativism, and detailed ethnographic research, laying the foundation for modern anthropological methods and perspectives.

Bronisław Malinowski (1884-1942), a Polish anthropologist, is known for his pioneering work in the field of anthropology. He is associated with the structural-functional theoretical perspective, which emphasizes the ways in which cultural institutions function to maintain social order. Malinowski was also a proponent of **cultural relativism**, the idea that cultures should be understood on their own terms rather than judged by the standards of another culture. He is particularly renowned for his development of **participant observation** as a research method, which involved immersing oneself in the culture being studied to gain a deep understanding of its practices and beliefs. Malinowski's emphasis on ethnographic fieldwork and his efforts to institutionalize anthropology in academia have had a lasting impact on the field, shaping the way anthropologists conduct research and interpret cultural phenomena.

Ruth Benedict (1887-1948) was a pioneering anthropologist known for challenging **cultural determinism**, the idea that culture determines human behavior. She emphasized the role of individuals in shaping their cultural practices. Benedict's work focused on the intersection of culture and personality, exploring how cultural

norms and values influence individual behavior and identity. She conducted cross-cultural comparisons to understand the diversity of human cultures and the universal aspects of human nature. Benedict's insights into the dynamic relationship between culture and individuals have had a profound impact on the field of anthropology, influencing subsequent research on cultural diversity and human behavior.

Margaret Mead (1901-1978), a student of Franz Boas and Ruth Benedict, was a groundbreaking anthropologist who challenged the notion of gendered determinism. Her research, particularly her work *Coming of Age in Samoa* (1928), challenged the prevailing Western beliefs about the universality of adolescence and gender roles. Mead's study suggested that cultural factors, rather than biological ones, significantly influence behavior and development. This research sparked debates about the nature-nurture controversy and contributed to the understanding of how culture shapes human behavior and identity. Mead's work continues to be influential in the fields of anthropology, sociology, and gender studies.

Clifford Geertz (1926-2006) was a prominent figure in symbolic anthropology, emphasizing the importance of understanding culture through its symbols and meanings. He introduced the concept of **thick description**, which involves providing a detailed, contextualized account of social behavior to capture its full meaning. Geertz (1973) argued that context matters greatly in interpreting cultural practices, and that understanding the meaning behind these practices is crucial for understanding a society. He highlighted the complexity and intricacy of cultural systems, emphasizing the need for anthropologists to engage deeply with the cultures they study to uncover these meanings. Geertz's work has had a lasting impact on anthropology, influencing how researchers approach the study of culture and society.

Influence of Post-Colonialism and Decolonization on the Discipline

The influence of post-colonialism and decolonization on the discipline of anthropology has been significant. Scholars like Edward Said, Trinh T. Minh-ha, Homi K. Bhabha, and Gayatri Chakravorty Spivak have challenged traditional, often Eurocentric perspectives within anthropology. Their critiques have prompted scholars to reevaluate their approaches to studying and representing non-Western cultures, leading to a more inclusive and culturally sensitive discipline.

Edward Said (1935-2003), a Palestinian-American intellectual, was critical of cultural anthropology for its complicity in colonialism. In his seminal work *Orientalism*, Said (1978) argued that Western scholars often stereotyped and generalized about non-Western cultures, treating them as exotic, inferior, or exoticized. He criticized anthropologists for perpetuating these stereotypes and for their role in justifying and maintaining colonial power dynamics. Said's critique has had a profound impact on the field of anthropology, prompting scholars to reevaluate their approaches to studying and representing non-Western cultures.

Trinh T. Minh-ha (1952-), a Vietnamese intellectual, is known for her critical stance against traditional, often male-dominated, and Eurocentric anthropological perspectives. In her work, *Woman, Native, Other*, Trinh (1989) refers to Malinowski as the "Great Master," challenging the authority and biases of foundational figures in anthropology. Trinh's films are characterized by a lack of narration, profound use of silence, and reliance on the sounds of daily life, challenging conventional modes of storytelling and representation. Her work has been influential in pushing the boundaries of anthropological discourse and representation, emphasizing the importance of diverse voices and perspectives.

Homi K. Bhabha (1949-) is a prominent postcolonial theorist and literary and cultural critic known for his work on cultural and literary theory. His influential book *The location of culture* (1994) examines the concepts of hybridity and mimicry in postcolonial contexts, challenging traditional notions of identity and representation. Bhabha's work has been instrumental in reshaping discussions on colonialism, nationalism, and globalization.

Gayatri Chakravorty Spivak (1942-) is another well-known postcolonial anthropologist, known for her work on literary theory, feminism, and postcolonial studies. Her book *A critique of postcolonial reason: Toward a history of the vanishing present* (1999) is a significant contribution to postcolonial theory, challenging Eurocentric perspectives and advocating for the inclusion of marginalized voices in academic discourse. Spivak's work has been influential in expanding the scope of postcolonial studies and advocating for social justice and equality.

Ethical Considerations in Cultural Anthropology

Just as in biological anthropology and linguistics, there have been instances of questionable ethical practices within cultural anthropology.

Responses to Cultural Diversity

Responses to cultural diversity encompass a range of reactions and approaches that individuals and societies adopt when encountering cultures different from their own. **Culture shock** refers to the feelings of disorientation and discomfort experienced when exposed to a new culture, highlighting the challenges of adapting to unfamiliar customs, norms, and values. **Ethnocentrism**, on the other hand, is the tendency to view one's own culture as superior to others, often leading to judgments and stereotypes about other cultures. Anthropologists should strive to avoid culture shock and ethnocentrism by adopting **cultural relativism**, which is the practice of understanding a culture on its own terms, without imposing one's own cultural values. Cultural relativism encourages an open-minded approach to cultural differences, recognizing that each culture has its own unique context and meaning.

In contrast to ethnocentrism, **multiculturalism** emphasizes the coexistence and appreciation of different cultures within a society. Multiculturalism advocates for the recognition of cultural diversity and the promotion of equal rights and opportunities for individuals from different cultural backgrounds. Anthropologists should embrace multiculturalism as a positive response to cultural diversity, promoting understanding, respect, and dialogue among diverse groups. Overall, cultural relativism and multiculturalism are approaches that anthropologists should use to navigate cultural diversity, while culture shock and ethnocentrism should be avoided due to their potential for bias and misunderstanding.

Ethical Lapses in Cultural Anthropology

Furthermore, anthropologists need to ensure informed consent and recognize the power differences between themselves and their research subjects.

Napoleon Chagnon's research with the Amazonian Yanomami has been the subject of significant criticism, particularly regarding ethical concerns and the impact of his work on the Yanomami people. Tierney (2000) extensively criticized Chagnon's methods and interactions with the Yanomami. Tierney alleged that Chagnon's research practices exploited the vulnerability of the Yanomami, neglected their well-being, and exacerbated tensions among different factions by providing them with steel tools and weapons in exchange for research data. These actions are said to have contributed to increased violence and conflict within Yanomami communities.

Leach (1975) created the documentary *Trobriand Cricket* to showcase the unique adaptation of cricket by the Trobriand Islanders over 70 years, demonstrating how they integrated this missionary-introduced sport into their society as a new ritual to soften the impact of colonialism. However, the film has faced criticism for various shortcomings (Weiner, 1977). It failed to ensure informed consent, as the Trobriand Islanders were not adequately informed about the film's content, purpose, and potential consequences. Additionally, the documentary framed the cricket match as a response to colonialism without providing sufficient context or explanation, perpetuating colonial stereotypes about Trobriand Islanders. Moreover, it lacked context by not explaining the meaning of cricket in the Trobriand context and its relationship to their unique cultural practices.

Chapter 13 Study Guide

1. Define cultural anthropology.
2. Review the early origins and explorers before anthropology.
3. Review the early cultural anthropologists.
4. Define cultural relativism, participant observation, cultural determinism, and thick description.
5. Explore the influence of post-colonialism and decolonization on cultural anthropology.
6. Differentiate between the responses to cultural diversity (culture shock, ethnocentrism, cultural relativism, and multiculturalism).
7. Explore ethical lapses in cultural anthropology.

This page titled 13: Introduction to Cultural Anthropology is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

14: Subsistence

Subsistence refers to the ways in which individuals and communities obtain the basic necessities of life, such as food, shelter, and clothing. It encompasses the strategies and practices used to secure these essentials, including hunting, gathering, farming, and fishing. Subsistence activities are essential for survival and are often closely tied to the environment and natural resources available in a particular region. In this chapter, we'll focus exclusively on food.

Modes of Subsistence

Foraging

Modern humans emerged as a species about 300 thousand years ago (kya). Most of that history occurred during the **Paleolithic** (Old Stone Age), which spans from the first Hominin stone tool use (3.3 mya) to the Neolithic revolution (below). During this time, humans were primarily **foragers**, relying on hunting and gathering for sustenance. This subsistence strategy involved collecting wild plant foods and hunting animals. Life expectancy during this time was around 20 to 30 years on average, largely due to high infant mortality rates. However, if individuals survived childhood, they could often live into their 40s or 50s, although this average is likely lowered due to higher infant mortality rate. Generally, early human foragers viewed their environment as reliably providing for their immediate needs and therefore did not seek to create surpluses or over-exploit their resources.

Foraging societies often contain a **division of labor**, where individuals or groups are assigned specific tasks based on abilities, skills, and social status. A gendered division of labor often entails men who hunt and women who gather. However, gender roles are often flexible. Both genders engage in child-rearing, food preparation, and tool-making.

Misconceptions and negative attitudes have long surrounded foraging societies. One misconception is that foraging societies have poor diets consisting of food eaten out of desperation combined with collective hunger. To the contrary, Grey (1841) described an Australian Aboriginal society as having varied diets and abundance of food. Although, his colonial-era observations generalized “an Aboriginal society” despite many distinct groups, and his work doesn't show strong empirical evidence of “abundance.” Another misconception about foragers is that they must work harder to survive than those engaged in agriculture and/or animal breeding (Lowie, 1946). Contrary to these assumptions, Lee (1968, 1969) found that the Ju/'hoansi "Bushmen" of the Kalahari desert survive through hunter-gathering while procuring food only 15 hours per week. Braidwood (1957) belittled foragers by stating that "a man who spends his whole life following animals just to kill them to eat, or moving from one berry patch to another, is really living just like an animal himself" (p. 122). Today, we may recognize foragers in a new light. Their ingenuity and "fiercely egalitarian" being without broad social inequalities found in other cultures are commendable (Sahlins, 1972).

Natufians

The Natufians were an ancient culture that lived in the Levant region around 15,000 to 11,500 years ago. They are known for their shift from a nomadic lifestyle to settled villages, which is one of the earliest examples of such a transition in human history. The Natufians relied on hunting, gathering, and early forms of agriculture, such as harvesting wild cereals. Their settlements included elaborate burial sites, such as one in Palestine containing the grave of a petite, elderly, and disabled woman. The grave's construction and arrangement, along with its exceptional offerings, suggest this was the burial of a potential shaman, making it one of the earliest known shaman burials in the archaeological record (Grosman et al., 2008).

Horticulture and Pastoralism

Around 10,000 years ago, human societies underwent a significant transition from nomadic foraging to horticultural and pastoral lifestyles known as the **Neolithic revolution**. During the **Neolithic** (New Stone Age), agriculture emerged as a more productive subsistence strategy than hunting and gathering, especially during favorable conditions. This allowed farming populations to grow rapidly and sustain themselves over less land. However, agriculture also brought new challenges, such as fears of drought, blight, pests, frost, and famine. Unlike foraging societies, agricultural populations experienced booms and busts in population possibly due to the factors associated with agriculture (Shennan et al., 2013). During the Neolithic era, life expectancy varied widely depending on factors such as region, access to resources, and health care practices. On average, however, life expectancy was likely shorter than in modern times, with estimates ranging from 20 to 40 years. Again, infant mortality rates were high, so individuals who survived childhood could expect to live into their 40s or 50s.

Horticultural societies began cultivating crops like wheat, barley, and rice, leading to more settled communities. These societies relied on simple tools such as digging sticks or hoes and practiced **shifting cultivation**, where plots of land were cultivated for a few years before being abandoned to allow the soil to recover. This method helped maintain soil fertility and reduce the risk of crop failure.

Alongside horticultural societies, **pastoral societies** emerged, relying on the raising and herding of domesticated animals such as cattle, sheep, goats, or camels. Pastoralists often led a nomadic or semi-nomadic lifestyle, moving with their herds to find fresh pasture and water. Some pastoral societies engaged in trade, exchanging animal products for crops or other goods. These shifts marked the beginning of more complex human societies and laid the groundwork for future agricultural advancements.

In horticultural and pastoral societies, the emergence of social hierarchies and specialized roles often leads to a more pronounced division of labor compared to foraging societies. Gender roles in horticultural and pastoral societies can vary widely depending on the specific culture, but they often reflect a gendered division of labor. In many societies, men are typically responsible for activities such as hunting, herding, and warfare, while women are responsible for tasks related to child-rearing, food preparation, and tending to crops and domesticated animals.

Examples of horticultural societies can be found around the world. The Tsembaga Maring of New Guinea practice shifting cultivation, growing crops such as sweet potatoes, taro, and yams. In the Amazon rainforest, the Yanomami people cultivate crops like plantains, cassava, and maize in small garden plots. In Africa, the !Kung San of the Kalahari Desert supplement their diet of wild foods with crops such as melons and tubers.

Similarly, pastoral societies are widespread. The Maasai of East Africa are well-known pastoralists, relying on cattle for their livelihood. They move with their herds across the savannas of Kenya and Tanzania, trading cattle for other goods like grain, cloth, and beads. In Mongolia, the nomadic herders known as the Dukha depend on reindeer for milk, transportation, and hides, moving with their herds through the taiga forests.

Agriculture

The revolutionary introduction of the plow around 5,000 to 6,000 years ago marked a pivotal moment in agricultural history, fundamentally altering farming practices. Concurrently, **terrace farming**, a method utilized in hilly or mountainous regions, gained popularity, further enhancing agricultural productivity. These innovations were instrumental in the establishment of **agricultural societies**, which were characterized by substantial increases in crop cultivation efficiency, larger populations, more settled lifestyles, and the ability to produce surpluses. **Food surplus** is an excess of food production beyond immediate consumption needs. These developments subsequently facilitated the evolution of more intricate social structures.

These advances brought on the **Bronze Age** about 3,000 years ago. The Bronze Age was characterized by the widespread use of bronze, a metal alloy made primarily of copper and tin, which was used to create tools, weapons, and other objects. This period saw significant advancements in metallurgy, as well as the development of complex urban societies, writing systems, and centralized political structures. The Bronze Age also saw the rise of long-distance trade networks, the construction of monumental architecture, and significant surplus. As post-Neolithic societies developed surpluses, another trend developed. The greater the surplus a society produced, the greater the levels of inequality in that society (Kohler et al., 2017).

The shift to settled agricultural communities brought about significant changes in social organization and economic structure. With the establishment of permanent settlements, there was a greater emphasis on controlling and passing down property, including land and livestock. This shift likely led to a greater emphasis on lineage and inheritance, as families sought to ensure the transmission of wealth and resources to future generations.

The regulation of women's sexuality and the establishment of monogamous relationships may have served several purposes here. First, by controlling women's sexuality, communities could more easily determine paternity and lineage, ensuring that property and resources were passed down through legitimate heirs. Second, monogamy may have helped to reduce conflicts over resources and inheritance within communities, as individuals were more likely to have clear and undisputed rights to property and offspring. Additionally, the shift to settled agriculture may have led to a greater emphasis on family units as the basic social and economic unit. Monogamous relationships may have been seen as a way to strengthen and stabilize these family units, promoting cooperation and cohesion within communities ((Engels, 1884/2010; McElvaine, 2001).

Significance of Surplus

1. Agricultural Revolution: Anthropologists examine the transition from foraging societies to agricultural-based societies, marking a significant shift in human subsistence strategies. They analyze the development of agricultural practices, such as plant cultivation and animal domestication, and their impact on human societies.
2. Sedentism and Population Growth: The ability to produce surplus food allowed for the establishment of permanent settlements and sedentary lifestyles. Anthropologists study the consequences of sedentism, including increased population density, the emergence of complex social structures, division of labor, and the rise of urban centers.
3. Social Stratification: With surplus food, social stratification became more pronounced. Anthropologists explore how surplus food created opportunities for accumulation and wealth disparities, leading to the development of social classes, hierarchies, and inequality within societies.
4. Technological Advancements: Surplus food production often drove technological innovations. Anthropologists investigate how the need to enhance agricultural productivity led to the development of tools, irrigation systems, storage techniques, and other technologies that facilitated food production and storage.
5. Trade and Exchange: Surplus food enabled trade and exchange networks to emerge. Anthropologists study the development of long-distance trade routes, the exchange of goods and resources, and the formation of economic systems based on surplus food production.
6. Cultural and Environmental Transformations: The creation of surplus food brought about profound cultural and environmental changes. Anthropologists examine how agricultural practices shaped cultural beliefs, religious practices, artistic expressions, settlement patterns, and the alteration of landscapes through deforestation and land modification.
7. Demographic and Ecological Impacts: Anthropologists assess the demographic impacts of surplus food, such as population growth, increased life expectancy, and changes in birth rates. They also explore the ecological consequences, including the alteration of ecosystems, soil degradation, and shifts in biodiversity.
8. Historical Context and Global Perspectives: Anthropologists take a comparative approach, examining the historical significance of surplus food production across different regions and time periods. They consider the cultural, social, economic, and political factors that influenced the adoption and spread of agricultural practices globally.

Industrial Agriculture

Industrial agriculture, a product of the Industrial Revolution, marked a significant shift in food production methods. The **Industrial Revolution** was a period of profound technological, economic, and social change that began in the late 18th century. Industrial agriculture emerged and expanded rapidly due to advancements in mechanization and technology. The introduction of machinery like tractors and harvesters revolutionized farming practices, increasing efficiency and output.

One of the defining features of industrial agriculture is **intensive cultivation**. This method aims to maximize yields by using large-scale monoculture, where a single crop is grown over extensive areas. This practice requires significant inputs such as fertilizers, pesticides, and herbicides to maintain productivity.

To support intensive cultivation, industrial agriculture relies heavily on irrigation systems. An **irrigation system** is a method used to provide water to plants to help them grow. These systems, including drip irrigation and center pivot irrigation, ensure crops receive adequate water, particularly in areas with unreliable rainfall.

The rise of industrial agriculture has also led to the development of agribusiness and commercial farming. **Agribusinesses** are large corporations that control various aspects of food production, from seed manufacturing to food processing and distribution. One such company is Monsanto, which has been at the center of numerous controversies. One major issue is the production and promotion of genetically modified organisms (GMOs) and related herbicides, such as Roundup. Critics argue that GMOs may have negative health and environmental impacts, and the use of herbicides like Roundup contributes to the development of herbicide-resistant weeds. Additionally, Monsanto has been involved in legal battles over issues such as patent infringement and alleged harm caused by its products (Robin, 2010).

Another hallmark of industrial agriculture is confined animal feeding operations (CAFOs). These facilities house large numbers of animals in confined spaces, often

leading to concerns about animal welfare and environmental impact.

CAFOs are associated with the following problems:

- Decline in family-owned farms.
- Animal cruelty
- Antibiotic resistant germs
- Massive pollution
- Higher rates of illnesses in nearby communities
- Tremendous use of water
- Increased use of fossil fuels and contribution to climate change
- Loss of biodiversity due to monoculture practices
- Displacement of local communities and small-scale farmers
- Concentration of wealth and power in the hands of a few agribusiness corporations
- Challenges related to food security and access for marginalized populations

Overall, industrial agriculture has significantly increased global food production, but it has also raised issues related to environmental sustainability, animal welfare, and the concentration of power in the hands of a few large corporations.

Agriculture and the Environment

Social Problems

Industrial agriculture is a significant driver of **deforestation and habitat loss** worldwide. As forests are cleared to make way for agricultural land, ecosystems are disrupted, leading to the loss of biodiversity and displacement of wildlife. Deforestation also contributes to climate change, as forests play a crucial role in absorbing carbon dioxide from the atmosphere. Sustainable land-use practices and reforestation efforts are essential to mitigate the environmental impacts of agriculture.

Intensive agricultural practices, such as monoculture and excessive tilling, can lead to **soil degradation and erosion**. When soil is exposed to wind and water without adequate vegetation cover, it becomes vulnerable to erosion, which can result in the loss of topsoil and nutrients. Soil degradation can reduce agricultural productivity and degrade water quality. Implementing soil conservation techniques, such as cover cropping and contour plowing, can help mitigate these effects.

The use of pesticides and fertilizers in industrial agriculture can lead to pollution of waterways and soil. Pesticides, in particular, can harm non-target organisms, including beneficial insects and wildlife. Runoff from agricultural fields can carry excess nutrients and chemicals into rivers and lakes, leading to eutrophication and harmful algal blooms. Integrated pest management (IPM) practices and the use of organic farming methods can reduce reliance on chemical inputs and mitigate pollution.

Industrial agriculture is a major contributor to **water scarcity**, as it often relies heavily on irrigation to support crop growth. In many regions, unsustainable irrigation practices have led to the depletion of aquifers and reduced water availability for other uses. Efficient irrigation techniques, such as drip irrigation and precision agriculture, can help conserve water and reduce the environmental impact of agriculture. Additionally, promoting crop varieties that are more drought-resistant can help mitigate the effects of water scarcity on food production.

Livestock farming, particularly of cattle, is a significant source of greenhouse gas emissions, primarily methane and nitrous oxide. These gases contribute to global warming and climate change. The expansion of livestock farming, especially in industrialized systems, has led to deforestation, habitat loss, and increased emissions. Sustainable livestock practices, such as rotational grazing and improved manure management, can help reduce emissions and mitigate the environmental impact of livestock farming. Additionally, shifting towards plant-based diets can reduce the demand for meat and dairy products, further reducing emissions.

Sustainable Agriculture

Sustainable agriculture is an approach to farming that aims to meet the needs of the present without compromising the ability of future generations to meet their own needs. It is based on principles that promote environmental stewardship, economic profitability, and social equity. Sustainable farming practices seek to minimize the use of nonrenewable resources, reduce environmental impact, and enhance the resilience of agricultural systems.

Key principles of sustainable agriculture include soil health, water conservation, biodiversity, and ecosystem resilience. Practices such as crop rotation, cover cropping, and integrated pest management are commonly used to maintain soil fertility, reduce erosion, and minimize the use of synthetic inputs. Sustainable farmers also prioritize animal welfare, using methods such as rotational grazing and mixed cropping to improve soil health and reduce the need for antibiotics and hormones in livestock production.

Organic Farming

Organic farming is an agricultural approach that prioritizes environmental sustainability, biodiversity conservation, and the use of natural inputs. One of its primary strengths lies in its emphasis on avoiding synthetic pesticides, fertilizers, and GMOs, which can have detrimental effects on ecosystems and human health. Instead, organic farmers rely on methods such as crop rotation, composting, and biological pest control to maintain soil fertility and manage pests.

Another strength of organic farming is its focus on animal welfare and the use of sustainable livestock management practices. Organic standards require access to outdoor areas and restrictions on the use of antibiotics and growth hormones in animal production, promoting healthier and more humane farming practices.

However, organic farming also faces several challenges. One notable weakness is its lower productivity compared to conventional farming methods. Without the use of synthetic fertilizers and pesticides, organic farmers may experience lower yields and higher production costs. Additionally, the transition to organic farming can be financially and logistically challenging for farmers, particularly those accustomed to conventional practices.

Furthermore, the organic label has faced criticism for its ambiguity and lack of consistency in standards enforcement. Variations in organic certification criteria across regions and countries can lead to confusion among consumers and undermine the credibility of the organic label. Additionally, organic farming may not always be feasible or practical in certain environments or agricultural systems, posing limitations on its widespread adoption.

Despite these challenges, organic farming continues to grow in popularity as consumers increasingly prioritize sustainability and environmental stewardship in their food choices. By addressing its weaknesses and building on its strengths, organic farming has the potential to play a significant role in creating more resilient and sustainable food systems.

Food and Cultural Identity

Food is not just sustenance; it is a cultural symbol that reflects a society's values, beliefs, and traditions. Across cultures, food plays a central role in rituals, ceremonies, and celebrations, serving as a way to connect with one's heritage and community. For example, in many cultures, certain dishes are prepared during religious holidays or festivals, reinforcing cultural bonds and transmitting culinary traditions across generations.

Culinary traditions are integral to cultural identity, shaping how individuals and communities perceive themselves and others. These traditions encompass not only the ingredients and techniques used in cooking, but also the social practices and rituals surrounding food preparation and consumption. Through food, people express their cultural heritage and establish a sense of belonging and continuity with the past.

Food taboos and dietary restrictions are also significant aspects of cultural identity, often influenced by cultural and religious beliefs. A **food taboo** is a social or religious custom prohibiting the consumption of certain foods. For example, in some cultures, certain foods are considered sacred or forbidden, while in others, dietary restrictions are followed to maintain spiritual purity or health. These taboos and restrictions not only reflect cultural values, but also contribute to the formation of cultural identity.

Subcultures within society, such as "foodies" and vegans, also play a role in shaping cultural identity through food. Foodies, enthusiasts who are passionate about gourmet food and culinary experiences, form communities around their shared interest in exploring and celebrating food. Similarly, vegans, who abstain from consuming animal products, often do so as a reflection of their ethical beliefs and identity, aligning their dietary choices with their values.

Food is deeply intertwined with cultural identity, serving as a powerful symbol of heritage, tradition, and community. Through culinary traditions, food taboos, and dietary practices, individuals and communities express their cultural values and beliefs, forging connections with their past and shaping their identity in the present.

Food Distribution and Exchange

Food distribution and exchange are fundamental aspects of human societies, reflecting cultural values, social organization, and economic systems. Different modes of food distribution, including reciprocity, redistribution, and market exchange, shape how food is acquired, shared, and consumed within a society.

Reciprocity is a form of exchange where goods or services are exchanged with the expectation of future return. In many traditional societies, reciprocity is a key mechanism for distributing food, ensuring that individuals and communities have access to resources they need.

Redistribution involves the collection of goods or resources by a central authority, who then redistributes them among society members. This mode of distribution is often seen in hierarchical societies or chiefdoms, where leaders control the distribution of food as a means of maintaining social order and solidarity.

Market exchange is based on the principles of supply and demand, where goods are bought and sold at a price determined by market forces. In modern societies, market exchange is the dominant mode of food distribution, shaping how food is produced, distributed, and consumed on a global scale.

Cultural systems of exchange, such as gift-giving, potlatch, and barter, also play a role in food distribution. These practices are not just economic transactions, but also social and cultural rituals that reinforce social ties and status within a community.

The implications of food distribution systems for social organization and inequality are profound. In societies where food is distributed based on reciprocity or redistribution, social relationships and hierarchies are reinforced, contributing to social cohesion or inequality. In contrast, market-based food distribution systems can lead to disparities in access to food, resulting in food insecurity and social inequalities.

Food deserts and food swamps are modern phenomena that highlight the unequal distribution of food within communities. **Food deserts** are areas where access to fresh, healthy food is limited, often due to a lack of grocery stores or transportation. Similarly, **food swamps** are areas where unhealthy, processed foods are more readily available than nutritious options, contributing to health disparities and obesity.

Challenges to traditional subsistence practices, such as land degradation, climate change, and globalization, also impact food distribution and exchange. These challenges require innovative approaches to food distribution and exchange that are sustainable, equitable, and culturally sensitive.

Chapter 14 Study Guide

1. Define subsistence.
2. Distinguish between the Paleolithic, Neolithic, and Bronze Age.
3. Distinguish between foraging, horticultural, pastoral, and agricultural societies.
4. Define the division of labor.
5. Distinguish between shifting cultivation, terrace farming, and intensive cultivation.
6. Define food surplus.
7. Explain the connection between the Industrial Revolution and industrial agriculture.
8. Explain what an irrigation system is.
9. Define agribusiness.
10. Explain what a confined animal feeding operation is.
11. Explain social problems related to industrial agriculture, including deforestation, soil degradation, and water scarcity.

2. Explain what sustainable agriculture and organic farming are.
3. Explain what a food taboo is.
4. Identify forms of food exchange, including reciprocity, redistribution, market exchange, and cultural systems of exchange.
5. Distinguish between food deserts and food swamps.

This page titled 14: Subsistence is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

15: Social Organization

Foundations of Social Organization

This chapter explores how human societies are organized. We'll focus on three key aspects: 1) kinship, which defines family and community relationships, 2) political economy, which involves how societies manage power, authority, and economic resources, and 3) how these processes are influenced by globalization.

Within the framework of social organization, cultural norms and values are pivotal. They shape the categorization of individuals into different social statuses, encompassing economic and societal roles. A **status** is a position within a social system that is characterized by certain rights, duties, and expectations. These statuses are not equal; instead, they form a **hierarchy**, a system of ranking individuals or groups based on social importance, power, or prestige. This hierarchy reflects the distribution of power, privilege, and resources within a society. By examining these dynamics, we gain a deeper understanding of how societies organize themselves and the complex interactions that define social life.

Kinship

Kinship and Family Structures

Kinship is the system of social relationships that form the basis of society, defining the bonds between individuals through blood, marriage, or adoption. It encompasses the roles, obligations, and expectations that individuals have towards one another within a social group. Kinship plays a fundamental role in organizing societies, as it establishes the framework for family and community relationships.

Family structures vary widely across cultures, but they can generally be categorized into several types. The **nuclear family**, consisting of parents and their children, is a common form found in many societies. **Extended families**, which include relatives beyond the nuclear family, such as grandparents, aunts, uncles, and cousins, are also prevalent in many cultures. Other variations include **joint families**, where multiple generations live together

These variations in family structures reflect cultural norms and values, as well as historical and economic factors. For example, in some cultures, the extended family is the primary unit of social organization, providing support and security for its members. In others, the nuclear family is more common, reflecting a shift towards individualism and mobility. Understanding these variations is crucial for appreciating the diversity of human societies and how they organize themselves.

Marriage Practices and Rituals

Marriage is a socially recognized union between individuals that establishes rights and obligations between them, as well as between them and their children, and in-laws. Marriage encompasses various forms, notably arranged and love marriages. **Arranged marriages** involve families or community leaders selecting spouses, contrasting with **love marriages,** where individuals choose their partners. In the United States, there's a cultural inclination towards arranged marriage. Arranged marriages have also given rise to practices like dowries and bride prices. A **dowry** is payment from the bride's family to the groom's, while a **bride price** is the reverse. These payments are often based on the families' class backgrounds and the perceived economic value of the bride. Notably, dowries and bride prices can occur in both arranged and love marriages (Randeria & Visaria, 1984).

One common cultural practice is the **incest taboo**, which prohibits sexual relations between close relatives. This taboo is nearly universal and plays a crucial role in defining kinship and family structures. In addition to the incest taboo, there is significant diversity in marriage systems. These systems include **monogamy**, where individuals have only one spouse, and **polygamy**, where an individual has multiple spouses. **Polygyny**, practiced by some Mormon Christians and Muslims in Francophone sub-Saharan African countries, is when one husband has multiple wives (Farrell et al., 2014). **Polyandry**, observed in societies of the Himalayas and the Marquesas Islands, is when one wife has multiple husbands (Peter, 1963; Starkweather & Hames, 2012).

Parallel cousin marriage and cross cousin marriage are forms of marriage that are distinguished by the relationship of the cousins involved. In **parallel cousin marriage**, individuals marry the children of their parents' same-sex siblings (i.e., the children of their father's brother or mother's sister). In contrast, **cross cousin marriage** involves marrying the children of their parents' opposite-sex siblings (i.e., the children of their father's sister or mother's brother). These forms of marriage have different social and cultural implications, with cross cousin marriage often serving to strengthen kinship ties and alliances between families, while parallel cousin marriage may have different social meanings and implications.

Pantagamy, also known as group marriage, is a form of marital arrangement where all members of the group are married to each other. In pantagamous relationships, all men are married to all women, and vice versa, creating a complex network of spousal relationships within the group. This practice, although rare, represents a unique approach to marriage, emphasizing a communal bond and shared commitment among all members involved. Examples include the Oneida community and the Kerista Commune (Sill, 1990). **Polyamory**, or "multiple loves," allows individuals to have romantic relationships with multiple partners, all of whom may also have multiple romantic relationships. This practice involves consensual agreements among all parties and differs from cheating, as everyone is aware and consents (Dryden, 2015). However, polyamorous relationships lack the legal protections afforded to those in monogamous relationships.

Marriage rituals and ceremonies are central to the institution of marriage in many societies. These rituals often symbolize the union of two individuals and their families, and they can vary widely in complexity and significance. Additionally, gender often plays a role in determining where a married couple will live. In **matrilocal** societies, married couples reside near the woman's family. The Hopi people, who live on the Hopi Reservation in northeastern Arizona, are an example of a matrilocal society (Eggan, 1950). In contrast, **patrilocal** societies are those in which married couples reside near the man's family. Most West African societies are patrilocal (Okonjo, 1976). Cultures that practice **neolocal** residence patterns consist of married people establishing a new residence, regardless of where their families live. Understanding the diversity of marriage practices and rituals provides insights into the cultural values and social dynamics of different societies.

Gender Roles, Socialization, and Family Dynamics

Gender roles within kinship-based units are the societal expectations regarding behaviors, attitudes, and activities deemed appropriate for individuals based on their gender within family structures. These roles often dictate the division of labor, decision-making authority, and responsibilities within the family.

They are learned through **socialization** processes, which are how individuals acquire the values, norms, and behaviors of their culture or society. Socialization within families is a key aspect of this process, as parents, siblings, and other family members impart these norms and values to children, shaping their understanding of gender roles and other social expectations.

Power dynamics within families can influence gender roles and socialization processes. **Power dynamics** refer to the distribution of power and authority within the family unit, which can impact decision-making, access to resources, and overall family dynamics. In some cases, power imbalances can lead to family violence, which encompasses various forms of abuse, including physical, emotional, and sexual abuse. Understanding these dynamics is essential for addressing issues of gender inequality, promoting healthy family relationships, and fostering positive socialization processes within families.

Intimate partner violence is a problem documented around the world. It often occurs in a cycle, as described by Walker (1979), consisting of several phases. In the **tension building phase**, there is increasing stress about day-to-day life, and the victim often feels like they are "walking on eggshells" to avoid triggering the abuser. This is followed by an **acute explosion**, which is the incident of violence, which may be physical, sexual, and/or emotional. Following the incident is often a **honeymoon phase**, in which the abuser feels remorseful, apologizes, and may shower the victim with gifts or promises that it will never happen again. This honeymoon phase is often followed by a calm period that leads again to the tension building phase. While not all relationships with intimate partner abuse follow this cycle, it is quite common. Some people do not experience a cycle at all and, instead, experience constant, unending abuse.

Spousal rape, also known as marital rape, is a form of sexual violence that occurs within a marriage or intimate relationship. It is characterized by non-consensual sexual acts forced upon a spouse or partner. Historically, spousal rape was not recognized as a crime in many jurisdictions, as marriage was often seen as implying consent to sexual activity. However, laws criminalizing spousal rape have been enacted in many countries, including the United States, recognizing that consent must be freely given, regardless of marital status. This was only outlawed in the United States in 1993.

Lineage Systems and Inheritance

Genealogy is the study of family history and descent, tracing the lineage of individuals and families through generations. Lineage systems, such as **matrilineal** and **patrilineal** systems, determine kinship and inheritance through either the mother's or father's line, respectively. **Ambilineal** systems allow for inheritance through either line, while **bilateral systems** recognize descent through both parents equally.

Inheritance is the process by which property, titles, and obligations are passed down from one generation to another. It is a fundamental aspect of social organization and can vary significantly across cultures. In some societies, inheritance is governed by strict rules that dictate how assets are distributed among heirs based on factors such as kinship ties, gender, and birth order. In other cultures, particularly those with communal or collective property systems, inheritance may not play a significant role, as resources are shared among community members rather than being passed down through familial lines.

Nepotism, the favoritism shown to family members in various aspects of life, including employment and resource allocation, can be influenced by lineage systems and inheritance practices. In cultures where family ties are prioritized, nepotism may be more prevalent, leading to social and economic advantages for individuals based on their family connections. Understanding these practices and their cultural implications is essential for comprehending the complexities of kinship and family structures in different societies.

Political Economy

In this section, we'll explore the connection between politics and economics. We'll discuss various forms of political organization, power and leadership styles, decision-making processes, political systems, the history of currency, and types of economies.

Forms of Political Organization

Forms of political organization vary widely across societies and can be broadly categorized into bands, tribes, chiefdoms, and states (Service, 1962). **Bands** are small, kinship-based groups of hunter-gatherers who are typically mobile and egalitarian, with leadership based on qualities such as age, skill, or knowledge. **Tribes** are larger and more sedentary than bands, often based on kinship ties and sharing a common language and culture. They may have informal leadership or a chief, but decision-making is often collective.

Chiefdoms are characterized by centralized leadership, usually hereditary and a hierarchical social structure. They are larger and more complex than tribes, with clear social classes and centralized authority. **States** are the most complex form of political organization, with a centralized government, defined borders, and a bureaucracy. They have formal institutions for law-making, taxation, and maintaining order.

Each form of political organization has its own strengths and weaknesses, and they can evolve over time in response to internal and external pressures. Understanding these forms of political organization helps us grasp the diversity of human societies and the complexity of their political systems.

Empires are large political systems in which a central government controls territories and diverse populations, often through military power, economic dominance, or political authority. Empires typically expand beyond a single cultural or ethnic group and maintain hierarchical relationships between the ruling center and conquered regions. The Spanish Empire was an empire in which Spain controlled vast territories across the Americas, Europe, Africa, and Asia through military conquest, colonization, and centralized political authority.

Colonization is the process by which one society establishes political control over another territory and its people, often involving settlement, economic exploitation, and cultural change. When Spain colonized Mexico, Spanish authorities and missionaries worked to convert local peoples to Christianity. When the Spanish conquered the Purépecha, they used violence and coercion to establish control. The Purépecha leader Tangáxuan II initially attempted to cooperate with the Spanish, but he was later executed by them. Shortly afterward, the Spanish sent Vasco de Quiroga, who became known for advocating for and protecting the Purépecha.

While Tangáxuan II died before the arrival of Vasco de Quiroga, a statue in the town of Quiroga depicts Vasco de Quiroga alongside a kneeling Purépecha figure that may represent Tangáxuan II symbolically, or perhaps another unnamed Purépecha individual. The image of the kneeling figure before Quiroga can be interpreted in multiple ways: as a symbol of gratitude for the protection and advocacy Quiroga later offered the Purépecha people, while also reflecting submission to Spanish colonial authority and Christianity.



Photo taken by jeffrey mccully in Quiroga, Michoacán, Mexico on February 17, 2026.

In their efforts to convert the Purépecha people to Christianity, the Spanish often built churches on or near the sites of former Purépecha temples. These churches sometimes incorporated sacred Purépecha design elements so that the spaces would be recognizable as sacred, which helped ease and encourage conversion. The church in the town of Sevina incorporates Purépecha design elements, including circular reliefs that draw on pre-Hispanic carving traditions.



Photo taken by jeffrey mccully in Sevina, Michoacán, Mexico on February 15, 2026.

Power Dynamics and Leadership

Leadership can take on various forms, each with its own characteristics and styles. **Expressive leaders** focus on maintaining group harmony and cohesion, often emphasizing the emotional well-being of group members. In contrast, **instrumental leaders** prioritize task accomplishment and efficiency, focusing on goal achievement. **Bureaucratic leaders** adhere strictly to established rules and procedures, ensuring consistency and fairness in decision-making. **Charismatic leaders** inspire and motivate others through their charisma and vision, often gaining followers through their dynamic personality and persuasive abilities. **Transformational leaders** focus on inspiring and empowering followers to achieve common goals, often bringing about significant changes within organizations or societies. These various leadership types highlight the diverse approaches and strategies that leaders can employ to influence and guide others (Weber & Rheinstein, 1954).

Authority and legitimacy are key concepts in understanding political systems. **Authority** refers to the right to exercise power, while **legitimacy** is the belief that the

exercise of power is rightful and appropriate. Different societies may legitimize authority in various ways, such as through tradition, charisma, legality, or coercion. Understanding these dynamics helps us analyze how power is distributed and maintained in different societies.

Decision-Making Processes

Decision-making processes within political systems are influenced by a variety of factors, including tradition, culture, and social norms. **Traditional decision-making** methods often rely on established customs, rituals, or hierarchies to guide the decision-making process. These methods may prioritize the input of elders or other respected members of the community, reflecting respect for authority and experience.

Consensus-building and conflict resolution are also important aspects of decision-making in many societies. **Consensus-building** involves seeking agreement among group members through discussion and negotiation, often aiming for a decision acceptable to all parties. **Conflict resolution**, on the other hand, is the process of addressing conflicts and disputes in a peaceful manner. Strategies for conflict resolution may include mediation, arbitration, or other methods aimed at finding mutually acceptable solutions. Understanding these processes is essential for effective decision-making and maintaining social cohesion within communities.

Culture, social norms, and values play a significant role in shaping decision-making processes. Cultural beliefs and values can influence the priorities and goals of decision-makers, as well as the methods used to reach decisions. Social norms, such as expectations regarding behavior and interaction, can also impact decision-making by shaping the way individuals communicate and collaborate. Understanding these influences is crucial for understanding how decisions are made within different political systems and societies.

History of Currency

The history of currency traces back to the origins of human civilization when people began exchanging goods and services through barter. In **barter** systems, goods were directly exchanged for other goods without a standardized medium of exchange. However, barter had limitations, such as the lack of a common measure of value and the difficulty of making change. To address these issues, early forms of currency emerged, such as shells, beads, and other valuable items that were widely accepted as a medium of exchange.

The development of coinage marked a significant advancement in the history of currency. Coins were standardized units of metal, usually precious metals like gold or silver, that were minted by governments or other authorities. Coins helped facilitate trade by providing a consistent and widely accepted medium of exchange. Coinage also allowed for the development of monetary systems, including the establishment of currency values and the regulation of coinage (Shaw, 1967).

Over time, currency evolved further, with the introduction of paper money, checks, and digital forms of payment. These developments have made transactions more efficient and have contributed to the growth of complex economies. The history of currency reflects the evolution of human societies and their economic systems, highlighting the importance of currency as a medium of exchange and a store of value.

Forms of Economies

Market-based economies are prevalent globally, characterized by the exchange of goods and services through markets where prices are determined by supply and demand. **Capitalism**, a dominant economic system in market economies, emphasizes private ownership of the means of production and the pursuit of profit. Capitalism encourages competition and innovation, leading to economic growth and prosperity.

According to a Marxist analysis of production, capitalism offers a unique form of human exploitation (Marx & Engels, 2008). Humans are a species that constantly modifies the environment through creativity, labor, and toolmaking. Humans build shelters, make clothing, shape landscapes, invent technologies, and produce food. Through labor, humans transform nature into useful goods. In order for societies to survive, people must produce not only enough for their own immediate subsistence, but often additional goods and resources, or surplus, to support children, elders, periods of scarcity, and broader social life. Marxists are particularly interested in how this surplus is produced, who controls it, and how it is distributed within society.

To understand Marx's critique of capitalism, we have to go all the way back to many small-scale foraging bands of people, whose surplus was limited and often distributed communally through kinship and reciprocity rather than concentrated in the hands of a ruling class. Marxists sometimes refer to this early condition as primitive communism because property ownership and class divisions were relatively weak compared to later societies. Over time, however, more stratified systems emerged in which one group controlled the labor of another group.

Under slavery, one person legally owned another person and directly controlled their labor. Enslaved people produced both what was necessary for their own survival and additional surplus labor that was appropriated by enslavers. Marxists view slavery as an inherently exploitative system because one class extracted labor and wealth from another through direct ownership and coercion.

Feudal and tributary systems developed different forms of exploitation. In medieval European feudalism, peasants were not usually owned as slaves, but they were still required to provide labor, crops, rents, or taxes to lords and rulers. In many feudal systems, peasants worked part of their time producing for their own subsistence and part of their time fulfilling obligations to elites. Religious institutions and political authorities often reinforced this social structure. Although peasants had more autonomy than enslaved people, Marxists argue that exploitation still existed because elites appropriated the surplus labor of the peasantry.

Capitalism introduced a new form of exploitation. Under capitalism, workers are legally free individuals rather than slaves or serfs. However, workers generally do not own the *means of production*, such as factories, machinery, or large amounts of land. Instead, workers must sell their labor power to employers in exchange for wages. According to Marx, exploitation occurs because workers produce more value during the workday than they receive back in wages. For example, a worker may be paid $100 for a day's labor while producing goods worth substantially more than that amount. The remaining value becomes profit for the capitalist. Marx referred to this difference between the value workers produce and the wages they receive as surplus value.

Marx argued that capitalism differs from earlier systems because exploitation is less visible. Under slavery and feudalism, domination was often direct and obvious. Under capitalism, exploitation is mediated through wage labor and markets. Workers appear free because they can choose employers and sell their labor voluntarily. However, Marx argued that workers are still compelled to participate in the system because they lack independent access to the resources necessary for survival. As a result, capitalism creates both freedom and insecurity. Unlike peasants tied to land under feudalism, workers under capitalism must continually compete for employment and adapt to changing market conditions. Employment, wages, and economic stability become uncertain, creating instability that is characteristic of

capitalist economies.

Cultural variations in capitalist practices and ideologies exist, with different societies placing varying emphasis on individualism, free markets, and government intervention. For example, the laissez-faire approach in the United States contrasts with the more interventionist policies in European countries.

Socialist and communist economic systems, in contrast to capitalism, advocate for collective or state ownership of the means of production. **Socialism** aims to reduce income inequality and provide social welfare through state intervention in the economy. **Communism**, a more extreme form of socialism, seeks to create a classless, stateless society where all property is owned communally.

State-controlled economies, where the government plays a significant role in economic planning and resource allocation, have cultural and social implications. These economies can lead to greater equality, but may also stifle innovation and individual initiative.

Hybrid economic systems combine elements of market-based and state-controlled economies. For example, many Western countries have mixed economies, where the government plays a role in regulating markets and providing social welfare programs, while also allowing for private enterprise and market competition. These systems seek to balance the benefits of market efficiency with the goals of social equity and stability.

Globalization

Globalization is the process of increased interconnectedness and interdependence among countries, economies, and cultures around the world. It involves the exchange of goods, services, ideas, and information across borders, leading to greater integration and interaction among people and nations.

Culture Change in the Globalized World

In the globalized world, cultural change and transformation are accelerated by various processes. One such process is the spread of ideas, values, and practices through increased interconnectedness and communication. This can lead to the blending of cultures, known as hybridization, where elements of different cultures merge to create new cultural forms and expressions.

Multinational corporations play a significant role in cultural change through their global reach and influence. They often promote standardized products and lifestyles, which can lead to the homogenization of cultures. Additionally, multinational corporations can impact local cultures through their business practices, such as marketing strategies and labor practices. Multinational corporations often play a part in **biopiracy**, or the stealing of local knowledge about the biosphere to generate profit (Rural Advancement Foundation International, 1993). For instance, people in Central and South America cultivated the cotton to have naturally occurring pigments. Then, major companies took those cotton plants and started making a lot of money off them. The people who created the colored cotton were not compensated.

Cultural commodification is the process of turning cultural practices, symbols, and artifacts into commodities for commercial purposes. This can have both positive and negative implications, as it can help preserve cultural heritage and generate economic benefits, but can also lead to the exploitation and misrepresentation of cultures for profit.

Migration and Transnationalism

Migration and transnationalism have profound effects on cultural practices and identities. As people move across borders, they bring their traditions, languages, and beliefs, enriching the cultural tapestry of both their host and home countries. However, migration can also lead to cultural challenges, as individuals and communities navigate between preserving their heritage and assimilating into new cultures.

Transnational communities are formed by migrants who maintain strong social, economic, and cultural ties with their countries of origin. These communities often exhibit complex cultural dynamics, blending elements of their home and host cultures. Through transnationalism, individuals and communities maintain a sense of belonging and connection across borders, shaping their identities in unique ways.

Diasporic identities emerge among communities forced to leave their homelands due to conflict, persecution, or other reasons. These communities often face challenges in preserving their cultural practices and identities while adapting to new environments. For example, the Palestinian diaspora, created when Israel declared sovereignty over Palestine, has led to the dispersal of millions of Palestinians across the globe, resulting in the preservation of Palestinian cultural heritage and the creation of vibrant diasporic communities.

Cultural Resistance and Adaptation

Cultural resistance against globalization takes various forms, including efforts to preserve traditional practices, languages, and belief systems in the face of cultural homogenization. This resistance can manifest in movements that seek to protect local knowledge, promote local economies, or resist the influence of global media and consumer culture.

Cultural revitalization movements aim to revive and reclaim cultural practices and identities that have been marginalized or threatened by globalization. These movements often focus on promoting cultural pride, reclaiming ancestral traditions, and challenging dominant narratives that marginalize certain cultural groups.

Creative adaptations and cultural innovations are responses to globalization that involve the reinterpretation and recontextualization of traditional practices in contemporary contexts. This can include the fusion of traditional and modern elements in art, music, fashion, and cuisine, as well as the use of new technologies to preserve and transmit cultural knowledge.

Chapter 15 Study Guide

1. Define status and hierarchy.
2. Define kinship, and distinguish between nuclear, extended, and joint families
3. Define marriage, and distinguish between arranged and love marriages.
4. Distinguish between dowry and bride price.
5. Define the incest taboo.
6. Distinguish between monogamy, polygamy (including polygyny and polyandry), cousin marriage (including parallel and cross), pantagamy, and polyamory.
7. Distinguish between matrilocal, patrilocal, and neolocal residence patterns.
8. Define gender roles and socialization.
9. Define power dynamics.
10. Identify the stages in the cycle of intimate partner violence.
11. Define spousal rape, including when it was outlawed in the United States.
12. Define genealogy.
13. Distinguish between matrilineal, patrilineal, ambilineal, and bilateral descent.
14. Define inheritance and nepotism.
15. Distinguish between the forms of political organization, including bands, tribes, chiefdoms, and states.
16. Distinguish between the forms of leadership, including expressive, instrumental, bureaucratic, charismatic, and transformational leaders.
17. Distinguish between authority and legitimacy.
18. Distinguish between traditional decision making processes and consensus building.
19. Define conflict resolution.
20. Distinguish between bartering and coin/paper currency.
21. Define market based economies, and distinguish between capitalism, socialism, and communism.
22. Define state-controlled economies.
23. Explore issues related to globalization, including multinational corporations, biopiracy, cultural commodification, transnational communities, diasporic identities, cultural revitalization movements, as well as creative adaptations and cultural innovations.

This page titled 15: Social Organization is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

16: Rituals Religion and Expressive Culture

Ritual

A **ritual** is a symbolic action or set of actions performed in a prescribed manner, often with deep cultural or religious significance. Rituals can be formal or informal, ranging from everyday practices like greeting rituals to complex ceremonies like religious rites or initiation rituals. They play a crucial role in shaping social bonds, conveying cultural values, and marking important transitions or events in human life.

Kinship-Related Rituals

In a previous chapter, we broadly explored kinship. Now, let's examine some kinship-based rituals. One of the first rituals we encounter is a birthing ritual that celebrates the arrival of a new member into the community. It often involves ceremonies, prayers, and the bestowing of a name that carries cultural and familial significance. For example, among the Yoruba people of Nigeria, naming ceremonies, known as "Isomoloruko," are elaborate events where the child is officially named and blessed by elders (Rasak, 2010).

Another significant ritual is genital cutting.

- Vaginal/Clitoral Mutilation: Also known as female genital mutilation (FGM) or female circumcision, this ritual involves the partial removal of the clitoris and other external genitalia. It is practiced in some cultures as a rite of passage into womanhood. However, it is important to note that this practice is widely condemned for its harmful effects on women's health and well-being (Shell-Duncan & Hernlund, 2000).
- Penis Foreskin Circumcision: This ritual involves the removal of the foreskin of the penis and is practiced in many cultures and religions around the world. It can symbolize purity, identity, or initiation into manhood. For example, in Judaism, male circumcision, known as "Brit Milah," is a significant ritual performed on male infants as a covenant with God. While some critics argue that it is a form of unnecessary genital alteration, it is important to note that foreskin circumcision is not widely condemned and is considered a normative practice in many societies for cultural, religious, and health reasons (Goldman, 1997).

A coming-of-age ritual is one in which a young individual transitions from childhood to adulthood, often marked by significant ceremonies and celebrations. In Latin American cultures, a notable example is the quinceañera, a traditional celebration for girls turning 15. The quinceañera is a festive event that typically includes a religious ceremony, a formal reception, and symbolic gestures highlighting the young woman's maturity and readiness for adult responsibilities. Community members often sponsor items such as the honoree's earrings, shoes, and other accessories, which not only contribute to the celebration, but also help foster a sense of community and support (Cantú, 1999).

Marriage rituals vary widely, but all signify the union of two individuals and their families. These rituals often include ceremonies, vows, and symbolic gestures, such as the exchange of rings. For example, in Hindu weddings, the "Saptapadi" or seven steps taken together around a sacred fire symbolize the couple's journey through life together (Patyal, 1976).

Lastly, death and burial rituals vary greatly across cultures, but often involve ceremonies, prayers, and rituals to honor the deceased and guide their spirit to the afterlife. For instance, in Tibetan Buddhist traditions, "Sky Burials" involve placing the deceased on a mountaintop to be exposed to the elements and consumed by birds, seen as a way of returning the body to the cycle of life (Martin, 1996).

Religion

Studying Religion

Religion is a complex and multifaceted cultural phenomenon involving beliefs, practices, and rituals that often revolve around the divine, spiritual, or transcendent. Defining religion in a concise manner is challenging due to its diverse manifestations across different cultures and historical contexts. Scholars debate whether religion should be defined in terms of beliefs, rituals, ethical teachings, or a combination. Some argue that defining religion is limiting, as it may overlook non-traditional or marginalized expressions, advocating for a broad, inclusive approach to studying religion that recognizes its diversity.

One of the key methods used in the study of religion is the **comparative method in religious studies**, which involves comparing and contrasting different religious traditions to identify similarities, differences, and patterns of belief and practice. This approach allows scholars to gain insights into the universal aspects of religion, as well as the unique features of specific traditions. The comparative method can help researchers understand how religious beliefs and practices are shaped by cultural, historical, and social factors.

In the study of religion, the ethnographic method is often used to gain a deep understanding of religious beliefs and practices within a specific cultural context. **Ethnographic research** involves immersing oneself in the culture being studied, often through fieldwork and participant observation. This approach allows researchers to observe religious rituals and ceremonies firsthand, interview practitioners, and gain insight into the meaning and significance of religious beliefs and practices in the lives of individuals and communities.

A holistic approach is central to the ethnographic method in the study of religion. Holism refers to the idea that religious beliefs and practices are interconnected with other aspects of culture, society, and individual experience. By adopting a holistic perspective, scholars aim to understand how religion intersects with various aspects of human life, including politics, economics, kinship, and identity. This approach recognizes that religion is not a separate or isolated phenomenon, but is intertwined with broader social, cultural, and historical contexts.

Misunderstood Terms

A **cult**, often referred to as a new religious movement (NRM), is a religious or spiritual group that has emerged relatively recently and is often characterized by novel or unorthodox beliefs and practices. Cults may be seen as deviating from mainstream religious traditions and may face scrutiny or controversy. It's important to note the term "cult" can carry negative connotations and is sometimes used pejoratively. It's also worth noting that all religions were, at some point in their history, new religious movements or cults, as they emerged and developed their beliefs, practices, and followers over time.

Colloquially, the term myth is often used to describe a story that is untrue or fabricated. However, in the field of anthropology and religious studies, the term is used in a different context. In this context, a **myth** is a traditional narrative that is considered sacred or culturally significant within a particular society. Myths may not be literally true in a historical or scientific sense, but they are seen as conveying important truths or insights about the nature of the world, human existence, and the divine. Anthropologists study myths to understand the cultural beliefs, values, and practices of a society, and how these are transmitted and maintained over time.

Perspectives on Supernaturalism

Supernaturalism is a belief system that posits the existence of supernatural forces, entities, or phenomena that transcend the natural world. These can include ghosts, spirits, gods, energies, and so on.

Animism is a belief system that attributes spiritual or supernatural qualities to natural phenomena, such as plants, animals, rocks, rivers, and other elements of the natural world. Animistic beliefs often involve the idea that these natural entities possess souls, spirits, or consciousness and can interact with humans and influence events in the world.

Cosmology refers to the beliefs and myths that a culture or religious tradition holds about the origin, structure, and nature of the universe. The Maya of Central America have a creation myth involving spiritual beings creating humans first out of mud, then wood, then (finally) corn dough. The Hopi people of North America have a creation myth involving the Spider Grandmother who weaves the world into existence. In Boshongo mythology (of Central Africa), the universe is created by the god Bumba vomiting the sun, moon, and stars, followed by various animals and eventually humans.

Totemism is a belief system in which humans are believed to have a spiritual connection or kinship with a specific animal, plant, or natural object, known as a totem. Totemism is characterized by rituals, ceremonies, and taboos related to the totem. The totem is believed to embody or represent a particular group of people, such as a family, clan, or tribe, and is often used as a symbol of unity, identity, and protection. Totemism is also linked to the idea of a totemic ancestor, a mythical being or figure from which the group is believed to descend.

Ancestor veneration is a religious or cultural practice that involves honoring and revering deceased ancestors. This practice is common in many societies around the world and is based on the belief that the spirits of the dead continue to exist and can influence the lives of the living. Ancestor veneration may involve rituals, ceremonies, offerings, and prayers aimed at showing respect and gratitude toward ancestors, seeking their guidance and protection, and maintaining a connection with them across generations. Ancestor veneration is often seen as a way to ensure the well-being and prosperity of the living and to uphold family or community bonds.

Theisms

Theism is the belief in the existence of one or more gods or divine beings. It is a central concept in many religions where gods are believed to be actively involved in the world and in human affairs. There are various ways to think about theism.

Nontheism is a broad category that includes any belief system or philosophical position that does not affirm the existence of gods or other deities. Examples of nontheistic religions include Buddhism and Jainism, which focus more on spiritual enlightenment, ethical living, and the nature of existence rather than worship of gods.

Atheism is the lack of belief in the existence of gods or deities. Atheists can be divided into non-religious and religious atheists. Generally, atheists do not adhere to any religious doctrine or practice. Religious atheists, however, may be members of organized religions or follow spiritual practices that do not involve belief in gods, such as the Satanic Temple. The Satanic Temple is a nontheistic religion whose members are atheists and thus do not believe in any supernatural beings (including Satan).

Polytheism is a religious belief system that acknowledges and worships multiple gods or deities. In polytheistic traditions, these gods often have distinct personalities, roles, and domains of influence. Examples of polytheistic religions include ancient Greek religion, which worshiped gods like Zeus, Hera, and Athena; ancient Egyptian religion, which revered deities like Ra, Isis, and Osiris; and Hinduism, which recognizes a vast pantheon of gods and goddesses, including Brahma, Vishnu, Shiva, and Durga.

The Abrahamic religions, including Judaism, Christianity, Islam and others, emerged from a polytheistic oral tradition. **Oral tradition** refers to the transmission of cultural knowledge, beliefs, and practices through spoken stories, songs, and rituals, rather than through written texts. In the polytheistic oral traditions that preceded the Abrahamic religions, various deities were worshiped, often associated with natural forces, celestial bodies, or aspects of human life. In the case of the early Israelites, the chief deity was Yahweh, who later became the central figure in Judaism. Other deities associated with this tradition include:

- El: A chief god in the Canaanite and early Israelite pantheon, often associated with creation and fertility.
- Baal: A Canaanite god of storms, fertility, and agriculture, often portrayed in conflict with Yahweh in the Hebrew Bible.
- Asherah: A goddess of fertility and motherhood, sometimes depicted as the consort of El or Yahweh in ancient Near Eastern religions.

These deities were part of a complex pantheon that reflected the polytheistic beliefs of the ancient Israelites and other peoples in the region before the development of monotheistic Judaism.

Monotheism is a religious belief system that asserts the existence of only one god or deity. In monotheistic religions, this single god is typically viewed as the creator and ruler of the universe, possessing supreme moral and spiritual authority. The Abrahamic religions—Judaism, Christianity, Islam, and others—are considered monotheistic, with each tradition emphasizing the worship of a single, all-powerful god.

Monotheism in the Abrahamic religions developed gradually, evolving from earlier polytheistic traditions. As these religions transitioned from an oral to a **written tradition**—where religious texts, teachings, and beliefs were recorded in written form—their beliefs about the nature of God became more formalized and exclusive. For example, in Judaism, the concept of monotheism was solidified with the development of the Hebrew Bible (Tanakh) and the declaration of the Shema, a central prayer affirming the oneness of God. In Christianity, monotheism was central to the teachings of Jesus and the early church, as expressed in the New Testament. The concept of monotheism is complicated by many Christians through the worship of one God in three entities (the Father, Son, and Holy Spirit). In Islam, monotheism is a foundational belief, with the Quran emphasizing the oneness of God (Allah) and rejecting any form of polytheism.

Ritual Practices and their Functions

As already discussed, rituals are structured, repetitive actions or behaviors that hold symbolic meaning and are often performed in a specific sequence or manner. Religious rituals can be classified into various types, including rites of passage, worship rituals, and healing rituals, each serving different purposes within a cultural or religious context. Rituals play a crucial role in identity formation and social cohesion, as they reinforce shared values, beliefs, and norms within a community.

Pilgrimage is a type of ritual journey to a sacred or significant place that holds spiritual or cultural significance. Pilgrimages often involve a physical and spiritual transformation for the pilgrim, reinforcing their religious identity and strengthening their connection to their faith community.

Rites of passage are rituals that mark significant transitions in an individual's life, such as birth, puberty, marriage, and death. These rituals often involve symbolic actions or ceremonies that help individuals navigate these transitions and integrate into new social roles within their community.

Symbols are an integral part of ritual practices, serving as visual or auditory representations of abstract ideas, beliefs, or emotions. Symbols can include objects, gestures, words, or images that hold deep meaning within a cultural or religious context, helping to convey and reinforce shared beliefs and values.

Holidays

A holiday is a culturally recognized day of celebration, remembrance, or ritual that is shared by a community or society. Holidays often reinforce cultural values, religious beliefs, social identity, and historical memory. Anthropologists study holidays because they reveal what a culture considers important, sacred, or meaningful. Holidays may include feasting, gift-giving, ceremonies, or visits with family and community members. They can incorporate many of the forms of art discussed below.

Some holidays celebrated by the Purépecha in Mexico include Carnaval, a festive celebration held before Lent that often includes dancing, masks, music, and community celebrations. Another important holiday is Three Kings Day (Día de los Reyes), celebrated on January 6 to commemorate the arrival of the Three Wise Men in the Jesus nativity. During this holiday, children may receive gifts, and families often share a special bread called rosca de reyes. The Purépecha also celebrate Noche de Muertos, their observance connected to the Day of the Dead, during which families honor deceased relatives with candles, offerings, flowers, music, and nighttime cemetery vigils.

The photo below, taken in the early morning hours during Noche de Muertos from the church bell tower in Arocutín, shows the town cemetery illuminated by candles and adorned with marigolds (cempasúchil), a flower traditionally associated with guiding the spirits of the dead.



Photo taken by jeffrey mccully in Arocutín, Michoacán, Mexico on November 2, 2020.

Religion, Power, and Social Control

The relationship between religion and social hierarchies is complex, often reflecting and reinforcing existing power dynamics within a society. Religious beliefs and practices can be used to justify and maintain social inequalities, legitimizing the authority of rulers, and justifying the subordination of certain groups based on gender, class, or ethnicity.

Religious authority plays a crucial role in social control, as religious leaders often hold significant influence over their followers' beliefs and behaviors. Religious

leaders, such as priests, pastors, or imams, are tasked with interpreting religious texts, guiding spiritual practices, and enforcing moral codes within their communities. This authority can be used to promote social cohesion and conformity to societal norms, but it can also be wielded to suppress dissent and maintain the status quo.

Religion intersects gender and sexuality in complex ways, often reflecting and perpetuating societal norms and expectations regarding gender roles and sexual behavior. Many religious traditions have specific teachings and practices related to gender and sexuality, which can impact individuals' lived experiences and social identities. These teachings can be used to justify gender and sexuality-based discrimination or restrictions on gender and sexual expression, but they can also provide a sense of identity, community, and moral guidance for individuals within a religious context.

Expressive Culture

Expressive culture encompasses a wide range of creative and artistic practices that convey meaning, values, and emotions within a cultural context. This includes various forms of art, music, dance, literature, theater, and other forms of creative expression. Expressive culture is integral to human societies, serving as a means of communication, social cohesion, and identity formation. It reflects the beliefs, values, and experiences of a culture and often plays a role in rituals, ceremonies, and everyday life. Through expressive culture, individuals and communities can express their unique perspectives, histories, and worldviews, contributing to the richness and diversity of human culture.

Role and Meaning in Art

Art plays a significant role in expressing and communicating cultural ideas, values, and beliefs. One of the key aspects of art is its ability to use symbolic representation to convey complex meanings and emotions. Cultural artifacts, such as paintings, sculptures, music, and dance, often use symbols that hold specific meanings within a cultural context. These symbols can represent ideas, stories, or spiritual beliefs that are important to a particular culture, providing a visual or auditory language through which cultural values and identities can be expressed.

The interpretation of artistic symbols is deeply rooted in cultural contexts and can vary widely across different societies. What may be seen as a symbol of fertility or abundance in one culture may hold a completely different meaning in another. Understanding the cultural interpretations of artistic symbols is essential for appreciating the depth and complexity of art and its role in shaping cultural identity and values.

Artistic traditions are closely tied to cultural identity, serving as a reflection of a society's history, values, and worldview. Many artistic traditions are passed down through generations, serving as a link to the past and a way to preserve cultural heritage. These traditions help to define and reinforce cultural identity, providing a sense of continuity and belonging for individuals within a cultural group.

Art also serves as a powerful medium for cultural communication and social commentary. Artists often use their work to comment on social issues, challenge prevailing norms, or express dissent. Art can be a tool for sparking dialogue and debate within a society, challenging people to think critically about their beliefs and values. In this way, art plays a crucial role in shaping and reflecting social change and cultural evolution.

Performance

The distinction between cultural performance and performing culture lies in the focus and interpretation of expressive culture. **Cultural performance** refers to specific events or activities that are intentionally performed for an audience, such as rituals, ceremonies, theater, or musical performances. These performances are often highly structured and may involve symbolic actions, costumes, and scripts that convey cultural meanings and values. Cultural performances are often seen as distinct from everyday life and are recognized as special or significant within a cultural context.

On the other hand, **performing culture** involves the everyday actions, behaviors, and interactions through which culture is expressed and enacted. This concept draws on the idea that culture is not just something people have, but something they do, through their daily practices and social interactions. Performing culture involves analyzing these everyday actions as performances that convey cultural meanings and values, similar to how a theatrical performance conveys meaning to an audience (Schechner, 2011).

Erving Goffman's (1959) concept of the "presentation of self" provides a framework for understanding how individuals perform culture in their daily lives. Goffman argued that individuals engage in impression management, using various strategies to present themselves to others in ways that are consistent with cultural norms and expectations. This can include the use of language, gestures, clothing, and other symbolic cues to convey information about one's identity, social status, and cultural affiliation. In this way, the everyday actions of individuals can be seen as performances that reflect and reinforce cultural values and beliefs.

Traditional Art

Art exists in many traditional forms, including sculpture, paint, pottery, textiles, architecture, and dance.

Sculpture

Blombos Cave, located in South Africa, is renowned for its archaeological significance, particularly its ochre stones that date back approximately 75,000 years. These stones bear abstract engravings, showcasing the early artistic expressions of our ancestors. The engravings on pieces of ochre suggest a sophisticated level of abstract thinking and symbolic communication, highlighting the early emergence of human creativity and symbolic expression in Africa. The ochre stones found at Blombos Cave provide valuable insights into the cultural and cognitive development of early humans, shedding light on the roots of artistic expression and symbolic thought in our species (Henshilwood et al., 2009).

Mexica (Aztec) sculpture is renowned for its intricate craftsmanship and rich symbolism, reflecting the religious and cultural beliefs of the Mexica civilization. These sculptures often depicted gods, mythical creatures, and historical events, serving as important religious and ceremonial objects. However, with the arrival of the Spanish conquistadors and the spread of Catholicism in the 16th century, much of Aztec sculpture was destroyed or repurposed. The Catholic Spanish sought to

sever the connection to traditional religions, viewing Mexica sculptures as pagan idols that needed to be eradicated. Many sculptures were melted down for their precious metals, while others were smashed or buried. This systematic destruction of Mexica sculpture was part of a broader campaign to impose Catholicism and European culture on the local peoples of Mesoamerica, leading to the loss of much of the artistic and cultural heritage of the Mexica and other civilizations.

Consider the image, which consists of Mexica sculpture being incorporated into the masonry of a colonial building in Mexico City. This is an example of **spolia**, a practice in which architectural or artistic elements from earlier structures are reused in later buildings.



Photo taken by jeffrey mccully in Mexico City on January 1, 2020.

Paint

Paint is another form of expressive culture.

Sulawesi Cave Art, discovered in Indonesia, is among the oldest known examples of cave art, dating back approximately 45,500 years. The art includes intricate hunting scenes and hand stencils, showcasing the artistic skills and cultural practices of early humans in the region.

El Castillo Cave Art in Spain dates back approximately 40,000 years and features red disks and hand stencils. These artworks provide insights into the symbolic and possibly spiritual significance of art in the lives of Paleolithic peoples.

Chauvet Cave Art in France is estimated to be between 30,000 to 36,000 years old and is renowned for its intricate and lifelike depictions of animals such as mammoths, lions, and horses. The detailed nature of the art suggests a high level of artistic skill and a deep connection to the natural world.

Cueva de las Manos in Argentina features stenciled handprints and intricate rock art, often representing hunting scenes and animals. The art in this cave is approximately 9,000 to 13,000 years old, highlighting the long-standing tradition of artistic expression in the region.

Bonampak, located in the Chiapas region of Mexico, contains remarkably well-preserved murals dating back to 790 CE. The murals depict scenes of Maya courtly life and warfare, offering a vivid glimpse into the cultural and political practices of the ancient Maya civilization. The Bonampak murals are renowned for their detailed and vibrant depictions, which include scenes of ritual bloodletting, battle, and ceremonies. The murals' excellent preservation is attributed to the remote location of the site, which protected them from the elements for centuries. The Bonampak murals are considered a significant archaeological and artistic treasure, providing valuable insights into Maya society and artistry (Lynch, 1964).

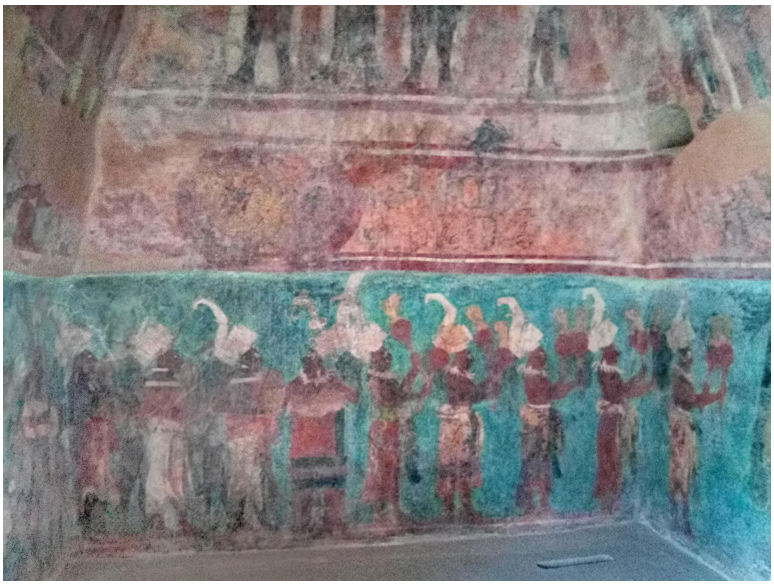


Photo taken by jeffrey mccully in Bonampak on February 9, 2020.

Textiles

Textiles are a significant form of expressive art, often reflecting cultural identities, beliefs, and histories through their patterns, colors, and designs. The keffiyeh, a traditional Middle Eastern headdress, provides a compelling example of how textiles can convey deep cultural meanings. The keffiyeh's distinctive checkered pattern has been used for centuries across the Arab world and has become a symbol of Palestinian nationalism and solidarity. The black and white keffiyeh, in particular, became widely associated with the Palestinian struggle for independence, worn by activists and leaders as a symbol of resistance. In this way, textiles like the keffiyeh serve as powerful expressions of cultural identity and resistance, highlighting the role of textiles as a form of artistic expression that transcends mere functionality.

Pottery

Pottery is a form of artistic expression that has been used by cultures around the world for millennia. One striking example of pottery as expressive art is found at the archaeological site of San José Mogote in Oaxaca, Mexico. Here, pottery vessels dating back over 3,000 years depict unique motifs that are believed to have been used in ceremonial and religious contexts. The intricate craftsmanship and symbolic meaning of these vessels demonstrate how pottery can serve as a powerful medium for expressing cultural beliefs and spirituality. A giant red pottery face, sometimes called the “Diablo Enchilado,” was discovered at San José Mogote and reflects the elaborate ceremonial art and early social complexity of ancient Zapotec society.



Photo taken by jeffrey mccully in San José Mogote on January 31, 2020.

Architecture

Architecture is a form of artistic expression that reflects cultural values, beliefs, and societal organization. The ancient city of Palenque, located in present-day Mexico, provides a remarkable example of architectural expression. The city features intricately designed structures, such as temples, palaces, and pyramids, that showcase the architectural prowess of the Maya civilization. The Temple of the Inscriptions, for instance, is renowned for its elaborate hieroglyphic inscriptions and its role as a funerary monument for the Maya ruler Pakal. The architecture of Palenque not only served practical purposes, such as providing shelter and facilitating rituals, but also served as a visual representation of the Maya worldview and cosmology. The intricate carvings, geometric patterns, and alignment with celestial bodies in Palenque's architecture demonstrate how architecture can be a form of artistic expression that transcends mere functionality, embodying cultural and spiritual significance.



Photo taken by jeffrey mccully in Palenque on February 2, 2020.

Dance

Dance is a form of artistic expression that embodies cultural values, traditions, and narratives. *La Danza de los Viejitos*, or *The Dance of the Little Old Men*, is a traditional dance from Michoacán, Mexico. According to Purépecha tradition, the dance began in Jarácuaro, an island town in Lake Patzcuaro. It provides a vibrant example of dance as expressive art. In this dance, performers dress in elaborate costumes that resemble elderly men, complete with masks, canes, and shawls. The dance is a lively and humorous portrayal of old age, with performers engaging in playful movements and interactions. Through this dance, performers convey themes of respect for elders, the passage of time, and the continuity of tradition. *La Danza de los Viejitos* is not only a form of entertainment, but also a cultural expression that reinforces social values and strengthens community bonds (Martínez Ayala, 2016). Masks for the dance are often made in the nearby town of Tocuaro, which specializes in making masks of all varieties. In the photo below, there is a mural depicting the mask worn for the dance.



Photo taken with jeffrey mccully's phone in Arocutín (on the way to Jarácuaro) on October 30, 2020.

Contemporary Art

Contemporary art is a diverse and dynamic field that encompasses a wide range of artistic practices and expressions created by artists living and working in the present era. Unlike traditional art forms, contemporary art often pushes boundaries, challenges conventions, and reflects the complex and rapidly changing nature of contemporary society. It includes a variety of mediums such as painting, sculpture, installation, performance, video, and digital art, among others. Contemporary artists often explore a wide range of themes, including identity, politics, social issues, technology, and the environment, using their work to provoke thought, stimulate discussion, and evoke emotional responses. Contemporary art is characterized by its openness to experimentation, innovation, and new ideas, reflecting the diverse and multifaceted nature of the world we live in today.

Below is a picture of a modern statue of a Purépecha woman and her children in the central plaza of Paracho, a town known for its guitars.



Photo taken by jeffrey mccully in Paracho on February 15, 2026.

Mohammad Sabaaneh's cartoons are provocative and controversial, raising complex questions about history, identity, and conflict. His cartoon *Metamorphosis* juxtaposes imagery of Jewish survivors of the Holocaust with the plight of the Palestinian people. Sabaaneh suggests a parallel between the experiences of suffering of these two groups.

Chapter 16 Study Guide

1. Define ritual.
2. Explain religion, and why it's difficult to define.
3. Describe the comparative method, ethnographic research, and holistic approach in the study of religion.
4. Define cult and myth.
5. Define the following forms of religion/spirituality: supernaturalism, animism, cosmology, totemism, and ancestor veneration.
6. Define theism and its related terms: nontheism, atheism, polytheism, and monotheism.
7. Distinguish between the oral and written tradition.
8. Define pilgrimage and rite of passage.
9. Define symbols and their use in religion.
10. Explain how religion can be used as a tool of social control.
11. Define expressive culture.
12. Describe the role of art.
13. Distinguish between a cultural performance and performing culture.
14. Explore forms of traditional and contemporary art.

This page titled 16: Rituals Religion and Expressive Culture is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

17: Ideology Identity and Inequality

Ideology

An **ideology** is a set of beliefs, values, and ideas that shape an individual's or a group's worldview, guiding their actions and interactions with society. Ideologies often encompass political, social, economic, and cultural aspects, offering a framework for understanding the world and suggesting how it should be organized. Below are some examples of common ideologies:

- **Capitalist ideology** values the private ownership of wealth, such that the poor become minority groups.
- **White supremacy** values whites over other races and ethnic groups, such that non-whites become racial and ethnic minority groups.
- **Patriarchy** values the experiences of men, such that people who are not men become minority groups.
- **Heteronormativity** grants legitimacy to heterosexual relationships, such that people who are not heterosexual become members of minority groups.
- **Cisnormativity** grants legitimacy to people who are cisgender. Cisgender people identify with the gender that was assigned to them at birth. Through cisnormativity, anyone who is not cisgender, including people who identify as transgender, genderqueer, and non-binary, become minority groups.
- **Mononormativity** grants legitimacy to people who are in monogamous relationships. Through mononormativity, anyone who is not mononormative, including consensually non-monogamous people and people in various polyamorous relationships, become minority groups.

Identity

An **identity** is a complex and multifaceted concept that refers to how individuals perceive themselves and how they are perceived by others. It encompasses various aspects, including, but not limited to:

- **Personal Identity**: This includes individual characteristics such as personality traits, interests, values, and beliefs.
- **Social Identity**: This relates to the groups or categories to which individuals belong, such as race, ethnicity, gender, sexual orientation, religion, nationality, and socioeconomic status.
- **Collective Identity**: This refers to the shared sense of belonging and common experiences among members of a group, community, or society.

Identity is often shaped by both internal factors, such as personal experiences and self-perception, and external factors, such as societal norms, cultural influences, and interactions with others. It is dynamic and can evolve over time in response to changing circumstances and experiences.

Identity Formation

Identity formation refers to the process through which individuals develop a sense of self and establish a coherent understanding of who they are in relation to the world around them. This process is influenced by a variety of factors, including cultural, social, and personal experiences. Sociological and anthropological theories provide insights into how identity formation occurs:

- **Symbolic Interactionism**: This theory, developed by sociologist George Herbert Mead (1962), emphasizes the role of symbols and interactions in shaping identity. According to this perspective, individuals develop a sense of self through interactions with others, who serve as mirrors reflecting their own identities.
- **Social Identity Theory**: Proposed by social psychologists Henri Tajfel and John Turner (1979), this theory suggests that a person's identity is shaped by their membership in social groups. People categorize themselves based on group membership (e.g., race, ethnicity, gender) and derive a sense of self-esteem from the status of their group.
- **Identity Theory**: Developed by sociologist Sheldon Stryker (1980), this theory posits that society is a stable structure reflected in patterns of behavior. Individuals both shape and are shaped by these patterns, receiving feedback that influences their behavior and reinforces their place within the social structure they help create. This theory underscores the dynamic interplay between individual identity and societal structures.
- **Intersectionality**: Coined by legal scholar Kimberlé Crenshaw (1989), this concept emphasizes that an individual's identity is shaped by the intersection of multiple social categories (e.g., race, gender, class) and that these intersecting identities interact to create unique experiences of privilege and oppression.

Identity formation is a complex and ongoing process that is influenced by a wide range of factors, including cultural norms, social interactions, historical context, and personal experiences. It is important to recognize that identities are not fixed or static, but are dynamic and can change over time in response to new experiences and social contexts.

Amplification of Identity

We can amplify our identities through our expressions of them. Think of turning an identity up or turning it down. Around St. Patrick's Day, a lot of people turn up their Irish identity that remains turned down much of the rest of the year. Brekhus (2003) interviewed many gay men to get an understanding of how they experience their identities. He identified three ways in which the men described their identities:

- **Commuters**
  - 100% gay 15% of the time. It's turned up full blast part of the time.
  - Their gay identity is strongly expressed in certain spaces or situations, but less emphasized in others.
  - Often travel to urban gay spaces or social scenes while maintaining a more conventionally heterosexual-presenting suburban or workplace life elsewhere.
  - Identity expression shifts depending on social setting and audience.

  Lifestylers
  - 100% gay 100% of the time. It's turned up full blast all the time.
  - Their gay identity is highly visible and central across most areas of life.

- Openly out in most or all social contexts.
- Often embedded primarily in gay social networks, communities, and cultural spaces.

Integrators

- 15% gay 100% of the time. It's not really loud, but it's always on.
- Being gay is consistently acknowledged, but it is only one aspect of a broader identity.
- Their sexuality is neither hidden nor heav.ily emphasized.
- Social networks and lifestyles are often more mixed rather than centered primarily around sexuality

Identity as Performative

You may have heard of someone's actions as being "performative" as though superficial. For instance, in the summer of 2020 during the protests against police killing black people (including George Floyd, Briana Taylor, Rayshard Brooks, Tony McDade, Daniel Prude, Jacob Blake, Walter Wallace Jr., and others), many people changed their profile pictures on social media to be a black square. While intended as a symbol of solidarity, it was often criticized as a form of slacktivism (slacker activism) if that's all people were doing. A word to describe this pretense for concern is performative.

However, that is not how we use the term performative when thinking about identities. The word *performative*, in its popular use, comes out of Judith Butler's (1990) writings on queer theory. Butler argued that there is a common misconception in which people believe we first have identities, which cause us to express ourselves in different ways. For example, gay people identify as gay, so therefore they do (and think) gay things. The identity leads to the expression/behavior. According to Butler, it's the other way around, our expressions lead to our identity. The more we perform behaviors that have become socially associated with some identity, the more we begin to internalize and adopt that identity. For example, gay people do (and think) gay things, so therefore they identify as gay.

"There is no gender identity behind the expressions of gender; that identity is performatively constituted by the very "expressions" that are said to be its results" (Butler, 1990, p. 33).

Inequality

These ideologies and identities are often associated with inequalities. **Social inequalities** refer to the unequal distribution of resources, opportunities, and privileges within a society or between societies. These inequalities can manifest in various forms, such as:

- Economic Inequality: Disparities in income, wealth, and access to resources like education and healthcare.
- Social Class Inequality: Differences in social status, prestige, and power based on one's socioeconomic position.
- Racial and Ethnic Inequality: Discrimination and unequal treatment based on race or ethnicity, leading to disparities in opportunities and outcomes.
- Gender Inequality: Differential treatment and access to resources based on gender, often resulting in disparities in pay, representation, and access to leadership positions.
- Sexual Orientation and Gender Identity Inequality: Discrimination and marginalization based on sexual orientation or gender identity, leading to disparities in rights, opportunities, and social acceptance.
- Physical Appearance Inequality: Disparities in treatment and opportunities based on physical attractiveness or appearance, leading to biases in hiring, social interactions, and overall life outcomes.

Social inequalities often result in the formation of dominant and minority groups within a society. A **dominant group** is a social group that holds a higher position in terms of power, privilege, and social status compared to a minority group. It's important to note that minority groups, despite the term, may not necessarily be the smaller in numbers; instead, **minority groups** have less power and influence in society compared to dominant groups. The poor, while a statistical majority of the population, are considered a minority group since they lack relative power compared to the dominant group.

Representations in Mass Media

When social groups become constructed, those differences are reinforced through mass media, which include movies, television, newspapers, magazines, etc. Dominant groups tend to be **disproportionately overrepresented**. In other words, the percentage of representation of dominant groups is higher than their percentage in the population. For instance, men are a dominant group, and they are overrepresented as the central character in children's books (McCabe et al., 2011). Similarly, the dominant groups also have a broad representation. This means that the dominant groups are likely to be shown in lots of different ways. The dominant groups can be funny or boring, smart or stupid, nerds or jocks, etc.

Minority groups tend to be portrayed differently in mass media. Whereas the dominant groups are disproportionately overrepresented, the minority groups are **disproportionately underrepresented**. In other words, their percentage of representation is lower than their percentage in the population. For example, women and racial/ethnic minorities appear in television and movies at lower rates than they do in the general population (Hunt et al., 2018). When examining representations of women in mass media, we could explore the Bechdel-Wallace test (Bechdel, 1985). When an item of mass media passes the **Bechdel-Wallace test**, there must be two women who talk to each other about something other than a man. Surprisingly, many popular movies fail the Bechdel-Wallace test. There are countless movies in which men talk to each other about something other than women. They talk to each other about sports, politics, war, and money. However, it seems that when women talk to each other, it is most often about men. Finally, whereas the dominant group tends to have a broad representation, the minority groups tend to be represented stereotypically. For instance, Arabs are often portrayed as terrorists, gay men are portrayed as having a keen fashion sense, and Asians are often portrayed as nerds or experts in martial arts.

Let's do a very simple example of the chart above based on sexuality. Recognize straight women as the dominant group and lesbians as a minority group. Straight women are overrepresented in mass media. There are 100% of Disney princesses who are straight, even though not 100% of women are straight. Lesbians are underrepresented among Disney princesses. There are 0% of Disney princesses who are out as lesbians, despite lesbians existing in the general population. Now think of how lesbians are represented in mass media (when they are). Lesbian portrayals are often limited to stereotypical, masculine visions of lesbians. Meanwhile, straight women might exist in lots of different ways, such as friends, moms, aunts, grandmas, sex symbols, girly-girls, tom-boys, etc.

These portrayals have negative consequences for children. If a person consumes just one piece of stereotypical media, that person will not automatically internalize those messages. However, when people are shown many examples of media that contain the same message over and over again, it is not surprising that people will come to internalize those messages. Internalization refers to the process by which individuals adopt or incorporate external beliefs, values, norms, or behaviors into

their own sense of self. For an example of how this happens, refer to this video. Pay close attention to the middle segment, which recreates the Clark Doll Test (Clark & Clark, 1947).

Prejudice and Discrimination

A **prejudice** is an idea, thought, or belief about a group of people. Prejudices can include stereotypes. Stereotypes can be negative (trying to say something bad about a group of people) or positive (trying to say something good about a group of people). Regardless of whether the stereotype is positive or negative, it is still problematic, because stereotypes tend to overgeneralize and lump everyone of a category together. Prejudices can include ideas about which groups of people are good, bad, clean, dirty, smart, and stupid. Vartanian et al. (2016) found that, when presented with images of people who are obese and people who are not obese, the obese person elicits more disgust, more negative attitudes and stereotypes, and a greater desire for social distance among research subjects.

Discrimination is the unfair treatment that a category of people experiences. Whereas prejudice is something that a person has, discrimination is something that a person does. Discrimination can occur at the individual, micro level and the institutional, macro level.

Interpersonal Discrimination

Interpersonal discrimination refers to the unfair treatment of individuals based on characteristics such as race, gender, ethnicity, sexual orientation, or other personal attributes. This type of discrimination occurs in social interactions between individuals and can take many forms, including verbal abuse, exclusion, harassment, and violence. Interpersonal discrimination is often rooted in prejudice and stereotypes, leading to differential treatment and negative consequences for the targeted individuals. It can occur in various settings, such as schools, workplaces, communities, and public spaces, and can have significant impacts on the well-being and opportunities of those affected.

Microaggressions

Initially, microaggressions were defined as “subtle, stunning, often automatic, and non-verbal exchanges which are 'put downs'" (Pierce et al., 1978, p. 66). Over time the concept was reconceptualized by Sue (2010, p. xvi) as “brief, everyday exchanges that send denigrating messages to certain individuals because of their group membership." Microaggressions may be intentional or unintentional, verbal or nonverbal, and good intentioned or bad intentioned. There are many forms of microaggressions including the examples below.

One example is minority interrogation. This occurs when members of a dominant group persistently ask questions to members of a minority group about who they are. For instance, in the United States, people who are not white may be constantly asked where they are from (Kothari, 1993). Even if they were born in the United States, people will ask where they are "really" from. This leads to an experience of being a "perpetual foreigner" even though their families may have been in the United States for generations. Minority interrogation can happen to any minority groups. Gay people are often asked questions about when they first realized they were gay or how they knew for sure they were gay.

Being posed these questions on a regular basis is often tiresome for members of a minority group. In response to this interrogation and to highlight the absurdity of many of the questions, many members of minority groups have created dominant group questionnaires. A dominant group questionnaire is a list of questions posed to a member of some dominant group. Importantly, the questions are reversals of the questions that are often asked of minority group members. For instance, a "white questionnaire" would pose the following questions to a white person: Where are you from? Where are you really from? Open each of the following links, and take note of a few questions that you find interesting: heterosexual questionnaire, cisgender questionnaire, and Christian questionnaire.

Assumptions of Inferiority

People also make assumptions of inferiority about minority groups (Nadal, 2011). This means people often assume minority groups are somehow "less than" the dominant group. People often believe that women are not as strong as men. As discussed earlier, racial scientists in the United States believed that non-whites were less advanced than whites in terms of evolution. Adolf Hitler was very clear that his ideas about racial purity were derived from and consistent with American race scientists.

Systemic Discrimination

We can also study institutional, or **systemic discrimination**, which is the discrimination that occurs within institutions and systems, such as government, education, healthcare, and criminal justice, and is embedded in their policies, practices, and procedures. This form of discrimination can lead to unequal access to opportunities and resources for certain groups based on their race, gender, ethnicity, or other characteristics. Systemic discrimination can be more difficult to detect than interpersonal discrimination, but can have far-reaching and long-lasting effects on individuals and communities.

Criminal Justice System

There are many examples of institutional discrimination that occur within the criminal justice system. For instance, there appears to be a two-tiered criminal justice system, one for the rich and one for the poor (Reiman, 2004). Take, for instance, people who experience drug addiction. Wealthy people who are addicted to drugs are more likely to go to rehab, while poor people who are addicted to drugs are more likely to go to jail.

Discrimination against racial and ethnic minorities within the criminal justice system is well-documented. There are decades of studies that show Black males, particularly young, Black males, receive harsher penalties compared to other groups (Steffensmeier et al., 1998; Steffensmeier et al., 2017). The result is a situation in which racial and ethnic minorities are disproportionately overrepresented in prison. In 2015, of the 1,476,847 people in prison, 34% were White, 35% were Black, and 22% were Hispanic (Carson & Anderson, 2016). Meanwhile, according to the 2020 Census, about 58% of the population was non-Hispanic White, about 12% was Black, and about 19% was Hispanic or Latino.

We could also explore the many examples of Black people killed by police... and how the initial statements from police departments often differ from what is later revealed to be true. Below are just a few examples.

- Laquan McDonald (1997-2014)
  - Initial police account: Police reports stated that McDonald was carrying a knife, behaving aggressively, and posed a threat to officers. Officer Jason Van Dyke reported that McDonald pointed a knife toward him and that he feared for his life (Glenza, 2015).
  - Subsequent evidence: Dashcam footage later showed McDonald walking away from officers when Van Dyke fired 16 shots, raising questions about and contradicting key elements of the initial police narrative (Glenza, 2015).
- John Crawford III (1992-2014)
  - Initial police account: Police responded to reports that Crawford was pointing a rifle at shoppers and had possibly loaded it with bullets. Officers believed they were confronting an active shooter and acted on information that Crawford posed an immediate threat to customers (Swaine, 2014).
  - Subsequent evidence: Surveillance footage showed that Crawford was carrying an unloaded BB rifle he had picked up from a Walmart shelf while talking on his cellphone. The video did not show him pointing the rifle at customers or children as reported to the 911 dispatcher. When officers entered the aisle, Crawford appeared unaware of their presence and was shot within seconds of the confrontation (Swaine, 2014).
- Eric Garner (1970-2014)
  - Initial police account: Police officials maintained that officers had acted appropriately during Garner's arrest and did not characterize the restraint as excessive force.
  - Subsequent evidence: Video footage showed Officer Daniel Pantaleo placing his arm around Garner's neck during the arrest. Subsequent NYPD disciplinary proceedings found that Pantaleo had used a prohibited chokehold, and an appellate court later upheld his termination from the department, finding substantial evidence that he recklessly caused injury by maintaining the chokehold after any immediate threat had passed (Lenthang & Katersky, 2021).
- Tamir Rice (2002-2014)
  - Initial police account: Police stated that Officer Timothy Loehmann shouted commands to Rice as officers arrived at the scene and before the shooting occurred (McCarthy, 2014).
  - Subsequent evidence: Surveillance video released by police showed that Rice was shot approximately 1.5 to 2 seconds after the police vehicle arrived next to him. The footage showed officers driving directly up to Rice before the shooting, raising questions about whether there was sufficient time for him to hear and respond to any commands (McCarthy, 2014).
- Walter Scott (1965-2015)
  - Initial police account: Officer Michael Slager reported that Scott had taken his Taser during a struggle and stated that he feared for his safety when he used deadly force (Laughland et al., 2015).
  - Subsequent evidence: A bystander's cellphone video showed Scott running away from Slager when the officer fired multiple shots. The footage contradicted key elements of the initial account and raised questions about whether Scott posed an immediate threat to the officer at the time he was shot (Laughland et al., 2015).
- Mario Woods (1996-2015)
  - Initial police account: Police stated that Woods, who was carrying a knife, made a threatening movement toward an officer, causing officers to fear for their safety and open fire (Grossberg et al., 2015).
  - Subsequent evidence: A frame-by-frame analysis of video footage by KQED found that the first gunshot appears to have been fired before Woods made the alleged threatening movement. The analysis concluded that the available video evidence did not support key elements of the police chief's account of the shooting (Grossberg et al., 2015).
- Philando Castile (1983-2016)
  - Initial police account: Officer Jeronimo Yanez told investigators that he believed Castile posed a serious threat and that he feared for his safety during the traffic stop (Lartey & Swaine, 2017).
  - Subsequent evidence: Dashcam footage showed Castile informing the officer that he was legally carrying a firearm and responding, "I'm not pulling it out" after being told not to reach for it. After the shooting, Castile can be heard saying, "I wasn't reaching." Prosecutors later argued that Castile was attempting to retrieve his wallet and driver's license, not a firearm, when he was shot (Lartey & Swaine, 2017).

Healthcare

There are also inequalities based on health. We could also explore how specific groups get targeted for unhealthy products. Take, for example, cigarettes produced by R. J. Reynolds company. That company had a project called Subculture Urban Marketing (SCUM), which was primarily designed to encourage cigarette smoking among people who identified as gay (Fallin et al., 2015). The Food and Drug Administration (FDA) forbids sexually active gay men from donating blood at blood drives (Morrison, 2015). Researchers also found that, Black children receive less pain medication than White kids when suffering from appendicitis in the emergency room (Goyal et al., 2015). While there was no policy to give Black kids less medicine, it is a form of institutional discrimination because it is a widespread problem in the health system. Health concerns are also related to environmental racism, which is the practice of polluting where poor racial and ethnic minorities live. For instance, in Chicago's Altgeld Gardens neighborhood, there are many polluting facilities, such as coal smelters, trash incinerators, and various refineries. The residents of Altgeld Gardens are primarily poor and African American and have significantly higher rates of various illnesses, which are directly related to the toxins in their neighborhoods (White & Hall, 2015). These polluting industries do not appear in wealthy parts of the city, such as the Gold Coast neighborhood.

War

War is a sustained, organized form of armed conflict involving large-scale violence between political groups, often including states or state-like factions. The Mexican Revolution (1910–1920) was a prolonged revolutionary civil war involving multiple armed factions, including the federal army and groups such as the Zapatistas and Villistas, competing over political power, land reform, and the structure of the Mexican state. It developed out of deep social inequality and opposition to the long dictatorship of Porfirio Díaz and ended with the collapse of that regime and the creation of a new constitutional order in 1917 (Knight, 1986). Estimates of deaths range widely, but scholars commonly place the toll at roughly 1 to 2 million people. The murals by José Clemente Orozco depicting the Mexican Revolution are stark and unflinching, emphasizing the brutality, suffering, and human devastation of war rather than heroic triumph.





Photos taken by jeffrey mccully in Jiquilpan, Michoacán, Mexico on December 22, 2025.

Ethnic Cleansing

Ethnic cleansing is the systematic and violent removal of an ethnic or religious group from a certain area with the intent to create a region ethnically homogenous. In the United States, examples include the forced removal and relocation of Native American tribes, such as the Trail of Tears in the 1830s, where thousands of Native Americans were forcibly removed from their ancestral lands in southeastern United States to territories west of the Mississippi River, resulting in thousands of deaths. Another example is the forced displacement of Palestinians during the establishment of the state of Israel in 1948. This event, known as the Nakba (catastrophe), resulted in 750,000 Palestinians being expelled from or fled their homes, leading to the creation of a significant refugee population that remains displaced to this day (Khalidi, 1992).

Genocide

Genocide is the killing in part or in totality of a cultural group. Genocide can be both implicit and explicit. Implicit genocide occurs when the killing is less intentional. A group is dying, and it is clear they are dying, but those in power don't do anything to stop it. Examples of implicit genocide include the introduction of deadly diseases into communities that have no immunity. This is referred to as the virgin soil epidemic (Crosby, 1976). Another example of implicit genocide occurred in the 1980's when the government didn't do much to stop the spread of AIDS because it was believed to only affect gay men (Epstein, 1997). Explicit genocide occurs when the killing is targeted and intentional. An example of this is Nazi Germany's campaign to kill Jewish people, Romani, gays, the disabled, and more. Another example is the genocide in East Timor, where the Indonesian invasion and occupation beginning in 1975 resulted in massive loss of life, population decline, and widespread repression (Dunn, 1997). Some scholars have also argued that contemporary events in Gaza constitute genocide. For example, Israeli historian Raz Segal, an associate professor of Holocaust and genocide studies at Stockton University, described Israel's violence in Gaza as a "textbook case of genocide" (Segal, 2023). Yet another example is the genocide of Indigenous peoples in the United States through warfare, massacres, forced displacement, and other colonial policies

(Madley, 2016).

Privilege

A **privilege** is a special right or advantage that is shared by a group of people. Most frequently, dominant groups enjoy privileges that minority groups do not receive. For instance, Christians who celebrate Christmas will never be expected to attend class that day, but Muslims who celebrate Eid may be expected to come to class on their holiday. Thin people can eat in public without being shamed, which isn't the case for people who aren't thin. Open at least three or four of the following links and take note of a few items that you find interesting. Make sure to look for examples of privilege that you experience and examples of privilege you do not experience.

1. White Privilege
2. Middle to Upper-Class Privilege
3. Christian Privilege
4. Male Privilege
5. Cisgender Privilege
6. Heterosexual Privilege
7. Ability Privilege
8. Youth Privilege
9. Thin Privilege
0. Right-Handed Privilege

Members of dominant groups also have the privilege of not experiencing all the forms of discrimination listed in the previous sections of this lesson. An interesting thing to note about privilege is that people who have it often don't recognize that they have it. They may even deny having it.

Chapter 17 Study Guide

1. Define ideology, as well as the following types of ideologies: capitalist, patriarchal, white, heteronormative, cisnormative, and mononormative.
2. Define identity, and distinguish between personal, social, and collective identities.
3. Define identity formation, and distinguish between symbolic interactionism, social identity theory, identity theory, intersectionality, and performativity.
4. Differentiate between the different amplitudes of identity.
5. Explain how identities are performative.
6. Define social inequalities, and distinguish between dominant and minority groups.
7. Distinguish between being disproportionately over and underrepresented.
8. Explain the Bechdel-Wallace Test.
9. Describe the stereotypical portrayals of minority groups in mass media.
0. After reviewing the video on the doll test, explain internalization.
1. Distinguish between prejudice and discrimination.
2. Explain minority interrogation and how that led to the dominant group questionnaire.
3. Define systemic discrimination, and provide examples from the criminal justice system and the healthcare system.
4. Define ethnic cleansing and genocide.
5. Define privilege.

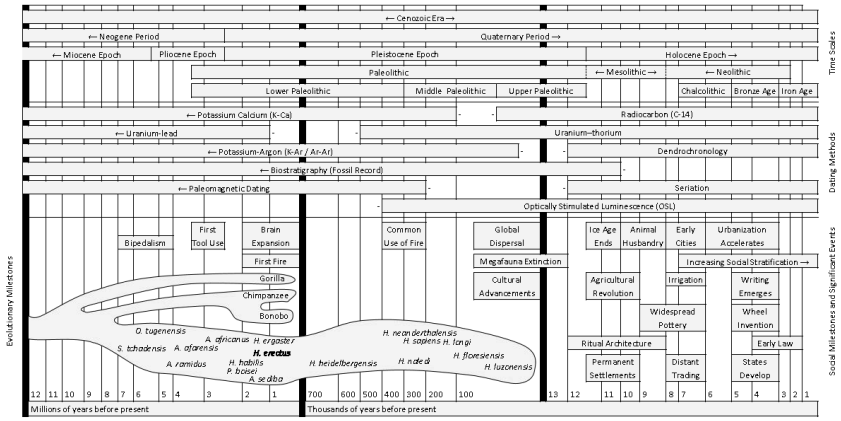
This page titled 17: Ideology Identity and Inequality is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

18: Introduction to Archaeology

Understanding Archaeology

Archaeology is the study of human history and prehistory through the excavation of sites and the analysis of artifacts and other physical remains. As we begin exploring archaeology, let's take a moment to review the **Timeline of Human Evolution, Cultural Milestones, Dating Methods, and Time Scales** again. This timeline brings together geological eras, archaeological periods, major cultural developments, and key evolutionary milestones spanning the past 12 million years. It provides the broad chronological framework archaeologists use to place sites, artifacts, and behaviors in context. By linking environmental change, hominin evolution, and the emergence of early technologies, the timeline sets the stage for understanding how material evidence allows us to reconstruct the human past.

Timeline of Human Evolution, Cultural Milestones, Dating Methods, and Time Scales



Archeological Time Scales

Now let's consider the classic archaeological time scale originally created by C.J. Thomsen (1836) and since refined by other scientists.

- **Stone Age**: Approximately 3.3 million years ago (mya) to 2 thousand years ago (kya)
- **Chalcolithic (Copper) Age**: Approximately 7000 kya to 5000 kya
- **Bronze Age**: Approximately 5000 kya to 3000 kya
- **Iron Age**: Approximately 3000 kya to 500 years ago

The Stone Age has since been divided into the following categories:

- **Paleolithic** (Old Stone Age): Approximately 3.3 mya to 11.7 kya (roughly corresponds with the Pleistocene epoch). The Paleolithic is also sub-divided.
  - **Lower Paleolithic**: Approximately 3.3 mya to 300 kya
  - **Middle Paleolithic**: 300 kya to 50 kya
  - **Upper Paleolithic**: 50 kya to 11.7 kya
- **Mesolithic** (Middle Stone Age): Approximately 11.7 kya to 8 kya
- **Neolithic** (New Stone Age): Approximately 8 kya to 2 kya

We'll explore the archaeological time scales in more detail below when we study tool use and again during the archaeology unit of the course.

History and Prehistory

Another time scale to be aware of is the distinction between historical and prehistoric. **Historic** refers to all history since the beginning of writing. **Prehistoric** refers to all history before writing. The historical time period is generally considered to start around 5,200 kya (with the invention of cuneiform in Mesopotamia) but varies depending on the region.

Antiquarianism

Antiquarianism, treasure hunting, and looting are interconnected practices that have significantly impacted the field of archaeology. **Antiquarianism**, which emerged in the Renaissance, was characterized by a fascination with the material remains of ancient civilizations. Antiquarians often collected artifacts for personal interest

or as symbols of status, rather than for scholarly purposes. While antiquarianism contributed to the preservation of some artifacts, it also led to the destruction of archaeological sites through unregulated excavation (Burke, 2007).

Treasure hunting involves searching for valuable artifacts, typically for profit. It often disregards archaeological context and site preservation, leading to the loss of valuable information about past societies and contributing to the illicit antiquities trade. **Looting**, a more destructive form of treasure hunting, involves the deliberate and systematic removal of artifacts from archaeological sites. Looting not only destroys the archaeological record but also damages the cultural heritage of communities. It is often driven by the demand for artifacts in the art market or by collectors. Looting has become a major issue in many parts of the world, leading to the destruction of numerous archaeological sites and the loss of invaluable cultural heritage.

Development of Academic Archaeology

Founding of Archaeological Institutions

- Archaeology became formalized as a discipline in the 1800s, with the founding of several professional societies.
- Société des Antiquaires de France (Society of Antiquaries of France) - France (1804)
- Deutsches Archäologisches Institut (German Archaeological Institute) - Germany (1829)
- Royal Archaeological Institute (RAI) - UK (1844)
- École française d'Athènes (French School of Athens) - France (1846)
- Archaeological Survey of India - India (1861)
- American School of Classical Studies at Athens - USA (1881)
- Egypt Exploration Fund (now Egypt Exploration Society) - UK (1882)

Pioneers in the Field

During this time, there were many key figures who were pioneers of archaeology.

Heinrich Schliemann (1822–1890) was a pioneering figure in archaeology, renowned for his excavations at ancient Troy and Mycenae. While he brought attention to these sites, his use of destructive excavation methods and controversial interpretations have raised questions about the authenticity of some artifacts. Schliemann's archaeological career was most active in the 1870s and 1880s, leaving a lasting impact on the field despite ongoing debates about his methods and findings (Schliemann, 1881).

William Flinders Petrie (1853-1942) revolutionized archaeology by introducing systematic recording and stratigraphy, laying the foundation for modern scientific methodology in the field. Active from the late 19th to the early 20th century, he conducted groundbreaking excavations in Egypt and the Near East, uncovering significant sites and artifacts. His meticulous approach and emphasis on documentation influenced generations of archaeologists (Smith, 1945).

Mortimer Wheeler (1890-1976) was a pioneering archaeologist known for advancing excavation techniques, notably the grid system, which revolutionized the meticulous recording of finds and their context. He emphasized collaboration and training, contributing to the professionalization of archaeology. Wheeler was a prolific scholar, active primarily in the early to mid-20th century. His work significantly influenced archaeological methodology and practice, shaping the field for generations to come (Piggott, 1977).

Ethical Issues in Archaeology

Illicit Trade

Unfortunately, looting is still a problem in many parts of the world, posing a significant threat to our shared cultural heritage. Illegal excavations continue to occur at archaeological sites, often driven by the demand for valuable artifacts in the global market. This rampant looting not only destroys archaeological evidence and removes artifacts from their historical context but also fuels the illicit trade of cultural heritage items. Despite efforts by governments, law enforcement agencies, and archaeologists to combat looting, more needs to be done to address this ongoing issue and protect our cultural heritage for future generations.

Spain addressed archaeological looting by enacting new laws, creating regional governments that hired specialized archaeologists, and intensifying efforts through dedicated police and educational campaigns. These measures significantly reduced looting and illicit trade of artifacts (Rodríguez Temiño & Roma Valdés, 2015).

Repatriation

The **repatriation of cultural artifacts** has become an increasingly important issue in the field of archaeology and cultural heritage. It involves the return of objects to their places of origin or to the descendants of the cultures that created them (Powell et al., 1993). Repatriation is often sought for artifacts that were taken during colonial periods or acquired through illegal or unethical means. Proponents argue that repatriation is a matter of justice, as it acknowledges past wrongs and restores a sense of cultural identity and pride. However, the issue is complex, as it involves questions of ownership, cultural heritage management, and the role of museums and institutions in preserving and sharing cultural objects. Despite these challenges, the repatriation movement has gained momentum in recent years, leading to the return of many significant artifacts to their rightful owners.

The Codex Borgia, a pre-Columbian Mesoamerican manuscript, is currently housed in the Vatican Library, despite calls for its repatriation to Mexico. The Catholic Church has refused to return the codex, citing its role as a custodian of cultural heritage and its commitment to preserving and sharing knowledge. The Vatican argues that the Codex Borgia is part of the world's cultural heritage and should be accessible to scholars and the public worldwide. However, critics argue that the codex is a sacred object that belongs to the communities of Mexico and should be returned to its rightful owners. The refusal to repatriate the Codex Borgia highlights the complex issues surrounding the repatriation of cultural artifacts and the differing perspectives on ownership and cultural heritage.

Anastylosis

Anastylosis is the process of restoring or reassembling large, often ancient, structures or monuments that have been damaged, destroyed, or fallen into disrepair. This process involves using archaeological evidence, historical records, and sometimes modern technologies to recreate the original form and appearance of the monument. However, ethical questions can arise regarding the extent of reconstruction and the impact on the authenticity and integrity of the original monument.

Stonehenge, a prehistoric monument in England, underwent significant anastylosis efforts in the 20th century. By the early 20th century, Stonehenge was in a state of disrepair, with some stones fallen and others leaning precariously. Various restoration projects were undertaken to stabilize the stones and reconstruct parts of the monument. One of the most notable efforts was the re-erection of the fallen stones in the early 20th century, using cranes and modern lifting equipment to place them back in their original positions. Today, Stonehenge stands as a testament to the engineering and construction skills of its ancient builders, although some aspects of its original form remain unknown or subject to debate among archaeologists (Barber 2014)..

Teotihuacan, an ancient Mesoamerican city in Mexico, has also undergone extensive anastylosis efforts. At its peak, Teotihuacan was one of the largest and most influential cities in the Americas, with impressive pyramids, temples, and residential complexes. However, by the time of the Spanish conquest in the 16th century, Teotihuacan was largely abandoned and had fallen into ruin. In the 20th century, efforts began to restore and reconstruct parts of the site, including the Avenue of the Dead, the Pyramid of the Sun, and the Pyramid of the Moon. These efforts have helped to preserve the site and showcase its grandeur, although some aspects of Teotihuacan's original layout and architecture remain uncertain due to the lack of written records from its inhabitants (Molina-Montes, 1982).

Pseudoarchaeology

Pseudoarchaeology is a term used to describe interpretations of the past that are not based on scientific evidence or methods (Fagan, 2006). It often involves the use of selective evidence, misrepresentation of facts, or outright fabrication to support a particular narrative or theory about the past. Pseudoarchaeologists may rely on alternative explanations for archaeological phenomena, such as ancient aliens or lost civilizations, that are not supported by mainstream archaeological research. Pseudoarchaeology is considered a fringe or pseudo-scientific field and is not recognized as valid by the archaeological community.

The following meme humorously highlights a common misconception that all remarkable achievements in history must have been accomplished by white people or with the help of extraterrestrial beings. In reality, many incredible feats of architecture, engineering, and culture were accomplished by diverse civilizations around the world, long before the modern era. The meme serves as a reminder to question assumptions and acknowledge the ingenuity and capabilities of diverse cultures throughout history.

Chapter 18 Study Guide

1. Define archaeology.
2. Review the archaeological time scales.
3. Distinguish between historical and prehistorical time periods.
4. Define antiquarianism.
5. Define treasure hunting and looting.
6. Explore the development of academic archaeology.
7. Explore issues related to the illicit trade of archaeological artifacts.
8. Explore issues related to the repatriation of artifacts.
9. Define anastylosis.
0. Explore issues related to pseudoarchaeology.

This page titled 18: Introduction to Archaeology is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

19: Archaeological Fieldwork

This chapter explores the fundamental aspects of **archaeological fieldwork**, which encompasses the practical activities involved in locating, documenting, and excavating archaeological sites. It includes finding sites through ground surveys and remote sensing technologies, conducting excavations using various methods and tools, and cataloging finds for further study and preservation.

Finding Sites

Ground Surveys

Ground surveys refer to on-the-ground exploration and examination of an area for archaeological purposes.

Reconnaissance walking, a method used in archaeological fieldwork, involves an initial survey of an area to locate potential sites by visually inspecting the surface for signs of archaeological features or artifacts. However, this approach can be challenging as it may inadvertently cause damage, especially in sensitive environments like Southeast Utah, where the soil contains a living biological crust consisting of cyanobacteria, algae, lichens, and mosses. These organisms are crucial to the ecosystem, and disturbing them can have lasting effects. Therefore, archaeologists must exercise caution and minimize their impact when conducting reconnaissance walking in sensitive areas.

Line walking, a systematic survey method in archaeological fieldwork, involves drawing lines across a site, typically 20 meters apart and numbered for identification. These lines, called **transects**, are further divided into **stints**, usually 25 or 50 meters apart and designated by letters. As archaeologists walk along these transects, they systematically scan the ground for artifacts or features, looking one meter on each side of the line for any significant finds. When they encounter something important, they collect it, noting the transect and stint. This method allows for the sampling of approximately 10% of the site, as each transect covers 2 meters when spaced 20 meters apart. However, line walking can be challenging, as it requires careful attention to avoid missing important artifacts or causing damage to the site (Mann & Sanderson, 2009).

Grid walking is another systematic survey method used in archaeological fieldwork, typically employed after reconnaissance and line walking to cover the entire site. This method involves dividing the site into a grid of squares, with each square representing a specific area for investigation. The size of the grid squares can vary depending on the site and research goals, but they are typically around 5x5 meters or 10 x 10 meters. Archaeologists walk along the grid lines, systematically scanning each square for artifacts or features. When they find something significant, they collect it, noting the grid square where it was found. Grid walking allows for a more detailed examination of the site, ensuring that no area is overlooked. However, like other survey methods, it requires careful attention to avoid missing important artifacts or causing damage to the site.

Remote Sensing Technologies

Remote sensing technologies involve using instruments to gather information about a site from a distance, such as aerial photography or satellite imagery.

Aerial photography is a technique used in archaeology to capture images of archaeological sites from above. These photographs are taken from aircraft or drones and can reveal details that are not visible from the ground. For example, aerial photographs of the Nazca Lines in Peru helped researchers map and study these ancient geoglyphs, which are difficult to see from the ground but form intricate designs when viewed from above (Kroeber & Collier, 1998).

Ground Penetrating Radar (GPR) is a non-invasive geophysical method used to detect subsurface features without excavation. GPR sends radar pulses into the ground and measures the reflected signals, allowing archaeologists to create underground maps of archaeological sites. The video illustrates the Georadar being used in Norway to discover the remains of a potential viking ship. GPR has also been used to map the buried city of Falerii Novi in Italy, revealing the layout of streets, buildings, and even a large public monument (Verdonck et al., 2020).

Light Detection and Ranging (LiDAR) is a remote sensing technology that uses laser pulses to measure distances to the Earth's surface. LiDAR can penetrate dense vegetation and accurately map the terrain below, making it a valuable tool for archaeologists. For example, LiDAR surveys of the Maya region in Central America have revealed complex networks of ancient roads, canals, and agricultural terraces that were previously hidden by the dense jungle (Chase et al, 2011).

Excavation

Excavation Frameworks

Archaeology is grounded in a multi-level interdisciplinary system encompassing various principles, laws, and interpretations (Watson, 1976).

- The **Principle of Original Horizontality** states that layers of sediment are originally deposited horizontally due to gravity. This principle is crucial in **stratigraphy**, the study of rock layers (strata), as it helps archaeologists understand the original orientation of deposits and the relative ages of different layers.
    - Simply put: things settle in layers flat.
- The **Principle of Superposition** states that in any undisturbed sequence of strata, the youngest layer is on top, and the oldest is at the bottom. This principle allows archaeologists to determine the relative ages of different layers and artifacts within a site, helping to establish a chronological framework for interpreting the site's history.
    - Simply put: the lower layers are older.
- The **Law of Association** states that artifacts found in the same stratigraphic layer are likely to be roughly the same age and associated with the activities or contexts of that time.

- Simply put: things found in the same layer are probably related to each other.

Context refers to the relationship between artifacts, features, and the surrounding environment within a site. It encompasses the spatial and temporal associations of artifacts and features, providing crucial information about the activities, behaviors, and chronology of past human societies. Archaeologists analyze context to interpret the significance of artifacts and features within a site, helping to reconstruct past lifeways and understand cultural changes over time.

Let's shift from the laws of stratigraphy to a geometric principle. According to the **Pythagorean Theorem**, the square of the length of the hypotenuse of a right triangle is equal to the sum of the squares of the lengths of the other two sides. The Pythagorean Theorem is relevant in excavation for calculating distances and ensuring the accuracy of measurements, allowing archaeologists to create precise grids with parallel and perpendicular grid lines.

Excavation Methods

Excavation methods are the techniques used by archaeologists to carefully uncover and recover archaeological remains from a site.

Vertical excavation involves digging a deep, vertical shaft to expose the stratigraphy of a site. This method is useful for revealing the chronological sequence of deposits and features in a concentrated area. **Step trenches** are a form of vertical excavation. In this method, archaeologists dig a series of trenches, each progressively deeper than the last, to reveal the layers of deposits and features below the surface. At Ziyaret Tepe, an archaeological site in southeastern Turkey, step trenches are employed to uncover the site's stratigraphy, providing insights into its historical development and the activities that took place there (Matney et al., 2003).

Horizontal excavation, on the other hand, involves digging horizontally across a site to expose a large area at a single level. This method is useful for uncovering extensive remains, such as floors, walls, and other features, and provides a broad overview of the site's layout. Wexpusnime village, located near the Snake River in Eastern Washington State, was a significant archaeological site where a variety of artifacts, including stone tools, bone tools, antler tools, organics, and ceramics, were discovered through horizontal excavation (Nakonechny, 1998). The site is now submerged underwater due to the construction of the Lower Granite Dam on the Snake River.

The **Wheeler-Kenyon Box Grid Method** is a systematic approach to excavation that involves dividing a site into a grid of squares (Callaway, 1979). Each square is excavated individually, and the soil from each square is carefully screened and recorded. This method allows archaeologists to excavate a site in a controlled and methodical manner, ensuring that all artifacts and features are properly documented and preserved.

Cofferdams are structures built to create a dry work environment below the waterline for archaeological excavations. At La Belle, a seventeenth-century vessel excavated in Texas, a cofferdam was utilized to facilitate the excavation process. Excavation inside the cofferdam allowed archaeologists to meticulously uncover and document the vessel's remains, including its hull and associated artifacts. This method provided a unique opportunity to study the shipwreck in detail, revealing valuable insights into seventeenth-century maritime technology and trade (Hendrick & Mitchell-Cook, 2016).

Backfilling is a critical step in archaeological excavation that involves refilling the excavated area once the archaeological work is complete. This process is essential for preserving the site and protecting it from erosion, vandalism, or other damage. Archaeologists carefully backfill the site using the same soil or material that was removed during excavation, layer by layer, to ensure that the original stratigraphy is maintained. Backfilling also helps to stabilize the site and prevent the collapse of surrounding soil layers. Proper backfilling is crucial for the long-term preservation of archaeological sites, ensuring that they remain intact for future study and research.

Excavation Tools

Excavation tools are essential for the careful uncovering and cleaning of archaeological finds. A shovel is used for moving and lifting soil quickly, while a pickaxe is ideal for breaking up compacted or rocky soil. Trowels are crucial for precise excavation and cleaning, while brushes—both large and small—are used for removing loose soil and debris, as well as for gentle cleaning and detailing. Magnifying glasses are employed for close examination of small artifacts or details, and compasses help in determining orientation and mapping within a site. Each tool serves a specific purpose, contributing to the meticulous process of archaeological excavation.

Cataloging

As artifacts are discovered and removed from their original context, it is crucial to catalog them meticulously (Sullivan & Childs, 2003).

In the field (at the archaeological site), archaeologists use a **field catalog** to record detailed information about each artifact or feature as it is uncovered. This catalog includes a description of the item, its location within the site, the depth at which it was found, and any associated notes or observations. Identifying and labeling artifacts **in situ**, or in their original position, is essential for maintaining the context of the artifacts and understanding their relationship to the surrounding environment. The field catalog is crucial for maintaining the integrity of the excavation process, ensuring that all artifacts are properly documented and can be accurately analyzed and interpreted later.

Once artifacts are removed from the site, they are transferred to a **permanent catalog** for further study and curation. The permanent catalog includes more detailed information about each artifact, such as its measurements, materials, and any relevant historical or cultural context. This catalog serves as a comprehensive record of the excavated artifacts, providing a valuable resource for future research and preservation efforts. Each artifact is assigned an **accession number**, a unique identification code used to organize and track the artifacts within the catalog. This system ensures that each artifact can be easily located and referenced for research purposes.

Chapter 19 Study Guide

1. Define archaeological fieldwork.
2. Distinguish between ground surveys and remote sensing technologies.
3. Distinguish between the following forms of ground surveying: reconnaissance walking, line walking (with transects and stints), and grid walking.
4. Distinguish between the following forms of remote sensing technologies: aerial photography, ground penetrating radar, and lidar.

5. Define excavation.
6. Define the following frameworks related to excavation: Principle of Original Horizontality, Principle of Superposition, Law of Association, Context, and Pythagorean Theorem.
7. Define stratigraphy.
8. Distinguish between the following excavation methods: vertical excavation, horizontal excavation, Wheeler-Kenyon box grid method, step trench, and cofferdams.
9. Explore issues related to backfilling.
10. Identify which tools are commonly used in excavations.
11. Distinguish between the following forms of cataloging: fi eld catalog and permanent catalog.
12. Define in situ.
13. Explain what an accession number is.

This page titled 19: Archaeological Fieldwork is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

20: Artifact Analysis

When analyzing archaeological sites and artifacts, there are several things to consider. In this chapter, we'll explore dating, form, and meaning.

Dating

Dating artifacts and sites is crucial in archaeology as it helps establish timelines, understand cultural developments, and interpret the relationships between different archaeological finds.

Relative Dating Methods

Relative dating methods in archaeology are crucial for establishing the sequence of events without assigning specific calendar dates. One of the most foundational methods is **stratigraphy**, which relies on the principles of superposition and cross-cutting relationships (Harris, 1979). Superposition dictates that, in undisturbed layers of sedimentary rocks, the oldest layer lies at the bottom, and the youngest is at the top. Cross-cutting relationships help determine the relative ages of geological features that cut across rock layers.

Seriation is another key method, involving the analysis of artifact styles and frequencies to establish a relative chronology (Marquardt, 1978). By observing changes in artifact styles over time, archaeologists can create a sequence that reflects the relative ages of different objects. This method is particularly useful for dating assemblages of objects, such as pottery or grave goods.

Typology, on the other hand, entails categorizing artifacts based on shared characteristics to determine their relative age (Hill & Evans, 1972). By grouping artifacts into types based on similar features, such as shape, decoration, or construction techniques, archaeologists can establish a relative chronology. These methods are essential tools in archaeological research, providing a framework for understanding the relative chronology of archaeological sites and the cultural changes that occurred over time.

Absolute Dating Methods

Absolute dating methods provide specific chronological dates for archaeological finds. One widely used method is **radiocarbon dating**, which relies on the decay of carbon-14 in organic materials. By measuring the amount of carbon-14 remaining in a sample, archaeologists can determine its age (Hajdas et al., 2021).

Dendrochronology, or tree-ring dating, is another precise dating method. It involves analyzing the patterns of tree rings in wooden artifacts to establish a timeline (McGinnies, 1963). Each ring represents a year of growth, allowing for very accurate dating.

Thermoluminescence dating is used to date heated materials. It relies on the principle that objects exposed to high temperatures, such as pottery, trap electrons over time (Aitkin, 1985). When these materials are reheated, the trapped electrons are released as light, which can be measured to determine the age of the object.

Potassium-argon dating is used to date volcanic materials. It relies on the decay of potassium-40 into argon-40 in volcanic rocks (Walter, 1997). By measuring the ratio of these isotopes, scientists can calculate the age of the rock.

Optically Stimulated Luminescence (OSL) dating is used to date sediments. It relies on the fact that sediments exposed to sunlight will release trapped electrons (Vafiadou et al., 2007). By measuring the light-stimulated luminescence signals, archaeologists can determine when the sediment was last exposed to sunlight.

Uranium-series dating is used to date materials containing uranium. It relies on the radioactive decay series of uranium isotopes (Schwarcz, 1980). By measuring the ratio of uranium to its decay products, archaeologists can determine the age of the material.

Limitations and Challenges of Dating Techniques

Dating techniques in archaeology, while invaluable, come with limitations and challenges that must be considered. One critical factor is the precision and accuracy of dating methods. Each method has its margin of error, and factors such as sample contamination or environmental changes can affect results. It's crucial to understand these limitations when interpreting dates.

Sample availability is another challenge. Some dating methods require specific types of samples, such as organic material for radiocarbon dating or suitable volcanic rocks for potassium-argon dating. The availability and preservation of such samples can be limited, especially in certain archaeological contexts.

Interpreting gaps and discrepancies in dating results is also challenging. Dating techniques may not always provide continuous or consistent chronologies, especially when dealing with complex archaeological contexts. Archaeologists must be aware of the limitations of each method and consider alternative explanations for apparent discrepancies. Despite these challenges, dating techniques continue to advance, offering increasingly precise and reliable insights into the past.

Importance of Chronology in Archaeology

Chronology, the backbone of archaeology, is the science of arranging events in their order of occurrence in time. It plays a fundamental role in understanding the development of cultures over time, providing a framework for interpreting the past. One crucial aspect of chronology is establishing cultural sequences, which involves using dating techniques to order and understand the development of cultures over time. This allows archaeologists to track the evolution of societies, from their earliest beginnings to their eventual transformations or decline.

Another key role of chronology is in cultural comparisons. Archaeologists examine how different societies and regions evolved in relation to one another over time. By establishing chronological frameworks, researchers can compare the development of cultures, identify patterns of change, and understand the interactions between different groups of people.

Interpretation of cultural change is another critical aspect of chronology in archaeology. By linking chronological data with archaeological evidence, researchers can reconstruct cultural transformations. This involves analyzing how and why cultures change, such as shifts in subsistence strategies, social structures, or belief systems, over time.

Establishing chronology in archaeology involves several methods. **Cross-dating** is one approach, where artifacts from different sites or regions are compared to establish chronological relationships. **Calibration** is essential for radiocarbon dating, where adjustments are made to account for fluctuations in atmospheric carbon-14 levels. Additionally, **Bayesian analysis** is increasingly used to refine chronologies, incorporating multiple dating methods and statistical models to produce more accurate timelines and interpretations of the past.

Forms

The form of archaeological artifacts and features provides critical insights into the material culture of past societies, encompassing a wide range of objects and structures that reflect the creativity, technology, and beliefs of ancient peoples.

Lithics

Lithics are stone tools or artifacts made through the deliberate shaping of rocks, typically through flaking, chipping, or grinding, to create tools for various purposes. These tools include flaked tools, such as projectile points, blades, and scrapers, which are critical artifacts in archaeological studies. They offer valuable insights into ancient societies' technology, behavior, and cultural practices.

Various techniques are employed to analyze lithic technology, including microscopic examination, use-wear analysis, and typological classification. **Microscopic analysis** helps identify manufacturing techniques, while **use-wear analysis** reveals the functions of tools and the materials they were used on. **Typological classification** categorizes lithic artifacts based on shared characteristics, aiding in the interpretation of lithic assemblages and their cultural significance.

By studying lithic artifacts, archaeologists gain insights into ancient societies' hunting strategies, tool production methods, and resource exploitation practices. The types of lithic tools present at a site, along with their distribution and context, can reveal how ancient communities organized their labor, interacted with their environment, and adapted to changing ecological conditions over time.

Organic Materials

Organic materials, in the context of archaeology, refer to items derived from living organisms that have been preserved in the archaeological record. These materials include bone, wood, textiles, leather, and other plant and animal remains that provide valuable insights into past cultures. The study of organic artifacts involves examining their preservation, species identification, and use patterns.

Analyzing organic materials can reveal insights into various aspects of ancient life. For example, the study of animal bones can provide information about past diets, domestication practices, and hunting strategies. Wood artifacts can offer clues about construction techniques, tool making, and environmental adaptations. Textiles can reveal information about clothing, weaving techniques, and cultural practices related to dress and adornment.

Archaeologists use a variety of techniques to analyze organic materials. Species identification can be achieved through morphological analysis or, in the case of textiles, through techniques such as microscopy or chemical analysis. Use-wear analysis can reveal the functions of organic artifacts and how they were used in daily life. By combining these methods, archaeologists can reconstruct past subsistence strategies, clothing styles, and cultural practices, providing a richer understanding of ancient societies.

Ceramics

Ceramics, in archaeological terms, are objects made from fired clay, such as pottery vessels, figurines, and architectural elements. Pottery is one of the most abundant and enduring artifacts found in archaeological sites worldwide, providing valuable insights into past cultures. The study of ceramics involves examining their forms, decorations, and production techniques, which can reveal information about technological advancements, artistic styles, and cultural practices.

Analyzing ceramic artifacts involves various techniques, including typological classification, petrographic analysis, and chemical sourcing. Typological classification categorizes ceramics based on shared characteristics, helping archaeologists understand stylistic changes over time and across regions. Petrographic analysis involves examining the mineral composition of ceramics, which can reveal details about raw material procurement and manufacturing processes. Chemical sourcing analyzes the elemental composition of ceramics to determine their geological origin, providing insights into trade networks and cultural interactions.

Ceramics played a crucial role in ancient societies, serving functional, symbolic, and economic purposes. They were used for cooking, storage, and serving food, as well as for ritual and ceremonial purposes. The study of ceramics can provide insights into trade networks, social organization, and cultural identity. By examining the distribution of ceramic styles and the presence of foreign ceramics in archaeological sites, researchers can reconstruct ancient trade routes and networks. Ceramics can also reveal information about social status, as certain types of pottery may have been reserved for elite members of society. Additionally, decorative motifs and stylistic elements can provide clues about cultural beliefs, religious practices, and artistic traditions.

Metals

Metal artifacts, including tools, weapons, and ornaments, are essential archaeological finds that offer insights into ancient technologies and societal developments. The examination of metal artifacts involves analyzing their forms, functions, and manufacturing techniques, providing valuable information about past cultures.

To understand metal artifacts, archaeologists use various methods, including metallurgical analysis, X-ray fluorescence (XRF), and metallography. Metallurgical analysis involves studying the composition and structure of metals to determine their origin and manufacturing processes. XRF is used to analyze the elemental composition of metals, helping identify alloying elements and trace impurities. Metallography involves studying the microstructure of metal artifacts under a microscope to understand how they were processed and shaped.

Metals played significant social, economic, and symbolic roles in ancient societies. The production and use of metals were often closely tied to elite status and power. For example, the ownership of metal weapons and ornaments could signify social status or membership in a particular group. Metals were also important for economic exchange, as they were valuable commodities that could be traded over long distances. Additionally, metals had symbolic meanings in many cultures, representing strength, wealth, and craftsmanship. Understanding the social, economic, and symbolic roles of metals helps archaeologists reconstruct ancient societies and their belief systems.

Effigy Mounds

Effigy mounds are earthen mounds constructed in the shape of animals, symbols, or other figures. They are found primarily in the Midwestern United States, particularly in the regions around the Mississippi River and its tributaries. These mounds were built by Native American cultures, including the Hopewell and Mississippian peoples, between roughly 200 BCE and 1200 CE.

Effigy mounds are significant archaeological features as they provide insights into the religious, artistic, and social practices of ancient Native American cultures. The shapes of the mounds, often depicting animals such as birds, bears, and serpents, are thought to have had symbolic and spiritual meanings. The construction of these mounds required careful planning and coordination, indicating a level of social organization and communal effort within these ancient societies.

Effigy mounds are also important for understanding the relationship between ancient Native American cultures and their environment. The locations of the mounds often correspond to natural features in the landscape, such as rivers, lakes, and hills, suggesting a deep connection to the land and a belief system that incorporated the natural world into their spiritual beliefs.

Cairns

Cairns are human-made piles or stacks of stones, often used as landmarks, burial monuments, or ceremonial sites. They are found in various cultures and landscapes around the world, from the Arctic to tropical islands. Cairns can vary in size and complexity, from simple piles of rocks to elaborate structures with specific shapes or alignments.

In archaeological contexts, cairns are significant for several reasons. They can serve as markers for trails or boundaries, indicating routes through landscapes or delineating territories. Cairns are also used as burial monuments, with stones piled over graves to mark the final resting place of individuals or groups. In some cases, cairns are associated with ritual or ceremonial practices, serving as focal points for spiritual or religious activities.

Studying cairns can provide insights into past cultures' beliefs, social organization, and interaction with their environment. The construction of cairns requires careful planning and effort, suggesting a level of communal cooperation and organization within ancient societies. Cairns can also reveal information about ancient land use patterns, as their locations often reflect strategic points in the landscape, such as mountain passes, river crossings, or coastal areas. Overall, cairns are important archaeological features that offer valuable clues about the cultural practices and beliefs of past societies.

Boundary Markers

Boundary markers, such as stones, fences, or natural features, have played a significant role in human history as indicators of territorial limits. These markers serve practical purposes, delineating property lines, political boundaries, or sacred spaces. Archaeologically, boundary markers provide insights into ancient land use practices, social organization, and cultural beliefs. The placement and design of these markers can reveal how ancient societies perceived and interacted with their environment, as well as how they structured their communities.

The study of boundary markers can also illuminate ancient societies' spiritual and ritual practices. Many cultures imbued boundary-setting with religious or ceremonial significance, viewing these markers as more than just physical barriers but as symbolic representations of cosmic or divine order. Boundary markers thus offer a window into the spiritual beliefs and social customs of past societies, providing archaeologists with valuable clues about the cultural landscapes of the past.

Totem Poles

Totem poles are monumental carvings created by peoples of the Pacific Northwest Coast of North America, particularly the Haida, Tlingit, Tsimshian, and Kwakwaka'wakw (Barbeau, 1942). These tall, vertical sculptures are typically carved from cedar trees and feature symbols, animals, and ancestral figures that represent family lineages, stories, or spiritual beliefs.

Totem poles serve as important cultural and artistic expressions, reflecting the rich traditions and histories of these communities. They are often erected in prominent locations, such as village entrances or ceremonial sites, and play a significant role in community identity and storytelling.

Studying totem poles can provide insights into cultural groups' artistic techniques, social structures, and spiritual beliefs. The symbols and figures depicted on totem poles convey complex narratives and cultural values, offering a glimpse into the worldviews and traditions of these societies.

Chapter 20 Study Guide

1. Distinguish between absolute and relative dating methods. Describe some of the methods for each.
2. Identify some limitations in dating methods
3. Define chronology, and some of the methods for establishing it.

4. Define lithics, and distinguish between microscopic analysis, use-wear analysis, and typological classification.
5. Explore issues related to studying organic materials, ceramics, metals, effigy mounds, cairns, boundary markers, and totem poles.

This page titled 20: Artifact Analysis is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

21: Preservation

Avoiding the Elements

Avoiding exposure to the elements is crucial for the preservation of archaeological sites and artifacts. Water can cause erosion and damage to delicate materials, so sites should be located away from sources of water and drained properly. Sunlight, especially UV radiation, can fade and degrade organic materials, so shading structures or covers can help protect artifacts. Wind can erode surfaces and carry abrasive particles, so barriers or windbreaks can be used to reduce its impact.

Temperature fluctuations can cause expansion and contraction of materials, leading to cracks and damage. Maintaining a stable temperature through insulation or climate control systems can help mitigate this risk. Airborne particles and pollution can accumulate on surfaces, causing abrasion and chemical damage. Filtering systems and regular cleaning can help reduce these effects.

Humidity can promote mold growth and accelerate deterioration, so controlling humidity levels through ventilation or dehumidification is essential. Biological agents such as fungi, bacteria, and insects can cause decay and damage, so regular inspections and pest control measures are necessary. Human activity, including tourism, excavation, and development, can disturb sites and artifacts, so limiting access and implementing conservation guidelines are critical for preservation efforts.

The mummies of Guanajuato, Mexico, are a remarkable example of natural mummification (Robles Lacayo, 2023). Discovered in the city's cemetery, these mummies are remarkably well-preserved, with their skin, hair, and clothing intact. The process of mummification occurred under specific conditions, which have to be just right for natural mummification to take place. The bodies were interred in vertical crypts, which allowed for the preservation of the remains. Over time, the bodies became naturally mummified, creating a unique and eerie sight that draws visitors from around the world. Today, the mummies are housed in a museum in Guanajuato, where they continue to fascinate and intrigue visitors with their silent yet compelling presence.

Cleaning and Stabilizing

The meticulous cleaning and stabilization of artifacts are crucial aspects of archaeological practice, ensuring their long-term preservation and enabling researchers to study them effectively. These processes not only remove dirt and corrosion but also strengthen fragile materials, such as ceramics, glass, and organic remains, making them more resilient for display and study. Proper cleaning methods, whether mechanical, chemical, or through other specialized techniques, help maintain the integrity of artifacts, allowing for a more accurate understanding of past cultures and civilizations. Without these preservation efforts, artifacts may deteriorate over time, resulting in the loss of valuable historical information.

Cleaning and stabilizing metal artifacts involves two main methods. **Mechanical cleaning** utilizes brushes, wooden or plastic tools, and sometimes dental picks to remove dirt and corrosion without causing damage. **Chemical cleaning** involves applying solutions like weak acids to dissolve corrosion products, followed by thorough rinsing.

For ceramics and pottery, dry brushing is used to remove loose dirt, while wet cleaning involves gently washing with water and mild detergents to remove remaining soil. Consolidation is also applied to strengthen fragile ceramics.

Glass artifacts are cleaned by brushing with soft brushes to remove loose dirt, followed by submerging in water with mild detergents and careful rinsing.

Organic materials such as wood, leather, and textiles are stabilized using consolidants or adhesives to strengthen fragile fibers. Freeze-drying is employed for waterlogged materials to remove moisture and stabilize the artifact.

Stone artifacts undergo dry brushing to remove loose dirt and wet cleaning with water and brushes for more stubborn dirt, followed by air-drying.

Bone and ivory artifacts are cleaned by delicately brushing to eliminate soil, and consolidants are then applied to enhance their fragile structure. **Consolidants** are substances used to strengthen and stabilize fragile materials, such as bone or ivory, by filling in cracks and pores to prevent further deterioration.

For mixed material assemblages, a graduated cleaning approach is employed, beginning with the least invasive methods and escalating to more intensive cleaning as required. **Micro-excavation**, which involves the use of fine tools under a microscope for detailed cleaning, may also be utilized.

Heritage Preservation and Management

Heritage preservation involves the protection and conservation of archaeological sites and cultural landscapes for future generations. However, this task is not without its challenges.

One significant challenge is balancing conservation with development and tourism. While development and tourism can bring economic benefits to local communities, they can also pose a threat to the integrity of heritage sites. Managing tourism is especially critical, as large numbers of visitors can lead to wear and tear on fragile sites. **Heritage tourism** is an essential component of cultural heritage management. It involves traveling to experience the cultural and historical sites and activities of a particular region. While heritage tourism can provide economic benefits and raise awareness of cultural heritage, it must be managed carefully to avoid negative impacts on the sites and communities involved (Binoy, 2011).

Community involvement in heritage management is another key aspect. Engaging local communities in decision-making processes ensures that their perspectives and knowledge are considered. This approach leads to more sustainable and culturally sensitive preservation efforts. It also fosters a sense of ownership and pride in local heritage, which can contribute to its long-term protection.

Site Reconstructions and Interpretation

Anastylosis is a term often used in archaeology and architecture to describe the meticulous process of reconstructing ancient structures using their original components. This method involves dismantling and then reassembling the original stones or materials to restore the structure to its original form.

Interpretive approaches to site reconstructions and visualization play a crucial role in how we understand and interpret the past. Archaeologists and historians use various methods to reconstruct ancient sites, including architectural drawings, digital reconstructions, and physical reconstructions. These approaches help us visualize how ancient structures may have looked and functioned, providing valuable insights into past societies and cultures.

However, there are challenges associated with representing the past and avoiding biased narratives. Historically, reconstructions of ancient sites have sometimes been influenced by modern biases and interpretations, leading to inaccurate or misleading depictions. It is essential to engage with multiple perspectives and interpretations to present a more nuanced and accurate picture of the past.

Engaging with multiple perspectives and interpretations is crucial in archaeological and historical research. By considering diverse viewpoints, researchers can gain a more comprehensive understanding of past societies and cultures. This approach helps to avoid the imposition of modern biases and allows for a more accurate representation of the past. Additionally, engaging with local communities is essential in ensuring that reconstructions and interpretations are culturally sensitive and respectful.

Risk Management

Risk management plays a vital role in ensuring the long-term preservation of archaeological sites and artifacts. Archaeological sites are susceptible to a variety of risks, including natural disasters, environmental degradation, human activities, and vandalism. Effective risk management strategies aim to identify potential threats and implement measures to mitigate or prevent damage to archaeological heritage.

One of the primary challenges in risk management is the unpredictable nature of natural disasters, such as earthquakes, floods, wildfires, and hurricanes. These events can cause significant damage to archaeological sites and artifacts, leading to loss of valuable cultural heritage. To address this risk, archaeological organizations and conservation agencies often develop emergency preparedness plans that outline procedures for safeguarding sites and artifacts during emergencies.

Environmental degradation, including erosion, soil erosion, and climate change, poses another significant risk to archaeological sites. Rising sea levels, changing weather patterns, and increased pollution can accelerate the deterioration of cultural heritage. To mitigate these risks, conservation efforts may focus on implementing erosion control measures, such as vegetation management and soil stabilization, to protect vulnerable sites from environmental damage.

Human activities, including development, urbanization, agriculture, and infrastructure projects, also pose a threat to archaeological sites. Construction projects, in particular, can disrupt or destroy archaeological remains if proper precautions are not taken. To address this risk, regulatory measures and zoning ordinances may be implemented to restrict development in sensitive archaeological areas and ensure that cultural heritage is adequately protected.

Vandalism and looting represent another significant risk to archaeological sites and artifacts. Unauthorized excavation, theft, and destruction of cultural heritage can result in the loss of valuable archaeological data and artifacts. To combat this risk, archaeological organizations may collaborate with law enforcement agencies, community groups, and local stakeholders to develop strategies for preventing and detecting vandalism and looting.

Overall, effective risk management in archaeological preservation requires a comprehensive approach that considers the diverse threats to cultural heritage and implements proactive measures to safeguard archaeological sites and artifacts for future generations. By identifying and addressing risks, archaeologists and conservationists can ensure that our shared cultural heritage is protected and preserved for years to come.

Leave it to the Professionals

The Fresco of Jesus in the Sanctuary of Mercy church in Borja, Spain, underwent a "restoration effort" by Cecilia Giménez, an untrained amateur artist, in a sincere attempt to enhance the artwork. However, her restoration attempt, which took place in 2012, resulted in widespread controversy and became an unintentional example of how amateur restoration efforts can have unintended consequences. The restoration, which significantly altered the original fresco's appearance, sparked debates about the ethics and responsibilities of individuals who undertake such projects without proper training or expertise. The incident also highlighted the importance of professional conservation practices in preserving cultural heritage.

Chapter 21 Study Guide

1. Identify the "elements" that should be avoided.
2. Describe how the mummies of Guanajuato came to be.
3. Describe the various strategies for cleaning, including mechanical cleaning, chemical cleaning, consolidants, and micro-excavation.
4. Explore issues related to heritage management and heritage tourism.
5. Define anastylosis.
6. Identify issues related to risk management.

This page titled 21: Preservation is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

22: Historical Archaeology

Historical archaeology is a branch of archaeology that focuses on the study of human societies through their material remains in conjunction with written records. Unlike prehistoric archaeology, which primarily relies on artifacts and features to reconstruct past cultures, historical archaeology incorporates documentary evidence to provide a more complete understanding of the societies being studied. One of the most fascinating aspects of historical archaeology is its ability to illuminate the lives of people who lived in the more recent past, offering insights into their daily activities, social structures, and cultural practices. For example, the study of cuneiform, an ancient writing system used in Mesopotamia, provides a rich source of information about the political, economic, and religious life of the region's inhabitants. By combining archaeological evidence with cuneiform texts, researchers have been able to reconstruct aspects of ancient Mesopotamian society with remarkable detail.

Glyphic Writing Systems

Glyphic writing systems are forms of writing that use symbols or glyphs to represent words, syllables, or concepts. These symbols can be **pictographic** (representing objects or ideas through visual resemblance), **ideographic** (representing ideas or concepts directly), or **phonetic** (representing sounds). Glyphic writing systems can be found in various cultures and historical periods, and they are often associated with specific regions or civilizations. Examples include Egyptian hieroglyphs, Maya glyphs, and Chinese characters.

There are various forms of glyphic writing systems.

Petroglyphs are ancient rock carvings created by pecking, carving, or incising on rock surfaces. These images often depict animals, people, or abstract symbols and were created by various cultures around the world, including Native American tribes in North America, ancient peoples in Scandinavia and Australia.

Hieroglyphs are a system of writing that uses pictorial symbols to represent words or sounds. This writing system was used in ancient Egypt for religious texts, monumental inscriptions, and administrative documents. Hieroglyphs are among the oldest forms of writing and are known for their intricate and visually striking symbols.

Geoglyphs are large designs or motifs created on the ground, typically using stones, earth, or other materials. These designs are often best viewed from above and can range from simple geometric shapes to complex figures. The most famous examples of geoglyphs are the Nazca Lines in Peru, which include geometric shapes and animal figures.

Pictograms are simple, stylized images that represent objects or concepts. They are often used in combination with other writing systems to convey meaning. Pictograms were used by ancient civilizations such as the Sumerians and Egyptians and are still used today in signs, symbols, and emojis.

Logograms are written characters that represent words or morphemes (meaningful units) in a language. Unlike alphabets, which represent individual sounds, logograms represent whole words or meaningful parts of words. Logograms are used in languages like Chinese, where each character represents a word or concept.

Syllabaries are writing systems where each character represents a syllable. This is different from alphabets, where each character represents a single sound. Syllabaries are used in languages like Japanese (kana) and Cherokee, where each character represents a syllable rather than a single consonant or vowel sound.

Alphabets are writing systems where each character represents a single sound, or phoneme. The Latin alphabet used in English is an example of an alphabet, where each letter represents a specific sound or combination of sounds. Alphabets are among the most common writing systems in the world and are used in many languages.

Genealogical Research

Historical archaeologists often rely on written records to supplement their research, especially when studying more recent societies. **Genealogical research**, which traces family relationships and histories, can be a valuable tool for historical archaeologists. Written records such as baptismal, birth, death, and marriage records can provide valuable insights into the lives of individuals and families in the past.

Baptismal records, for example, often contain information about an individual's date of birth, parents' names, and sometimes even the names of grandparents. These records can help researchers reconstruct family trees and understand kinship patterns within a community. Birth and death records similarly provide information about individuals' lives and can help researchers track changes in population over time.

Vital records, which include birth, marriage, and death records, are crucial for genealogical research. These records are typically kept by government agencies or religious institutions and are often available to researchers. By carefully analyzing these records, historical archaeologists can reconstruct family histories, trace migration patterns, and gain insights into the social and cultural practices of past societies.

Marriage records are particularly useful for genealogical research, as they often include the names of both spouses, their ages, occupations, and sometimes the names of their parents. These records can also provide insights into social and economic relationships within a community. By cross-referencing these records with archaeological evidence, such as household artifacts or burial practices, researchers can gain a more comprehensive understanding of past societies.

Best Practices with Paper Records

When working with paper records in historical archaeology, it is essential to follow best practices to ensure the preservation of these valuable documents. Understanding these practices can help researchers avoid damaging or losing important information. When handling paper records, it is important to do so with clean hands to avoid transferring dirt and oils. Contrary to popular belief, archivists generally do not recommend using white gloves. The gloves can reduce dexterity and tactile sensitivity, increasing the risk of tearing delicate pages.

The use of gloves when handling paper records is a topic of debate among archivists and conservators. Some argue that gloves can provide protection against dirt and oils, while others argue that gloves can reduce dexterity and increase the risk of damage. Ultimately, the decision to use gloves should be based on the specific condition of the records and the advice of conservators.

Lamination is the process of encasing paper documents in a plastic film for protection. While lamination can protect documents from damage due to moisture and handling, it is generally not recommended for archival purposes. Lamination can make documents difficult to read, and over time, the plastic film can degrade, causing irreversible damage to the paper.

Proper storage is essential for preserving paper records. Documents should be stored in a stable environment with controlled temperature and humidity levels to prevent deterioration. Documents should also be stored in acid-free folders and boxes to protect them from damage.

Digitization is the process of converting paper documents into digital formats. Digitization can help preserve paper records by reducing the need for handling and providing access to the information without risking damage to the original documents. However, it is important to ensure that digitization is done using high-quality equipment and that the digital files are properly stored and backed up.

Following these best practices can help ensure the long-term preservation of paper records and make them accessible for future research.

Chapter 22 Study Guide

1. Define historical archaeology.
2. Explain what glyphic writing systems are.
3. Distinguish between pictographic, ideographic, and phonetic writing systems.
4. Distinguish between the following forms of glyphic writing systems: petroglyphs, hieroglyphs, geoglyphs, pictograms, logograms, syllabaries, and alphabets.
5. Define genealogical research.
6. Identify best practices for handling paper documents.

This page titled 22: Historical Archaeology is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

INDEX

No index terms found.

This page titled Index is shared under a license and was authored, remixed, and/or curated by jeffrey mccully.

GLOSSARY

A

Absolute dating | a specific numerical age for something

Accession number | a unique identification code used to organize and track the artifacts within the catalog, ensuring that each artifact can be easily located and referenced for research purposes

Acoustic phonetics | the physical properties of speech sounds, such as their frequency and amplitude as they travel through the air

Acute explosion | the incident of violence, which may be physical, sexual, and/or emotional, occurs after the tension building phase

Adaptation | organisms change over time in response to their environment

Aerial photography | a technique used in archaeology to capture images of archaeological sites from above

Affricate | begins as a plosive and releases as a fricative

Agribusinesses | are large corporations that control various aspects of food production, from seed manufacturing to food processing and distribution

Agricultural societies | characterized by substantial increases in crop cultivation efficiency, larger populations, more settled lifestyles, and the ability to produce surpluses

Alphabets | writing systems where each character represents a single sound, or phoneme

Alveolar | articulation by pressing the tongue against the hard ridge behind the upper teeth (the alveolar ridge)

Amber inclusion | an animal's remains are preserved in amber

Ambilineal systems | allow for inheritance through either line (mother or father)

Amelioration | occurs when a word acquires a more positive or elevated connotation compared to its earlier neutral or negative sense [Discussed in Chapter 9 & Chapter 11]

Anastylosis | the process of restoring or reassembling large, often ancient, structures or monuments that have been damaged, destroyed, or fallen into disrepair

Ancestor veneration | a religious or cultural practice that involves honoring and revering deceased ancestors

Androcentrism | prioritizes men's experiences in understanding the world

Animism | a belief system that attributes spiritual or supernatural qualities to natural phenomena, such as plants, animals, rocks, rivers, and other elements of the natural world

Anthropology | the study of humans in all their complexity

Antiquarianism | emerged in the Renaissance, was characterized by a fascination with the material remains of ancient civilizations

Approximant | slight constriction of the airflow

Archaeological fieldwork | the practical activities involved in locating, documenting, and excavating archaeological sites

Archaeology | uncovers and interprets material remains to understand past human behaviors and civilizations

Archaic-human | refers to the significant, pre Homo sapiens species of the genus Homo

Arranged marriages | involve families or community leaders selecting spouses

Articulatory phonetics | the physical processes involved in producing speech sounds, such as the movements of the articulators (lips, tongue, etc.)

Atheism | the lack of belief in the existence of gods or deities. Atheists can be divided into non-religious and religious atheists

Auditory phonetics | how speech sounds are perceived by the human ear

Authority | refers to the right to exercise power

B

Backfilling | a critical step in archaeological excavation that involves refilling the excavated area once the archaeological work is complete

Bands | small, kinship-based groups of hunter-gatherers who are typically mobile and egalitarian, with leadership based on qualities such as age, skill, or knowledge

Barter | goods were directly exchanged for other goods without a standardized medium of exchange

Bayesian analysis | increasingly used to refine chronologies, incorporating multiple dating methods and statistical models to produce more

accurate timelines and interpretations of the past

Bechdel-Wallace Test | a heuristic used to assess the gender representation of a movie by asking whether it features two women who talk to each other about something other than a man.

Behaviorism | suggests that language learning is a result of conditioning and reinforcement

Bicondylar angle | the angle between the femur (thigh bone) and the knee joint

Bilabial | articulation using both lips

Bilateral systems | recognizes inheritance descent through both parents equally

Bilingualism | the ability to speak two languages fluently

Biological anthropology | explores human evolution, genetics, primatology, and the biological diversity of past and present populations

Biological profile | the set of characteristics derived from the analysis of skeletal remains

Biopiracy | the stealing of indigenous knowledge about the biosphere to generate profit (Rural Advancement Foundation International, 1993)

Biostratigraphy | fossil succession: Uses the principle of fossil succession, where specific fossils with known evolutionary ages correlate with rock layers or sedimentary deposits, aiding in the relative dating of geological or archaeological materials

Blunt force trauma | is identified by examining bone surfaces for areas of impact, such as depressed fractures or bone fragments that fit together

Body fossils | animal whose body underwent a process of permineralization

Borrowing and loanwords | linguistic phenomena that occur when languages come into contact, leading to the adoption of words from one language to another

Bottleneck effect | occurs when a sudden reduction in population size due to a catastrophic event, disease outbreak, or natural disaster leads to a random loss of diversity

Bottom-to-top language death | a phenomenon where a language ceases to be used in everyday conversation but remains preserved in formal, ritualistic contexts or official settings

Boundary markers | such as stones, fences, or natural features, have played a significant role in human history as indicators of territorial limits

Bride price | payment from the groom's family to the bride's

Broadening | the expansion of a word's meaning to encompass a broader or more general sense than its original meaning

Broca's area | located in the frontal lobe of the brain, is crucial for language production [Discussed in Chapter 4 and Chapter 8]

Bronze Age | Approximately 3300 to 1200 BCE, characterized by the widespread use of bronze, a metal alloy made primarily of copper and tin, which was used to create tools, weapons, and other objects [Discussed in Chapter 5, Chapter 14, and Chapter 18]

Bureaucratic leaders | adhere strictly to established rules and procedures, ensuring consistency and fairness in decision-making

C

Cairns | human-made piles or stacks of stones, often used as landmarks, burial monuments, or ceremonial sites

Calibration | essential for radiocarbon dating, where adjustments are made to account for fluctuations in atmospheric carbon-14 levels

Capitalism | a dominant economic system in market economies, emphasizes private ownership of the means of production and the pursuit of profit

Capitalist ideology | values the private ownership of wealth, such that the poor become minority groups

Cases | the different forms a noun, pronoun, or adjective takes to show what job it's doing in the sentence

Ceramics | in archaeological terms, are objects made from fired clay, such as pottery vessels, figurines, and architectural elements

Chalcolithic (Copper) Age | A transitional period between the Neolithic and Bronze Age, characterized by the use of copper alongside stone tools, beginning around 5000 BCE in some regions

Character displacement | occurs when closely related species sharing the same environment and ecological roles evolve differences in order to reduce competition for resources

Charismatic leaders | inspire and motivate others through their charisma and vision, often gaining followers through their dynamic personality and persuasive abilities

Chemical cleaning | involves applying solutions like weak acids to dissolve corrosion products, followed by thorough rinsing

Chiefdoms | characterized by centralized leadership, usually hereditary and a hierarchical social structure

Chronology | the backbone of archaelogy, the science of arranging events in their order of occurrence in time

Cisnormativity | grants legitimacy to people who are cisgender. Cisgender people identify with the gender that was assigned to them at birth

Clade | a group of organisms based on their last common ancestors with shared derived traits

Cofferdams | structures built to create a dry work environment below the waterline for archaeological excavations

Cognates | are words in different languages that have a common origin

Collective Identity | the shared sense of belonging and common experiences among members of a group, community, or society

Colonization | the process by which one society establishes political control over another territory and its people

Communism | a more extreme form of socialism, seeks to create a classless, stateless society where all property is owned communally (Marx & Engels, 2008)

Commuters | Term used by Brekhus (2003) after interviewing gay men to get an understanding of how they experience their identities. Commuters are 100% gay 15% of the time.

Comparative anatomy | is the study of the similarities and differences in the anatomy of multiple species in order to understand their evolutionary relationships and biological structures

Comparative method in historical linguistics | a technique used to establish relationships between languages and to reconstruct their common ancestral forms

Comparative method in religious studies | involves comparing and contrasting different religious traditions to identify similaries, differences, and patterns of belief and practice

Compositional | wherein smaller units, such as words, combine to create larger, meaningful structures like phrases, sentences, and paragraphs

Conflict resolution | the process of addressing conflicts and disputes in a peaceful manner

Consensus-building | involves seeking agreement among group members through discussion and negotiation, often aiming for a decision acceptable to all parties

Consent | is when people give permission to be part of a research study

Consolidants | substances used to strengthen and stabilize fragile materials, such as bone or ivory, by filling in cracks and pores to prevent further deterioration

Context | the precise location of an archaeological find and its spatial and environmental relationships to other artifacts, features, and the site as a whole

Convergent evolution | the process by which unrelated species independently evolve similar traits or adaptations in response to comparable environmental pressures or ecological roles

Coprolite | fossilized poop

Cosmology | the beliefs and myths that a culture or religious tradition holds about the origin, structure, and nature of the universe

Creative adaptations and cultural innovations | are responses to globalization that involve the reinterpretation and recontextualization of traditional practices in contemporary contexts

Creole | emerge when a pidgin language becomes the native language of a community, leading to its expansion and elaboration into a fully developed language with its own grammar, vocabulary, and identity

Critical Period Hypothesis | proposes there is a biologically determined period during which language acquisition must occur for an individual to attain native-like proficiency (Penfield & Roberts, 1959; Lenneberg, 1967)

Cross cousin marriage | a marriage system in which individuals marry the children of their parents' opposite-sex siblings (i.e., the children of their father's sister or mother's brother)

Cross-dating | where artifacts from different sites or regions are compared to establish chronological relationships

Cult | often referred to as a new religious movement (NRM), is a religious or spiritual group that has emerged relatively recently and is often characterized by novel or unorthodox beliefs and practices

Cultural anthropology | examines the social structures, traditions, and everyday practices that shape human societies

Cultural commodification | the process of turning cultural practices, symbols, and artifacts into commodities for commercial purposes

Cultural determinism | the idea that culture determines human behavior

Cultural marker | the essence and heritage of individuals

Cultural performance | specific events or activities that are intentionally performed for an audience, such as rituals, ceremonies, theater, or musical performances

Cultural relativism | the practice of understanding a culture on its own terms, without imposing one's own cultural values

Cultural revitalization movements | aim to revive and reclaim cultural practices and identities that have been marginalized or threatened by globalization

Cultural systems of exchange | such as gift-giving, potlatch, and barter, play a role in food distribution. These practices are not just economic

transactions, but also social and cultural rituals that reinforce social ties and status within a community

Culture | to shared beliefs, values, and practices

Culture shock | the feelings of disorientation and discomfort experienced when exposed to a new culture

Cytoplasm | Gelatinous fluid inside the cell membrane that contains organelles

D

Deforestation and habitat loss | as forests are cleared to make way for agricultural land, ecosystems are disrupted, leading to the loss of biodiversity and displacement of wildlife

Dendrochronology | or tree-ring dating, analyzes the patterns of tree rings in wooden artifacts to establish a timeline (McGinnies, 1963)

Dental | articulation involving the tongue pressing against or near the teeth

Deoxyribonucleic acid (DNA) | a molecule that encodes the genetic instructions used in the development and functioning of all known living organisms

Dialects | variations of a language that occurs within specific regions, social groups, or communities

Diasporic identities | emerge among communities forced to leave their homelands due to conflict, persecution, or other reasons

Differential Reproductive Success | Individuals with advantageous traits are more likely to survive and reproduce

Digitization | the process of converting paper documents into digital formats

Diphthongs | vowel sounds characterized by a glide or transition from one vowel quality to another within the same syllable

Directional natural selection | favors individuals with traits at one extreme of the range, leading to a shift in the average phenotype of a population over time

Discrimination | the unfair treatment that a category of people experiences

Disproportionately overrepresented | the percentage of representation is higher than their percentage in the population

Disproportionately underrepresented | the their percentage of representation is lower than their percentage in the population

Disruptive natural selection | favors individuals with extreme traits at both ends of the range, potentially leading to the formation of distinct phenotypic groups within a population

Division of labor | individuals or groups are assigned specific tasks based on abilities, skills, and social status

Dominant group | a social group that holds a higher position in terms of power, privilege, and social status compared to a minority group

Doublespeak | a form of language deliberately employed to deceive or obscure meaning, often using ambiguous or contradictory terms

Dowry | payment from the bride's family to the groom's

E

Effigy mounds | earthen mounds constructed in the shape of animals, symbols, or other figures

Empires | large political systems in which a central government controls territories and diverse populations

Empirical knowledge | derived from careful observation, controlled experiments, and logical reasoning

Endocasts | casts of the brain's interior

Enlightenment | was an intellectual movement that emphasized reason, science, and skepticism of traditional authority (1600s–1700s)

Ethnic cleansing | the systematic and violent removal of an ethnic or religious group from a certain area with the intent to create a region ethnically homogenous

Ethnocentrism | the tendency to view one's own culture as superior to others

Ethnographic research | involves immersing oneself in the culture being studied, often through fieldwork and participant observation

Ethnolinguistics | studies how language reflects culture

Eugenics | is the belief in improving the genetic quality of a population by controlling reproduction

Eukaryotic cells | cells which contain a nucleus

Euphemisms | linguistic tools employed to replace harsh, blunt, or uncomfortable terms with milder or more socially acceptable alternatives

Evolutionary transition | marks a shift in traits or characteristics over evolutionary time

Expressive culture | a wide range of creative and artistic practices that convey meaning, values, and emotions within a cultural context

Expressive leaders | focus on maintaining group harmony and cohesion, often emphasizing the emotional well-being of group members

Extended families | include relatives beyond the nuclear family, such as grandparents, aunts, uncles, and cousins, are also prevalent in many

cultures

F

Fast mapping | a cognitive process that allows individuals, particularly children, to quickly acquire the meaning of a new word after a single exposure or a few exposures

Field catalog | used in the field (at the archaeological site) to record detailed information about each artifact or feature as it is uncovered

Food deserts | are areas where access to fresh, healthy food is limited, often due to a lack of grocery stores or transportation

Food surplus | is an excess of food production beyond immediate consumption needs

Food swamps | are areas where unhealthy, processed foods are more readily available than nutritious options, contributing to health disparities and obesity

Food taboo | a social or religious custom prohibiting the consumption of certain foods

Foragers | relying on hunting and gathering for sustenance

Forensic anthropology | the scientific study of human skeletal remains in the context of legal investigations

Fossil record | the amassed collection of preserved remains and traces of ancient organisms found in geological formations

Fossils | the remains of ancient plants and animals

Founder effect | occurs when a small group of individuals establishes a new population

FOXP2 | a gene that has garnered significant attention for its association with language development (Marcus & Fisher, 2003)

Fracture analysis | careful examination of fractures to determine their type (e.g., linear, oblique, spiral) and assess whether they occurred before or after death

Fricative | airflow through a narrow channel causing friction

Frontness/backness of the tongue | refers to whether the tongue is positioned towards the front or back of the mouth when producing a vowel sound

G

Gaslighting | a form of psychological manipulation through which one person systematically undermines another's sense of reality, often by denying or distorting facts, events, or perceptions (Sweet, 2019)

Gender roles | the societal expectations regarding behaviors, attitudes, and activities deemed appropriate for individuals based on their gender within family structures

Gene flow | occurs with the transfer of genetic material between populations, enhancing genetic diversity and countering the effects of genetic isolation

Genealogical research | which traces family relationships and histories, can be a valuable tool for historical archaeologists

Genealogy | the study of family history and descent, tracing the lineage of individuals and families through generations

Genealogy of knowledge | a lineage of ideas where each generation builds upon the intellectual foundations of the past

Genetic drift | occurs in small populations when chance events lead to changes in allele frequencies, which potentially results in the loss of genetic diversity over generations

Genetics | is the scientific study of genes, heredity, and variation in organisms [Discussed in Chapter 2 and Chapter 3]

Genocide | the killing in part or totality of a cultural group

Geoglyphs | large designs or motifs created on the ground, typically using stones, earth, or other materials

Geologic time scale | a chronological framework that divides Earth's history into distinct intervals based on significant geological events

Globalization | the process of increased interconnectedness and interdependence among countries, economies, and cultures around the world

Glottal | articulation involving the action of the glottis, the space between the vocal cords

Glyphic writing systems | forms of writing that use symbols or glyphs to represent words, syllables, or concepts

Gradual language death | the slow replacement of one language by another over time

Grammatical gender | is a linguistic feature found in many languages whereby nouns and pronouns are categorized into classes or genders based on characteristics such as biological sex, animacy, or arbitrary assignment (Comrie, 1999)

Great Vowel Shift | a significant sound change that occurred in the English language between the 14th and 18th centuries

Grid walking | a systematic survey method used in archaeological fieldwork, typically employed after reconnaissance and line walking to cover the entire site

Grimm's Law | formulated by linguist Jacob Grimm in the early 19th century, it describes a systematic sound change in the history of Germanic languages (Douse, 1876)

Ground Penetrating Radar (GPR) | a non-invasive geophysical method used to detect subsurface features without excavation

Ground surveys | on-the-ground exploration and examination of an area for archaeological purposes

Gunshot trauma | Gunshot wounds can leave characteristic marks on bones, including entrance and exit wounds. The size and shape of these defects can indicate the caliber of the firearm used

H

Height of the tongue | refers to how high or low the tongue is positioned in the mouth when producing a vowel sound

Heritage tourism | an essential component of cultural heritage management, involving traveling to experience the cultural and historical sites and activities of a particular region

Heteronormativity | grants legitimacy to heterosexual relationships, such that people who are not heterosexual become members of minority groups

Hierarchy | a system of ranking individuals or groups based on social importance, power, or prestige

Hieroglyphs | a system of writing that uses pictorial symbols to represent words or sounds

Historic | all history since the beginning of writing [Discussed in Chapter 5 and Chapter 18]

Historical archaeology | a branch of archaeology that focuses on the study of human societies through their material remains in conjunction with written records

Historical linguistics | the branch of linguistics that studies how languages change over time

Holocene | 11.7 kya to present, Rise of Homo sapiens, development of agriculture, and the establishment of complex societies

Homo | human

Honeymoon phase | the abuser feels remorseful, apologizes, and may shower the victim with gifts or promises that it will never happen again, occurs after the acute explosion

Horizontal excavation | involves digging horizontally across a site to expose a large area at a single level

Horticultural societies | relied on simple tools such as digging sticks or hoes to cultivate crops like wheat, barley, and rice, leading to more settled communities

Humanism | a focus on human potential, individuality, and reason, prioritizing the value of human experience and achievements over religious or supernatural explanations

Hyoid bone | a unique component of the vocal tract, this U-shaped bone plays a crucial role in the intricate dance of speech and language production (Auvenshine & Pettit, 2020)

I

Identify formation | the process through which individuals develop a sense of self and establish a coherent understanding of who they are in relation to the world around them

Identity | a complex and multifaceted concept that refers to how individuals perceive themselves and how they are perceived by others

Identity Theory | theory developed by sociologist Sheldon Stryker (1980) posits that society is a stable structure reflected in patterns of behavior

Ideographic | a glyphic writing symbol representing ideas or concepts directly

Ideology | is a set of beliefs, values, and ideas that shape an individual's or a group's worldview, guiding their actions and interactions with society

in situ | in their original position

Incest taboo | prohibits sexual relations between close relatives

Industrial Revolution | a period of profound technological, economic, and social change that began in the late 18th century

Infantilization | a process whereby individuals or groups are treated or referred to in a manner that diminishes their autonomy, maturity, or authority

Inheritance | **1.** genetic traits passed from one generation to another; **2.** the process by which property, titles, and obligations are passed down from one generation to another

Instrumental leaders | prioritize task accomplishment and efficiency, focusing on goal achievement

Integrators | Term used by Brekhus (2003) after interviewing gay men to get an understanding of how they experience their identities. Integrators are 15% gay 100% of the time.

Intensive cultivation | this method aims to maximize yields by using large-scale monoculture, where a single crop is grown over extensive areas

Interactionist theories | emphasizes the role of social interaction and cultural context in language development

International Phonetic Alphabet (IPA) | a standardized system for representing the sounds of human language

Interpersonal discrimination | the unfair treatment of individuals based on characteristics such as race, gender, ethnicity, sexual orientation, or other personal attributes

Intersectionality | concept coined by legal scholar Kimberlé Crenshaw (1989) emphasizes that an individual's identity is shaped by the intersection of multiple social categories (e.g., race, gender, class) and that these intersecting identities interact to create unique experiences of privilege and oppression

Iron Age | Approximately 1000 BCE onward, characterized by the widespread use of iron for tools and weapons, enabling stronger, more durable technologies and major social and military changes [Discussed in Chapter 5 and Chapter 18]

Irrigation system | a method used to provide water to plants to help them grow

J

Joint families | where multiple generations live together

K

Kinship | the system of social relationships that form the basis of society, defining the bonds between individuals through blood, marriage, or adoption

kya | Thousands of years ago

L

Labiodental | articulation involving pressing the bottom lip against the top teeth

Lamination | the process of encasing paper documents in a plastic film for protection

Language acquisition | the process through which humans acquire the capacity to perceive, produce, and use language

Language documentation | involves collaborative efforts with native speakers to record and preserve endangered languages

Language family | a group of related languages

Language loss/language death | occurs when a language ceases to be spoken or used in a community

Language revitalization | entails efforts to revive endangered or dormant languages, aiming to preserve linguistic diversity and cultural heritage

Language structure | of the fundamental components that govern human communication

Lateral | airflow along the sides of the tongue

Law of Association | states that artifacts found in the same stratigraphic layer are likely to be roughly the same age and associated with the activities or contexts of that time

Legitimacy | the belief that the exercise of power is rightful and appropriate

Length | refers to the duration of vowel sounds

Lexical change | the evolution and transformation of words over time

Lexicon | is the repository of words and their meanings stored in the mind of a speaker or community of speakers

Lifestylers | Term used by Brekhus (2003) after interviewing gay men to get an understanding of how they experience their identities. Lifestylers are 100% gay 100% of the time.

Light Detection and Ranging (LiDAR) | is a remote sensing technology that uses laser pulses to measure distances to the Earth's surface

Line walking | a systematic survey method in archaeological fieldwork, involves drawing lines across a site, typically 20 meters apart and numbered for identification

Linguistics | the scientific study of language, encompassing its structure, evolution, and social functions

Logograms | written characters that represent words or morphemes (meaningful units) in a language

Looting | a more destructive form of treasure hunting, involves the deliberate and systematic removal of artifacts from archaeological sites

Love marriages | where individuals choose their spouses

Lower Paleolithic | Approximately 2.6 mya to 300 kya [Discussed in Chapter 5 and Chapter 18]

M

Market exchange | based on the principles of supply and demand, where goods are bought and sold at a price determined by market forces

Market-based economies | prevalent globally, characterized by the exchange of goods and services through markets where prices are determined by supply and demand

Marriage | a socially recognized union between individuals that establishes rights and obligations between them, as well as between them and their children, and in-laws

Matrilineal | determine kinship and inheritance through the mother's line

Matrilocal | married couples reside near the woman's family

Mechanical cleaning | utilizes brushes, wooden or plastic tools, and sometimes dental picks to remove dirt and corrosion without causing damage

Mendelian traits | have only two possible variations of a gene (one dominant, and one recessive)

Mesolithic | Middle Stone Age: Approximately 10 kya to 8 kya [Discussed in Chapter 5 and Chapter 18]

Micro-excavation | involves the use of fine tools under a microscope for detailed cleaning, may also be utilized

Microscopic analysis | helps identify manufacturing techniques

Middle Paleolithic | 300 kya to 30-40 kya [Discussed in Chapter 5 and Chapter 18]

Minority groups | may not necessarily be the smaller in numbers; instead have less power and influence in society compared to dominant groups

Miocene | 23 to 5.3 mya, Early primates and divergence of hominoids

Mitochondria | Responsible for cellular respiration, producing energy by converting nutrients into ATP

Mitochondrial DNA (mtDNA) | the genetic material found in a cell's mitochondria, which are the energy-producing structures within cells

Modern human | the particular species *Homo sapiens*

Mold fossils | animal or plant dies and the mud around it quickly makes a mold of its shape

Monogamy | where individuals have only one spouse

Mononormativity | grants legitimacy to people who are in monogamous relationships

Monophthongs | vowel sounds characterized by a single, stable articulatory quality throughout their duration

Monotheism | a religious belief system that asserts the existence of only one god or deity. In monotheistic religions, this single god is typically viewed as the creator and ruler of the universe, possessing supreme moral and spiritual authority

Morphology | the study of the structure and formation of words in a language

Multiculturalism | emphasizes the coexistence and appreciation of different cultures within a society

Multilingualism | the ability to speak three or more languages fluently

mya | Millions of years ago

Myth | in the field of anthropology and religious studies a myth is a traditional narrative that is considered sacred or culturally significant within a particular society

N

Narrowing | involves a word's meaning becoming more specific or limited compared to its earlier, more general sense

Nasal | airflow through the nose instead of the mouth

Nasalization | involves the addition of nasal airflow to vowel sounds

Nativist theories | proposes that humans are born with an innate capacity for language acquisition

Natural partitions hypothesis | suggests we learn nouns before verbs

Natural selection | traits that enhance the chances for survival and reproduction in a given environment become more common in a population over time

Neolithic | New Stone Age: Approximately 8 kya to 4 kya, agriculture emerged as a more productive subsistence strategy than hunting and gathering [Discussed in Chapter 5, Chapter 14, and Chapter 18]

Neolithic revolution | a significant transition from nomadic foraging to horticultural and pastoral lifestyles, occurring around 10,000 years ago

Neolocal | married people establishing a new residence, regardless of where their families live

Nepotism | the favoritism shown to family members in various aspects of life, including employment and resource allocation, can be influenced

by lineage systems and inheritance practices

Nontheism | a broad category that includes any belief system or philosophical position that does not affirm the existence of gods or other deities

Nuclear family | consisting of parents and their children, is a common form found in many societies

Nucleus | Contains the cell's DNA and is surrounded by the nuclear envelope, a double membrane with pores that regulate molecule exchange with the cytoplasm

O

Oligocene | 33.9 to 23 mya, Emergence of early primates

Optically Stimulated Luminescence (OSL) | used to date sediments, relies on the fact that sediments exposed to sunlight will release trapped electrons (Vafiadou et al., 2007)

Oral tradition | the transmission of cultural knowledge, beliefs, and practices through spoken stories, songs, and rituals, rather than through written texts

Organic farming | an agricultural approach that prioritizes environmental sustainability, biodiversity conservation, and the use of natural inputs

Organic materials | in the context of archaeology, refer to items derived from living organisms that have been preserved in the archaeological record

Ossification | the gradual hardening and fusion of bones over time

Osteology | the study of bones

Out of Africa hypothesis | posits that anatomically modern humans originated in Africa and subsequently migrated to populate other regions

P

Palatal | articulation involving raising the middle part of the tongue towards the hard palate

Paleoanthropology | the study of ancient humans

Paleolithic | Old Stone Age: Approximately 2.6 mya to 10 kya, spans from the first Hominin stone tool use (3.3 mya) to the Neolithic revolution; sub-divided into lower, middle, and upper [Discussed in Chapter 5, Chapter 14, and Chapter 18]

Pantagamy | also known as group marriage, is a form of marital arrangement where all members of the group are married to each other

Parallel cousin marriage | a marriage system in which individuals marry the children of their parents' same-sex siblings (i.e., the children of their father's brother or mother's sister)

Participant observation | involves immersing oneself in the culture being studied to gain a deep understanding of its practices and beliefs

Pastoral societies | rely on the raising and herding of domesticated animals such as cattle, sheep, goats, or camels

Patriarchy | values the experiences of men, such that people who are not men become minority groups

Patrilineal | determine kinship and inheritance through the father's line

Patrilocal | married couples reside near the man's family

Pejoration | describes a word taking on a more negative or lower connotation than it had originally [Discussed in Chapter 9 & Chapter 11]

Pelvis | the bony structure connecting the spine to the lower limbs

Performing culture | the everyday actions, behaviors, and interactions through which culture is expressed and enacted

Permanent catalog | artifacts removed from the site are transferred to a permanent catalog for further study and curation. permanent catalog includes more detailed information about each artifact, such as its measurements, materials, and any relevant historical or cultural context

Permineralization | when minerals gradually replace teeth and bones over time

Personal Identity | includes individual characteristics such as personality traits, interests, values, and beliefs

Petroglyphs | ancient rock carvings created by pecking, carving, or incising on rock surfaces

Phonation | the process of sound production in the larynx, specifically the vibration or lack of vibration of the vocal cords during the production of speech sounds

Phonemes | the smallest distinctive units of sound in a language

Phonetic writing | a glyphic writing symbol representing sounds

Phonetics | the branch of linguistics that deals with the study of speech sounds

Phonology | examines how speech sounds are organized in language

Phospholipid bilayer | a double membrane made of lipids and proteins that regulates molecule and ion passage

Pictograms | simple, stylized images that represent objects or concepts

Pictographic | a glyphic writing symbol representing objects or ideas through visual resemblance

Pidgin | languages that arise when speakers of different languages come into contact and need to communicate, often for trade or other practical purposes

Pilgrimage | a type of ritual journey to a sacred or significant place that holds spiritual or cultural significance

Pleistocene | 2.6 mya to 11.700 kya, Diversification of hominin species, glaciations, and adaptation to various environments

Pliocene | 5.3 to 2.6 mya, Emergence of hominins and early hominin diversity

Plosive | complete closure of the vocal tract followed by a sudden release of air

Politeness and social distance in language | the ways in which speakers show respect or familiarity towards others

Polyamory | "multiple loves," allows individuals to have romantic relationships with multiple partners, all of whom may also have multiple romantic relationships

Polyandry | is when one wife has multiple husbands (Peter, 1963; Starkweather & Hames, 2012)

Polygamy | where an individual has multiple spouses

Polygyny | is when one husband has multiple wives (Farrell et al., 2014)

Polytheism | religious belief system that acknowledges and worships multiple gods or deities

Postalveolar | articulation involving the tongue being raised towards the area just behind the alveolar ridge (the hard ridge behind the upper teeth) but without making direct contact with it

Potassium-argon dating | K-Ar: Evaluates the decay of potassium-40 isotopes to argon-40 in volcanic rocks or minerals; useful for dating volcanic rocks and associated fossil layers ranging from thousands to millions of years old [Discussed in Chapter 5 and Chapter 20]

Power dynamics | the distribution of power and authority within the family unit, which can impact decision-making, access to resources, and overall family dynamics

Pragmatics | the study of language in context, focusing on how meaning is influenced by factors such as speaker intention, social context, and cultural norms

Prehistoric | all history before writing [Discussed in Chapter 5 and Chapter 18]

Prejudice | an idea, thought, or belief about a group of people. Prejudices can include stereotypes

Principle of Original Horizontality | states that layers of sediment are originally deposited horizontally due to gravity

Principle of Superposition | states that in any undisturbed sequence of strata, the youngest layer is on top, and the oldest is at the bottom

Privilege | a special right or advantage that is shared by a group of people

Prokaryotic cells | cells which lack a nucleus

Pronouns | linguistic tools used to refer to entities previously mentioned or to replace nouns in a sentence

Proto-human | the non-Homo genera of the subtribe Hominina, it includes all species of Sahelanthropus, Orrorin, Ardipithecus, Australopithecus, Kenyanthropus, and Paranthropus

Pseudoarchaeology | a term used to describe interpretations of the past that are not based on scientific evidence or methods (Fagan, 2006)

Punctuated equilibrium model | posits that languages remain stable for long periods and then undergo rapid change

Pythagorean Theorem | the square of the length of the hypotenuse of a right triangle is equal to the sum of the squares of the lengths of the other two sides

R

Radical language death | the abrupt demise of a language due to its speakers shifting to a different language, often because of intense political oppression or genocide

Radiocarbon dating | Carbon-14: Measures the decay rate of carbon-14 isotopes in organic materials; effective for dating materials up to approximately 50,000 years old [Discussed in Chapter 5 and Chapter 20]

Reciprocity | a form of exchange where goods or services are exchanged with the expectation of future return

Reconnaissance walking | a method used in archaeological fieldwork, involves an initial survey of an area to locate potential sites by visually inspecting the surface for signs of archaeological features or artifacts

Redistribution | involves the collection of goods or resources by a central authority, who then redistributes them among society members

Referentiality | the capacity of language to denote and convey meaning about the external world

Relative dating | establishes where something fits within a chronological sequence of events or objects without assigning specific calendar

dates [Discussed in Chapter 5 and Chapter 20]

Religion | is a complex and multifaceted cultural phenomenon involving beliefs, practices, and rituals that often revolve around the divine, spiritual, or transcendent

Remote sensing technologies | involve using instruments to gather information about a site from a distance, such as aerial photography or satellite imagery

Renaissance | a revival of ancient Greek and Roman texts, philosophies, and ideas (1300s–1600s)

Repatriation of cultural artifacts | involves the return of objects to their places of origin or to the descendants of the cultures that created them (Powell et al., 1993)

Repatriation of human remains | the process of returning human remains to their country or community of origin

Resin fossils | animal or plant is trapped in the resin of a plant

Rites of passage | rituals that mark significant transitions in an individual's life, such as birth, puberty, marriage, and death

Ritual | a symbolic action or set of actions performed in a prescribed manner, often with deep cultural or religious significance

Roundedness of the lips | refers to whether the lips are rounded when producing a vowel sound

S

S-shaped spine | curvature, which includes the cervical (neck), thoracic (upper back), and lumbar (lower back) regions

Scientific method | a systematic approach to acquiring knowledge through observation, experimentation, and reasoning

Scientific racism | the misuse of scientific methods to justify discriminatory beliefs and practices based on perceived racial differences

Scientific Revolution | a transformative period of advancements in mathematics, astronomy, and philosophy (1500s–1700s)

Second language acquisition (SLA) | the process of learning a new language after acquiring one's first language

Semantic shift | the phenomenon where the meaning of a word changes over time

Semantics | the branch of linguistics concerned with the meaning of words, phrases, and sentences in a language

Seriation | the analysis of artifact styles and frequencies to establish a relative chronology (Marquardt, 1978)

Sexual Selection | Traits that enhance an individual's mating success often lead to the development of striking and diverse characteristics

Sharp force trauma | Stab wounds or cut marks on bones are indicative of sharp force trauma, analysis may include measuring the length, depth, and angle of such wounds

Shifting cultivation | where plots of land were cultivated for a few years before being abandoned to allow the soil to recover

Social Identity | the groups or categories to which individuals belong, such as race, ethnicity, gender, sexual orientation, religion, nationality, and socioeconomic status

Social Identity Theory | theory proposed by social psychologists Henri Tajfel and John Tur suggests that a person's identity is shaped by their membership in social groups

Social inequalities | to the unequal distribution of resources, opportunities, and privileges within a society or between societies

Socialism | aims to reduce income inequality and provide social welfare through state intervention in the economy

Socialization | how individuals acquire the values, norms, and behaviors of their culture or society

Society | denotes organized groups of individuals

Sociolinguistics | examines language variation influenced by social factors like class, gender, race, and so on

Soil degradation and erosion | when soil is exposed to wind and water without adequate vegetation cover, it becomes vulnerable to erosion, which can result in the loss of topsoil and nutrients

Specific Language Impairment (SLI) | a disorder characterized by significant and unexplained difficulties in language acquisition, despite normal development in other areas (Leonard, 2014)

Spolia | a practice in which architectural or artistic elements from earlier structures are reused in later buildings

Spousal rape | also known as marital rape, is a form of sexual violence that occurs within a marriage or intimate relationship

Stabilizing natural selection | favors traits in the middle, reducing the extremes and maintains the average phenotype, promoting stability within a population

State-controlled economies | the government plays a significant role in economic planning and resource allocation, have cultural and social implications

States | the most complex form of political organization, with a centralized government, defined borders, and a bureaucracy

Status | a position within a social system that is characterized by certain rights, duties, and expectations

Step trenches | a form of vertical excavation involving a series of trenches, each progressively deeper than the last, to reveal the layers of deposits and features below the surface

Stints | transect lines further divided, usually 25 or 50 meters apart and designated by letters, used in line walking

Stone Age | Approximately 2.6 mya to 4 kya [Discussed in Chapter 5 and Chapter 18]

Stratigraphy | the study of rock layers (strata), relying on the principle of superposition, where older layers of sediment or rock are found beneath younger layers, establishing a relative chronology of events or artifacts within a site [Discussed in Chapter 5, Chapter 19, and Chapter 20]

Subsistence | the ways in which individuals and communities obtain the basic necessities of life, such as food, shelter, and clothing

Sudden language death | the abrupt extinction of a language due to the simultaneous death of its speakers, often caused by catastrophic events or deliberate acts of violence

Supernaturalism | a belief system that posits the existence of supernatural forces, entities, or phenomena that transcend the natural world

Superstition | a belief in supernatural forces or unexplained phenomena that governed human behavior

Sustainable agriculture | an approach to farming that aims to meet the needs of the present without compromising the ability of future generations to meet their own needs

Syllabaries | writing systems where each character represents a syllable

Symbolic Interactionism | theory developed by sociologist George Herbert Mead (1962), emphasizes the role of symbols and interactions in shaping identity

Symbols | an integral part of ritual practices, serving as visual or auditory representations of abstract ideas, beliefs, or emotions

Syntax | the branch of linguistics concerned with the structure and organization of sentences in a language

Systemic discrimination | the discrimination that occurs within institutions and systems, such as government, education, healthcare, and criminal justice, and is embedded in their policies, practices, and procedures

T

Taxonomy | the practice of classifying life [Discussed in Chapter 2 and Chapter 4]

Technology | the practical application of knowledge and tools to solve problems or achieve goals

Temporality | the experience and perception of time

Tension building phase | there is increasing stress about day-to-day life, and the victim often feels like they are "walking on eggshells" to avoid triggering the abuser

Terrace farming | a method utilized in hilly or mountainous regions

Theism | the belief in the existence of one or more gods or divine beings. It is a central concept in many religions where gods are believed to be actively involved in the world and in human affairs

Theory | an explanation for an observable phenomenon that is well-supported by the evidence

Theory of evolution by natural selection | the traits that enhance the chances for survival and reproduction in a given environment become more common in a population over time

Theory of Mind (ToM) | the ability to attribute mental states, such as beliefs, desires, and intentions, to oneself and others (Astington & Jenkins, 1999)

Thermoluminescence | used to date heated materials, relies on the principle that objects exposed to high temperatures, such as pottery, trap electrons over time (Aitkin, 1985)

Thick description | involves providing a detailed, contextualized account of social behavior to capture its full meaning

Tone | involves pitch variation in vowel sounds to convey lexical or grammatical meaning, particularly in tonal languages

Top-to-bottom language death | a process whereby a language shift begins at the top levels of society, often initiated by government or elite circles, while still persisting in casual contexts

Totem poles | monumental carvings created by peoples of the Pacific Northwest Coast of North America, particularly the Haida, Tlingit, Tsimshian, and Kwakwaka'wakw (Barbeau, 1942).

Totemism | a belief system in which humans are believed to have a spiritual connection or kinship with a specific animal, plant, or natural object, known as a totem

Trace fossils | foot tracks, bite marks on bones, nests (with eggs), and coprolite

Traditional decision-making methods | rely on established customs, rituals, or hierarchies to guide the decision-making process

Traditionalism | a reliance on established customs, beliefs, and practices passed down through generations

Transects | lines, typically 20 meters apart and numbered for identification, used in line walking

Transformational leaders | focus on inspiring and empowering followers to achieve common goals, often bringing about significant changes within organizations or societies

Transitional form | a fossilized organism that displays characteristics of both ancestral and derived forms, illustrating gradual changes in evolutionary lineages

Transnational communities | formed by migrants who maintain strong social, economic, and cultural ties with their countries of origin

Treasure hunting | searching for valuable artifacts, typically for profit, often disregards archaeological context and site preservation, leading to the loss of valuable information about past societies and contributing to the illicit antiquities trade

Tree models | used to represent the relationships between languages within a language family

Tribes | larger and more sedentary than bands, often based on kinship ties and sharing a common language and culture

Trill | rapid vibration of an articulator against another

Triphthongs | vowel sounds characterized by a glide or transition through three vowel qualities within the same syllable

Typological classification | categorizes lithic artifacts based on shared characteristics, aiding in the interpretation of lithic assemblages and their cultural significance

Typology | categorizing artifacts based on shared characteristics to determine their relative age (Hill & Evans, 1972)

U

Upper Paleolithic | 30-40 kya to 10 kya [Discussed in Chapter 5 and Chapter 18]

Uranium-series dating | used to date materials containing uranium, relies on the radioactive decay series of uranium isotopes (Schwarcz, 1980)

Use-wear analysis | reveals the functions of tools and the materials they were used on

V

Variation | the diversity of traits within a population

Velar | articulation involving pressing the back part of the tongue against the soft part at the back of the mouth (the soft palate or velum)

Vertical excavation | involves digging a deep, vertical shaft to expose the stratigraphy of a site

Vocal tract | the path from the lungs to outside the mouth and nose

Voiced sounds | involve vibration of the vocal cords

Voiceless sounds | does not involve vibration of the vocal cords

Vowels | sounds that are made without closing the vocal tract and by changing the shape of the tongue

W

Water scarcity | in many regions, unsustainable irrigation practices have led to the depletion of aquifers and reduced water availability for other uses

Wave model | suggests that language change spreads in waves across populations (Wolfram & Schilling-Estes, 2003)

Wernicke's area | situated in the left hemisphere of the brain, primarily is associated with language comprehension (Ardila et al., 2016) [Discussed in Chapter 4 and Chapter 8]

Wheeler-Kenyon Box Grid Method | a systematic approach to excavation that involves dividing a site into a grid of squares (Callaway, 1979)

White supremacy | values whites over other races and ethnic groups, such that non-whites become racial and ethnic minority groups

Word association | involves linking a new word to words or concepts that are already known or familiar to the individual

Written tradition | where religious texts, teachings, and beliefs were recorded in written form

This page titled Glossary is shared under a license and was authored, remixed, and/or curated by jeffrey mccully.

References

Aitchison, J. (2012). *Language change: Progress or decay?* Cambridge University Press.

Aitken, M. J. (1985). Thermoluminescence dating: Past progress and future trends. *Nuclear Tracks and Radiation Measurements, 10*(1-2), 3-6. https://doi.org/10.1016/0735-245X(85)90003-1

Ambrose, N. G., & Yairi, E. (2002). The Tudor study: Data and ethics. *American Journal of Speech-Language Pathology, 11*(2), 190-203. https://doi.org/10.1044/1058-0360(2002/018)

Ambrose, S. H. (2003). Did the Toba volcanic eruption cause a human population bottleneck? *Journal of Human Evolution, 45*(3), 231–237. https://doi.org/10.1016/j.jhevol.2003.08.001

American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders (5th ed.)*.

Anderson, C., Bjorkman, B., Denis, D., Doner, J., Grant, M., Sanders, N., & Taniguchi, A. (2022). *Essentials of Linguistics, 2nd edition*. eCampusOntario. https://oercommons.org/courses/essentials-of-linguistics-2nd-edition/view

Ardila, A., Bernal, B., & Rosselli, M. (2016). The role of Wernicke's area in language comprehension. *Psychology & Neuroscience, 9*(3), 340–343. https://doi.org/10.1037/pne0000060

Astington, J. W., & Jenkins, J. M. (1999). A longitudinal study of the relation between language and theory-of-mind development. *Developmental Psychology, 35*(5), 1311-1320. https://doi.org/10.1037/0012-1649.35.5.1311

Atshan, S. (2020). *Queer Palestine and the empire of critique*. Stanford University Press.

Austin, P. K. (1989). *A grammar of Diyari, South Australia*. Cambridge University Press.

Auvenshine, R. C. & Pettit, N. J. (2020) The hyoid bone: An overview. *Cranio: The Journal of Craniomandibular & Sleep Practice, 38*(1), 6-14. https://doi.org/10.1080/08869634.2018.1487501

Avery, O. T., MacLeod. C. M., & McCarty, M. (1944) Studies on the chemical nature of the substance inducing transformation of pneumococcal types: Induction of transformation by a deoxyribonucleic acid fraction isolated from Pneumococcus Type III. *Journal of Experimental Medicine, 79*(2), 137–158. https://doi.org/10.1084/jem.79.2.137

Barbeau, M. (1942). Totem poles: A by-product of the fur trade. *The Scientific Monthly, 55*(6), 507-514.

Barber, M. (2014). '*Restoring*' *Stonehenge 1881-1939*. English Heritage.

Barr P. (1970). *A curious life for a lady; The story of Isabella Bird a remarkable Victorian traveller*. Doubleday.

Baum, B. (2008). *The rise and fall of the Caucasian race: A political history of racial identity*. New York University Press.

Bechdel, A. (1985). *Dykes to watch out for*. Self-published.

Beerle-Moore, M. & Voinov, V. (Eds.) (2015). *Language vitality through bible translation*. Peter Lang.

Benedict, R. (1934). *Patterns of culture*. Houghton Mifflin Company.

Bhabha, H. K. (1994). *The location of culture*. Routledge.

Binoy, T. A. (2011). Archaeological and heritage tourism Interpretation: A study. *South Asian Journal of Tourism and Heritage, 4*(1), 101-105.

Bloom, L. (1970). *Language development: Form and function in emerging grammars*. MIT Press.

Bloom, P. (2000). *How children learn the meanings of words*. MIT Press.

Boas, F. (1912). *Changes in the bodily form of descendants of immigrants*. American Anthropological Association.

Borkowska, P. & Aleparski, G. A. (2007). It befalls words to fall down: Pejoration as a type of semantic change. *Seria Filologiczna, 47*, 33-50.

Boule, M. (1911). *L'homme fossile de la chapelle-aux-saints*. Masson.

Braidwood, R. J. (1957). *Prehistoric men (3rd ed.)*. Chicago Natural History Museum Press.

Brekhus, W. (2003). *Peacocks, chameleons, centaurs: Gay suburbia and the grammar of social identity*. University of Chicago Press.

Brito Benítez, E. L., & Chung, H. (2015). Food for the soul: Eternal co-existence in the Mayan-Catholic traditions of Pomuch, Mexico. *International Journal of Intangible Heritage, 10*, 74–83.

Brown, R. (1973). *A first language: The early stages*. Harvard University Press.

Brown, R., & Berko, J. (1960). Word association and the acquisition of grammar. *Child Development, 31*(1), 1-14. https://doi.org/10.2307/1126377

Buffon G. L. L. de. (1749). *Histoire naturelle générale et particuliere. quadrupèdes. tome ii. chez*. Sanson & Compagnie.

Burke, P. (2007). From antiquarianism to anthropology. In P. N. Miller (Ed.), *Momigliano and antiquarianism* (pp. 229-247). University of Toronto Press.

Burling, R. (1992). *Patterns of language: Structure, variation, change*. Academic Press.

Burns, K. R. (2007). *Forensic anthropology training manual. Second ed*. Pearson.

Butler J. (1989). *Gender trouble: Feminism and the subversion of identity*. Routledge.

Callaway, J. A. (1979). *Dame Kathleen Kenyon 1906-1978*. The University of Chicago Press.

Campbell, L., & Muntzel, M. (1989). The structural consequences of language death. In Nancy C. Dorian (ed.), *Investigating Obsolescence* (pp. 181-196). Cambridge University Press.

Cann, R. L., Stoneking, M., & Wilson, A. C. (1987). Mitochondrial DNA and human evolution. *Nature, 325*(6099), 31–36. https://doi.org/10.1038/325031a0

Cantú, N. E. (1999). La quinceañera: Towards an ethnographic analysis of a life cycle ritual. *Southern Folklore, 56*(1), 73–101.

Canuto, F. (2017). Mantenimiento de una lengua minorizada: El caso del Purépecha en Ichán y en Tacuro, Michoacán (México). *Onomázein*, (NE III), 77–96. https://doi.org/10.7764/onomazein.amerindias.05

Carey, S. (1978). The child as word learner. Linguistic theory and psychological reality In M. Halle, J. Bresnan, & G. A. Miller (Eds.), *Linguistic theory and psychological reality* (pp. 264-293). MIT Press.

Carson, E. A., & Anderson, E. (2016, December). *Prisoners in 2015*. Bureau of Justice Statistics. https://www.bjs.gov/content/pub/pdf/p15.pdf

Cavalli-Sforza, L. L., Menozzi, P., & Piazza, A. (1994). *The history and geography of human genes*. Princeton University Press.

Chaplin G. (2004). Geographic distribution of environmental factors influencing human skin coloration. *American Journal of Physical Anthropology, 125*(3), 292–302. https://doi.org/10.1002/ajpa.10263

Chase, A. F., Chase, D. Z., Weishampel, J. F., Drake, J. B., Shrestha, R. L., Slatton, K. C., Awe, J. J., & Carter, W. E. (2011). Airborne LiDAR, archaeology, and the ancient Maya landscape at Caracol, Belize. *Journal of Archaeological Science, 38*(2), 387-398. https://doi.org/10.1016/j.jas.2010.09.018

Châtelet, G. E, & Newton, I. (1756). *Principes mathématiques de la philosophie naturelle*. Chez Desaint & Saillant, Lambert.

Chomsky, N. (2007). *Language and mind*. Cambridge University Press.

Clark, K. B., & Clark, M. P. (1947). Racial identification and preference in Negro children. In T. T. Newcomb and E. L. Hartley (Eds.), *Readings in social psychology* (pp. 169-178). Holt.

Comrie, B. (1999). Grammatical gender systems: A linguist's assessment. *Journal of Psycholinguist Research, 28*, 457–466. https://doi.org/10.1023/A:1023212225540

Cook, L. M., & Saccheri, I. J. (2013). The peppered moth and industrial melanism: evolution of a natural selection case study. *Heredity, 110*(3), 207–212. https://doi.org/10.1038/hdy.2012.92

Crais, C. (2005). Chiefs and bureaucrats in the making of empire: A drama from the Transkei, South Africa, October 1880. In Christian Krohn-Hansen and Knut G. Nustad (Eds.), *State formation: Anthropological perspectives* (pp. 55-78). Pluto Press.

Crenshaw, K. (1989). Demarginalizing the intersection of race and sex: A Black feminist critique of antidiscrimination doctrine. feminist theory and antiracist politics. *University of Chicago Legal Forum*, 139-167.

Crosby, A. (1976). Virgin soil epidemics as a factor in the aboriginal depopulation in America. *The William and Mary Quarterly, 33*(2), 289-299.

Curtiss, S. (1977). *Genie: A psycholinguistic study of a modern-day wild child*. Academic Press.

Curtiss, S., Fromkin, V. A., Krashen, S. D., Rigler, D., & Rigler, M. (1974). The development of language in Genie: A case of language acquisition beyond the 'critical period'. *Brain and Language, 1*(1), 81-107. https://doi.org/10.1016/0093-934X(74)90027

Dabashi, H. (2019). *The Shahnameh: The Persian epic in world literature*. Columbia University Press.

Dart, R. (1925). Australopithecus africanus: The man-ape of South Africa. *Nature, 115*, 195–199. https://doi.org/10.1038/115195a0

Darwin, C. (1859). *On the origin of species by means of natural selection, or the preservation of favoured races in the struggle for life*. John Murray.

Davenport, C. (1911). *Heredity in relation to eugenics*. Henry Holt and Company.

Dennis, R. M. (1995). Social Darwinism, scientific racism, and the metaphysics of race. *The Journal of Negro Education, 64*(3), 243-252. https://doi.org/10.2307/2967206

Dever, W. G., Lance, H. D., & Bullard R. G. (1978). *A manual of field excavation: Handbook for field archaeologists*. Hebrew Union College.

Dixon, R. M. W., (1997). *The rise and fall of languages*. Cambridge University Press.

Douse T. L. M. (1876). *Grimm's Law: A study or hints towards an explanation of the so-called "lautverschiebung"; to which are added some remarks on the primitive indo-european k and several appendices*. Trübner.

Dryden, J. B. (2015). This is the family I chose: Broadening domestic partnership law to include polyamory. Hamline *Journal of Public Law & Policy, 36*(1), 162-188.

Dubois, L., Ohm Kyvik, K., Girard, M., Tatone-Tokuda, F., Pérusse, D., Hjelmborg, J., Skytthe, A., Rasmussen, F., Wright, M. J., Lichtenstein, P., & Martin, N. G. (2012). Genetic and environmental contributions to weight, height, and BMI from birth to 19 years of age: An international study of over 12,000 twin pairs. *PloS one, 7*(2), e30153. https://doi.org/10.1371/journal.pone.0030153

Dubois, M. E. F. T. (1894). *Pithecanthropus erectus: Eine menschenähnliche Übergangsform aus Java*. Landesdruckerei.

Dunlop, R. A., Noad, M. J, Cato, D. H., & Stokes, D. (2007). The social vocalization repertoire of east Australian migrating humpback whales (Megaptera novaeangliae). *Journal of the Acoustical Society of America, 122*(5), 2893–2905. https://doi.org/10.1121/1.2783115

Dunn, J. (1997). Genocide in East Timor. In S. Totten, W. S. Parsons, & I. W. Charny (Eds.), *Century of genocide: Eyewitness accounts and critical views* (pp. 264-290). Garland Publishing.

Durkin, P. (2014). *Borrowed words: A history of loanwords in English*. Oxford University Press.

Eggan, F. (1950). *Social organization of the western pueblos*. University of Chicago Press.

Ellis, R. (2008). *The study of second language acquisition*. Oxford University Press.

Engels, F. (2010). *The origin of the family, private property and the state* (A. West, Trans.). Marxist Internet Archive. (Original work published 1884).

Epstein, S. (1997). AIDS activism and the retreat from the `genocide' frame. *Social Identities, 3*(3), 415-438.

Erikson, E. H. (1968). *Identity, youth, and crisis*. Norton

Fagan G. G. (2006). *Archaeological fantasies : How pseudoarchaeology misrepresents the past and misleads the public*. Routledge.

Fairclough, N. (1992). *Discourse and social change*. Polity Press.

Fallin, A., Goodin, A. J., & King, B. A. (2015). Menthol cigarette smoking among lesbian, gay, bisexual, and transgender adults. *American Journal Of Preventive Medicine, 48*(1), 93-97.

Farrell, M., Masquelier, A., Tissot, E., & Bertrand, J. (2014). Islam, polygyny and modern contraceptive use in Francophone sub- Saharan Africa. *African Population Studies, 28*(3), 1389-1398.

Ferguson, C. A., & Farwell, C. B. (1975). Words and sounds in early language acquisition. *Language, 51*(2), 419-439. https://doi.org/10.2307/412864

Ferreira, R. G. (2008). The CIA and Jacobo Arbenz: History of a disinformation campaign. *Journal of Third World Studies, 25*(2), 59-81.

Finkelstein, N. G. (2018). *Gaza: An inquest into its martyrdom*. University of California Press. https://doi.org/10.1525/9780520968387

Flouri, D. E., Alifragki, A., Gómez García-Donas, J., Kranioti, E. F. (2022). Ancestry estimation: Advances and limitations in forensic applications. *Research and Reports in Forensic Medical Science, 12*, 13-24. https://doi.org/10.2147/RRFMS.S272224

Foucault, M. (1972). *The archaeology of knowledge*. Pantheon Books.

Fu, Q., Cao, P., Dai, Q., Bennett, E. A., Feng, X., Yang, M. A., Ping, W., Pääbo, S., & Ji, Q. (2025a). Denisovan mitochondrial DNA from dental calculus of the >146,000-year-old Harbin cranium. *Cell, 188*(15), 3919–3926.e9. https://doi.org/10.1016/j.cell.2025.05.040

Fu, Q., Bai, F., Rao, H., Chen, S., Ji, Y., Liu, A., Bennett, E. A., Liu, F., & Ji, Q. (2025b). The proteome of the late Middle Pleistocene Harbin individual. *Science, 389*(6761), 704–707. https://doi.org/10.1126/science.adu9677

Galton, F. (1869). *Hereditary genius*. Macmillan.

Geertz, C. (1960). *The religion of Java*. University of Chicago Press.

Geertz, C. (1973). Thick description: Toward an interpretive theory of culture. In C. Geertz (Ed.), *The interpretation of cultures: Selected essays* (pp. 3-30). Basic Books.

Genesee, F. (2004). What do we know about bilingual education for majority language students? In T. K. Bhatia & W. C. Ritchie (Eds.), *The handbook of bilingualism and multilingualism* (pp. 547-576). Blackwell Publishing.

Gentner, D. (1982). Why nouns are learned before verbs: Linguistic relativity versus natural partitioning. In S. Kuczaj II (Ed.) *Language development, Volume 2: Language, thought and culture* (pp. 301-334). Lawrence Eribaum.

Gibbons, A. (1993). Pleistocene population explosions. *Science, 262*(5130), 27–28. https://doi.org/10.1126/science.262.5130.27

Glenza, J. (2015, December 5). *Chicago police report contradicts video footage of Laquan McDonald death*. The Guardian. https://www.theguardian.com/us-news/2015/dec/05/laquan-mcdonald-knife-police-report-chicago

Goffman, E. (1959). *The presentation of self in everyday life*. Anchor Books.

Goodall, J. (1971). *In the shadow of man*. Houghton Mifflin.

Goropius Becanus, J. (1569). *Origines antwerpianae*. Plantin Christophe.

Goyal, M. K., Kuppermann, N., Cleary, S. D., Teach, S. J., & Chamberlain, J. M. (2015). Racial disparities in pain management of children with appendicitis in emergency

departments. *JAMA Pediatrics, 169*(11), 996–1002.

Grant, M. (1916). *The passing of the great race, or: The racial basis of European history*. Charles Scribner's Sons.

Grant, P. R., & Grant, B. R. (2006). Evolution of character displacement in Darwin's finches. *Science, 313*(5784), 224–226. https://doi.org/10.1126/science.1128374

Grosman, L., Munro, N. D., & Belfer-Cohen, A. (2008). A 12,000-year-old shaman burial from the southern Levant (Israel). *Proceedings of the National Academy of Sciences of the United States of America, 105*(46), 17665–17669. https://doi.org/10.1073/pnas.0806030105

Grossberg, A., Emslie, A., & Brekke, D. (2015, December 7). *Video evidence appears to contradict SFPD account of Mario Woods killing*. KQED. https://www.kqed.org/news/10786115/video-evidence-appears-to-contradict-sfpd-account-of-mario-woods-killing

Guerrattaz, A. M. (2020). "We are the mayas": Indigenous language revitalization, identification, and postcolonialism in the Yucatan, Mexico. *Linguistics and Education, 58*. https://doi.org/10.1016/j.linged.2019.100765

Gutiérrez de Jesús, M. G., & Chávez González, M. L. (2022). Language reclamation and ethnic revival in P'urhépecha territory. *AlterNative: An International Journal of Indigenous Peoples, 18*(4). https://doi.org/10.1177/11771801221116149

Hajdas, I., Ascough, P., Garnett, M. H., Fallon, S. J., Pearson, C. L., Quarta, G., Spalding, K. L., Yamaguchi, H., & Yoneda, M. (2021). Radiocarbon dating. *Nature Reviews Methods Primers, 1*, 62. https://doi.org/10.1038/s43586-021-00058-7

Hammond, M. (1982). The expulsion of the neanderthals from human ancestry: Marcellin Boule and the social context of scientific research. *Social Studies of Science, 12*(1), 1–36. https://doi.org/10.1177/030631282012001002

Harakas, M. (1992, July 7). *Anthropologist as crime solver*. Chicago Tribune. https://www.chicagotribune.com/news/ct-xpm-1992-07-07-9203010624-story.html

Harris E. C. (1979). *Principles of archaeological stratigraphy* (dissertation). Academic Press.

Haugh, M., & Obana, Y. (2011) Politeness in Japan. In Dániel Z. Kádár & Sara Mills (Eds.) *Politeness in East Asia* (pp. 147-175). Cambridge University Press.

Hendrick, L., & Mitchell-Cook, A. (2016). Excavation inside a cofferdam. In James E. Bruseth & Amy A. Borgens (Eds.), *La Belle: The archaeology of a seventeenth-century vessel of New World* (pp. 45-59). Texas A&M University Press.

Henshilwood, C. S., d'Errico, F., & Watts, I. (2009). Engraved ochres from the Middle Stone Age levels at Blombos Cave, South Africa. *Journal of Human Evolution, 57*(1), 27-47. https://doi.org/10.1016/j.jhevol.2009.01.005

Herbes-Sommers, C., Strain, T., H., & Smith, L. (Directors). (2003). *Race - The power of an illusion: Episode 1 - The difference between us*. [Film]. California Newsreel.

Herodotus, Holland T., & Cartledge P. (2013). *Herodotus: The histories*. Penguin Books.

Hill, J. N., & Evans, R. K. (1972). A model for classification and typology. In D. L. Clarke (Ed.), *Models in archaeology* (pp. 231-269). Routledge.

Hochschild A. R. (1983). *The managed heart: Commercialization of human feeling*. University of California Press.

Hoerth, A. J. (1998). *Archaeology and the Old Testament*. Baker Academic.

Hunt, D., Ramón, A., Tran, M., Sargent, A., & Roychoudhury, D. (2018). *Hollywood Diversity Report*. https://socialsciences.ucla.edu/wp-content/uploads/2018/02/UCLA-Hollywood-Diversity-Report-2018-2-27-18.pdf

Ibn Battuta & Mackintosh-Smith T. (2002). *The travels of Ibn Battutah*. Picador.

Iverson, J. M., & Goldin-Meadow, S. (2005). Gesture paves the way for language development. *Psychological Science, 16*(5), 367-371. https://doi.org/10.1111/j.0956-7976.2005.01542.x

Jablonski, N. G. (2004). The evolution of human skin and skin color. *Annual Review of Anthropology, 33*, 585–623. https://doi.org/10.1146/annurev.anthro.33.070203.143955

James, B. (1996, July 18). *The grim forensic work in Srebrenica*. The New York Times. https://www.nytimes.com/1996/07/18/style/IHT-the-grim-forensic-work-in-srebrenica.html

Jeon, J., Kim, D.-H., Park, M. S., Park, C.-G., Sriram, S., & Lee, K.-S. (2019). Optimal birth weight and term mortality risk differ among different ethnic groups in the U.S. *Scientific Reports, 9*(1), 1. https://doi.org/10.1038/s41598-019-38583-x

Jones C. (1988). *Grammatical gender in English 950 to 1250*. Croom Helm.

Khalidi, W. (1992). *All that remains: The Palestinian villages occupied and depopulated by Israel in 1948*. Institute for Palestine Studies.

Kirkpatrick, N. (2014, October 28). *Victims of Peru's 'dirty war' are laid to rest*. Washington Post. https://www.washingtonpost.com/news/morning-mix/wp/2014/10/28/victims-of-perus-dirty-war-are-laid-to-rest/

Knight, A. (1986). *The Mexican Revolution*. Cambridge University Press.

Knysh, A. D. (1999). *Ibn 'Arabi in the later Islamic tradition : The making of a polemical image in medieval Islam*. State University of New York Press.

Kohler, T. A., Smith, M. E., Bogaard, A., Feinman, G. M., Peterson, C. E., Betzenhauser, A., Pailes, M., Stone, E. L., Prentiss, A. M., Dennehy, T. J., Ellyson, L. J., Nicholas, L. M., Faulseit, R. K., Styring, A., Whitlam, J., Fochesato, M., Foor, T. A., & Bowles, S. (2017). Greater post-Neolithic wealth disparities in Eurasia than in North America and Mesoamerica. *Nature, 551*, 619–622. https://doi.org/10.1038/nature24646

Kosnick, K. (2021). *Inclusive Language pedagogy for (un)teaching gender in French*. Routledge.

Kothari, G. (1993). Where are you from? *New England Review, 15*(3), 80-84.

Krashen, S. (1982). *Principles and practice in second language acquisition*. Pergamon Press.

Kroeber, A. L., & Collier, D. (1998). *The archaeology and pottery of Nazca Peru : Alfred L. Kroeber's 1926 expedition*. AltaMira Press.

Kroskrity, P. V. (1993). *Language, history, and identity: Ethnolinguistic studies of the Arizona Tewa*. University of Arizona Press.

Lamarck, J. B. P. A. de M. de. (1809). *Philosophie zoologique: ou exposition ; des considerations relative à l'histoire naturelle des animaux*. Musée d'Histoire Naturelle.

Lancy, D. F. (2015). *The anthropology of childhood: Cherubs, chattel, changelings*. Cambridge University Press.

Lartey, J., & Swaine, J. (2017, June 20). *Philando Castile shooting: Officer said he felt in danger after smelling pot in car*. The Guardian. https://www.theguardian.com/us-news/2017/jun/20/philando-castile-shooting-marijuana-car-dashcam-footage

Laughland, O., Swaine, J., & Bennett, C. (2015, April 9). *Michael Slager radioed in Taser claim six seconds after firing at Walter Scott*. The Guardian. https://www.theguardian.com/us-news/2015/apr/08/south-carolina-walter-scott-shooting-audio-video

Leach, J. W. (Director). (1975). *Trobriand cricket* [Film]. Filmakers Library.

Leakey, M., & Hay, R. (1979). Pliocene footprints in the Laetolil Beds at Laetoli, northern Tanzania. *Nature 278*, 317–323. https://doi.org/10.1038/278317a0

Lee, R. (1968). What hunters do for a living, or, how to make out on scarce resources. In R. Lee & I. DeVore (Eds.), *Man the Hunter* (pp. 30-48). Aldine.

Lee, R. (1969). !Kung Bushmen subsistence: An input-output analysis. In A. Vayda (Ed.), *Environment and Cultural Behavior* (pp. 47–79). Natural History Press.

Lenneberg, E. H. (1967). *Biological foundations of language*. Wiley.

Lenthang, M., & Katersky, A. (2021, March 25). *Former NYPD officer who put Eric Garner in lethal chokehold loses bid to get job back*. ABC News. https://abcnews.go.com/US/nypd-offic...ry?id=76683871

Leonard, L. B. (2014). *Children with specific language impairment*. MIT Press.

Lewontin, R.C. (1972). The apportionment of human diversity. In T. Dobzhansky, M. K. Hecht, & W. C. Steere (Eds.), *Evolutionary biology* (pp. 381-398). Springer. https://doi.org/10.1007/978-1-4684-9063-3_14

Linnaeus, C. (1753). *Species plantarum*. Laurentius Salvius.

Locke, J. L. (1993). *The child's path to spoken language*. Harvard University Press.

Lowie, R. H. (1946). *An introduction to cultural anthropology (2nd ed.)*. Rinehart.

Lynch Jr., J. B. (1964). The Bonampak murals. *Art Journal, 24*(1), 23-27. https://doi.org/10.1080/00043249.1964.10794570

Macarthur, H. J. (2015). *When women are called "girls": The effect of infantilizing labels on women's self-perceptions*. [Thesis, Penn State]. Electronic Theses and Dissertations for Graduate School.

Madley, B. (2016). *An American genocide: The United States and the California Indian catastrophe, 1846-1873*. Yale University Press.

Magocsi, P. (1996). The Rusyn language question revisited. *International Journal of the Sociology of Language, 120*, 63-84. https://doi.org/10.1515/ijsl.1996.120.63

Malinowski, B. (1922). *Argonauts of the Western Pacific: An account of native enterprise and adventure in the archipelagoes of Melanesian New Guinea*. Routledge.

Mandler, J. M. (1992). How to build a baby: II. Conceptual primitives. *Psychological Review, 99*(4), 587–604. https://doi.org/10.1037/0033-295X.99.4.587

Mann, R., & Sanderson, I. (2009). *Archaeological fieldwalking*. West Yorkshire Archaeology Advisory Service. http://www.wyjs.org.uk/media/1313/guide-11-archaeological-fieldwalking.pdf#

Marcus, G. F., & Fisher, S. E. (2003). FOXP2 in focus: What can genes tell us about speech and language? *Trends in Cognitive Sciences, 7*(6), 257–262. https://doi.org/10.1016/S1364-6613(03)00104-9

Marquardt, W. H. (1978). Advances in Archaeological Seriation. In M. B. Schiffer (Ed.), *Advances in archaeological method and theory* (pp. 257-314). Academic Press.

Martin, D. (1996). On the cultural ecology of sky burial on the Himalayan Plateau. *East and West, 46*(3/4), 353–370.

Martínez Ayala, J. A. (2016). Bailar para el turismo. La "Danza de los viejitos" de Jarácuaro como artesanía. In B. G. Flores Mercado & E. F. Nava L. (Eds.), *Identidades en venta: Músicas tradicionales y turismo en México* (pp. 139-164). UNAM Instituto de Investigaciones Sociales.

Marx, K., & Engels, F. (2008). *The Communist manifesto*. Oxford University Press.

Matney, T., MacGinnis, J., McDonald, H., Nicoll, K., Rainville, L., Roaf, M., Smith, M. L., & Stein, D. (2003). Archaeological investigations at Ziyaret Tepe - 2002. *Anatolica, 29*, 175-221. https://doi.org/10.2143/ANA.29.0.2015515

Mauss, M. (2015). *The gift: Forms and functions of exchange in archaic societies*. Andesite Press. (Originally work published 1925).

McCabe, J., Fairchild, E., Grauerholz, L., Pescosolido, B. A., & Tope, D. (2011). Gender in twentieth-century children's books. *Gender & Society, 25*(2), 197-226.

McCarthy, T. (2014, November 26). *Tamir Rice: Video shows boy, 12, shot 'seconds' after police confronted child*. The Guardian. https://www.theguardian.com/us-news/2014/nov/26/tamir-rice-video-shows-boy-shot-police-cleveland

McElvaine, R. S. (2001). *Eve's seed: Biology, the sexes, and the course of history*. McGraw-Hill.

McEntire, D., Sadiq, A.-A., & Gupta, K. (2012). Unidentified bodies and mass-fatality management in Haiti: A case study of the January 2010 earthquake with a cross-cultural comparison. *International Journal of Mass Emergencies & Disasters, 30*(3), 301-327. https://doi.org/10.1177/028072701203000303

McGinnies, W. G. (1963). Dendrochronology. *Journal of Forestry, 61*(1), 5-11. https://doi.org/10.1093/jof/61.1.5

McNally, R. A. (2017). *The Modoc War: A story of genocide at the dawn of America's Gilded Age*. University of Nebraska Press.

Mead, G. H. (1962). *Mind self and society: From the standpoint of a social behaviorist*. University of Chicago Press.

Mead, M. (1928). *Coming of age in Samoa: A psychological study of primitive youth for Western civilization*. Morrow.

Mendoza-Denton, N. (2008). *Homegirls: Language and cultural practice among Latina youth gangs*. Wiley-Blackwell.

Mintz, S. W. (1986). *Sweetness and power: The place of sugar in modern history*. Penguin Books.

Mirenda, P. (2003). Toward functional augmentative and alternative communication for students with autism: Manual signs, graphic symbols, and voice output communication aids. *Language, Speech, and Hearing Services in Schools, 34*(3), 203-216. https://doi.org/10.1044/0161-1461(2003/017)

Molina-Montes, A. (1982). Archaeological buildings: Restoration or misrepresentation. In E. H. Boone (Ed.), *Falsifications and Misreconstructions of Pre-Columbian Art* (pp. 125–141). Dumbarton Oaks.

Monteiro, L. D. (2023). Open access violence: Legacies of white supremacist data making at the Penn Museum, from the Morton Cranial Collection to the MOVE remains. *International Journal of Cultural Property, 30*(2), 105–137. https://doi.org/10.1017/S0940739123000127

Morell V. (1995). *Ancestral passions: The Leakey family and the quest for humankind's beginnings*. Simon & Schuster.

Morrison, M. L. (2015). Bad blood: An examination of the constitutional deficiencies of the FDA's "Gay Blood Ban". *Minnesota Law Review, 99*(6), 2363-2404.

Morton, S. G. (1839). *Crania Americana; Or, a comparative view of the skulls of various aboriginal nations of North and South America: To which is prefixed An essay on the varieties of the human species*. J. Dobson.

Multon, F., Nicolas, G., Crompton, R. H., D'Août, K., & Berillon, G. (2012). Anthropometry in bipedal locomotion: The link between anatomy and gait. In: Preedy, V. (eds) *Handbook of Anthropometry*. Springer. https://doi.org/10.1007/978-1-4419-1788-1_182

Musso, M., Moro, A., Glauche, V., Rijntjes, M., Reichenbach, J., Büchel, C., & Weiller, C. (2003). Broca's area and the language instinct. *Nature Neuroscience 6*, 774–781. https://doi.org/10.1038/nn1077

Nadal, K. L. (2011). The racial and ethnic microaggressions scale (REMS): Construction, reliability, and validity. *Journal of Counseling Psychology, 58*(4), 470-480.

Nakonechny, L. (1998). *Archaeological analysis of Area A, Wexpusnime Site (45GA61)* [Unpublished master's thesis]. Washington State University.

Nicolae, A. (2021). Case-marking in the Romance languages. *Oxford Research Encyclopedia of Linguistics*. https://doi.org/10.1093/acrefore/9780199384655.013.705

Novembre J. (2022). The background and legacy of Lewontin's apportionment of human genetic diversity. Philosophical transactions of the Royal Society of London. *Series B, Biological sciences, 377*(1852), 20200406. https://doi.org/10.1098/rstb.2020.0406

Nystrom, A. (2021, April 1). *Forensic anthropology is in her bones: Taylor helps identify youngest Green River Killer victim*. Mercer Island Reporter. https://www.mi-reporter.com/news/forensic-anthropology-is-in-her-bones-taylor-helps-identify-youngest-green-river-killer-victim/

Okonjo, K. (1976). The dual-sex political system in operation: Igbo women and community politics in midwestern Nigeria. In N. Hafkin & E. G. Bay (Eds.), *Women in Africa: Studies in social and economic change* (pp. 45-58). Stanford University Press.

Oller, D. K. (2000). *The emergence of the speech capacity*. Lawrence Erlbaum Associates Publishers.

Oller, D. K., & Eilers, R. E. (1988). The role of audition in infant babbling. *Child Development, 59*(2), 441-449. https://doi.org/10.2307/1130323

Patyal, H. C. (1976). The Saptapadī rite. *Bulletin of the Deccan College Research Institute, 35*(3/4), 104–112.

Pawate, I. S. & Pāṇini. (1987). *The structure of the Ashtadhyayi*. Amar Prakashan.

Penfield, W., & Roberts, L. (1959). *Speech and brain mechanisms*. Princeton University Press.

Peter, Prince of Greece. (1963). *A study of polyandry*. Mouton.

Pierce, C., Carew, J., Pierce-Gonzalez, D., Willis, D. (1978). An experiment in racism: TV commercials. In Pierce, C. (Ed.), *Television and education* (pp. 62–88). Sage.

Piggott, S. (1977). Robert Eric Mortimer Wheeler. *Biographical Memoirs of Fellows of the Royal Society, 23*, 623–642. https://doi.org/10.1098/rsbm.1977.0023

Pinker, S. (1994). *The language instinct: How the mind creates language*. Harper Perennial.

Pirkovič, J. (2020). Heritage management at the local level: Heritage communities and role of local authorities. *Etnoantropološki Problemi, 15*(3), 829–842. https://doi.org/10.21301/eap.v15i3.8

Polo, M. (2004). *The travels of Marco Polo*. Penguin.

Powell, S., Garza, C. E., & Hendricks, A. (1993). Ethics and ownership of the past: The reburial and repatriation controversy. *Archaeological Method and Theory, 5*, 1–42.

Priya, K. L. (2019). Language: A significant social and cultural marker of identity. *Bodhi International Journal of Research in Humanities, Arts and Science, 3*(3), 23-24.

Randeria, S., & Visaria, L. (1984). Sociology of bride-price and dowry. *Economic and Political Weekly, 19*(15), 648-652.

Rasak, B. (2010). Naming ceremony: Comparative analysis of the Igbo and Yoruba culture in Nigeria. *Continental Journal of Arts and Humanities, 2*(1), 7-16.

Reiman, J. H. (2004). *The rich get richer and the poor get prison: Ideology, class, and criminal justice*. Pearson/Allyn and Bacon.

Robin M.-M. (2010). *The world according to Monsanto: Pollution corruption and the control of the world's food supply*. New Press .

Robles Lacayo, P. (2023). The Mummies of Guanajuato: The Tension between Ethics and Ambition. In T. Biers & K. S. Clary (Eds.), *The Routledge Handbook of Museums, Heritage, and Death*. Routledge.

Rodríguez Temiño, I., & Roma Valdés, A. (2015). Fighting against the archaeological looting and the illicit trade of antiquities in Spain. *International Journal of Cultural Property, 22*(1), 111–130. https://doi.org/10.1017/S094073911500003X

Roux, P. W. (2003). Words in the mind: Exploring the relationship between word association and lexical development. *Polyglossia, 24*, 80-91.

Rowe, M. L., & Goldin-Meadow, S. (2009). Early gesture selectively predicts later language learning. *Developmental Science, 12*(1), 182-187. https://doi.org/10.1111/j.1467-7687.2008.00764.x

Rural Advancement Foundation International. (1993). *Bio-piracy: The story of natural coloured cottons of the Americas*. RAFI Communique, November.

Sahlins, M. (1972). *Stone age economics*. Aldine-Atherton.

Said, E. W. (1978). *Orientalism*. Vintage Books.

Schechner, R. (2011). *Between theater and anthropology*. University of Pennsylvania Press.

Schliemann, H. (1881). *Ilios. The city and country of the Trojans: The results of researches and discoveries on the site of Troy and through the Troad in the years 1871-72-73-78-79; including an autobiography of the author*. Harper & Brothers.

Schneibel, A. (2018, September 13). *Body Farm helps solve 30-year-old case of missing Indiana woman*. University of Tennessee Knoxville News. https://news.utk.edu/2018/09/13/body-farm-helps-solve-30-year-old-case-of-missing-indiana-woman/

Schwarcz, H. P. (1980). Age estimation of archaeological sites by isotopic dating of associated materials. *Archaeometry, 22*, 3-24.

Secretaría de Cultura, Dirección General de Culturas Populares, Indígenas y Urbanas. (2019). *Verbo mirar: Rutas y muros de poetas en lenguas indígenas*. https://culturaspopulareseindigenas.cultura.gob.mx/pdf/2022/libros/Verbo%20Mirar_Digital.pdf

Segal, R. (2023, October 13). *A textbook case of genocide*. Jewish Currents. https://jewishcurrents.org/a-textbook-case-of-genocide

Service, E. R. (1962). *Primitive social organization: An evolutionary perspective*. Random House.

Seyfarth, R. M., Cheney, D. L., & Marler, P.) (1980). Vervet monkey alarm calls: Semantic communication in a free-ranging primate. *Animal Behaviour, 28*(4), 1070-1094. https://doi.org/10.1016/S0003-3472(80)80097-2

Shamambo, L. J., Henry, T. L. (2022). Rethinking the use of "Caucasian" in clinical language and curricula: A trainee's call to action. *Journal of General Internal Medicine, 37*, 1780–1782. https://doi.org/10.1007/s11606-022-07431-6

Shaw W. A. (1967). The history of currency 1252 to 1896. Augustus M. Kelley.

Shefelbine, S. J., Tardieu, C., & Carter, D. R. (2002). Development of the femoral bicondylar angle in hominid bipedalism. *Bone, 30*(5), 765-770. https://doi.org/10.1016/S8756-3282(02)00700-7

Shell-Duncan, B., & Hernlund, Y. (Eds.). (2000). *Female "circumcision" in Africa: Culture, controversy, and change*. Lynne Rienner Publishers.

Shennan, S., Downey, S., Timpson, A., Edinborough, K., Colledge, S., Kerig, T., Manning, K., & Thomas, M. G. (2013). Regional population collapse followed initial agriculture booms in mid-Holocene Europe. *Nature Communications 4*, 2486. https://doi.org/10.1038/ncomms3486

Shepard, A. O. (1956). *Ceramics for the archaeologist*. Carnegie Institute.

Shlomo, S. (2010). *The invention of the Jewish people*. Verso.

Sill, J. S. (1990). Utopian group marriage in the 19th and 20th centuries: Oneida community and Kerista Commune. *Free Inquiry In Creative Sociology, 18*(1), 21-28.

Skinner, B. F. (1957). *Verbal behavior*. Copley Publishing Group.

Skloot, R. (2011). *The immortal life of Henrietta Lacks*. Pan Books.

Slobin, D. I. (1985). *Crosslinguistic evidence for the language-making capacity*. Erlbaum.

Smith, S. (1945). William Matthew Flinders Petrie. 1853–1942. *Obituary Notices of Fellows of the Royal Society, 5*(14), 3–16. https://doi.org/10.1098/rsbm.1945.0001

Spivak, G. C. (1999). *A critique of postcolonial reason: Toward a history of the vanishing present*. Harvard University Press.

Starkweather, K., & Hames, R. (2012). A survey of non-classical polyandry. *Human Nature, 23*(2), 149-172.

Steffensmeier, D., Painter-Davis, N., & Ulmer, J. (2017). Intersectionality of race, ethnicity, gender, and age on criminal punishment. *Sociological Perspectives, 60*(4), 810-833.

Steffensmeier, D., Ulmer, J., & Kramer, J. (1998). The interaction of race, gender, and age in criminal sentencing: The punishment cost of being young, black and male. *Criminology, 36*(4), 763-797.

Sterling R. L. (2011). Genetic research among the Havasupai--a cautionary tale. *The Virtual Mentor, 13*(2), 113–117. https://doi.org/10.1001/virtualmentor.2011.13.2.hlaw1-1102

Strochlic, N. (2019, December 19). *The cold cases of Guatemala's civil war were impossible to identify—until now*. National Geographic. https://www.nationalgeographic.com/culture/article/bones-of-guatemala-disappeared-impossible-to-identify-until-now

Struik, T. (2022). *Information structure triggers for word order variation and change: The OV/VO alternation in the West-Germanic languages*. LOT.

Stryker S. (1980). *Symbolic interactionism: A social structural version*. Benjamin/Cummings Pub.

Sue, D. W. (2010). *Microaggressions in everyday life: Race, gender, and sexual orientation*. Wiley.

Sullivan, L. P. & Childs S. T. (2003). *Curating archaeological collections: From the field to the repository*. Altamira Press.

Suleiman, Y. (Ed.). (2016). *Being Palestinian: Personal reflections on Palestinian identity in the diaspora*. Edinburgh University Press.

Swaine, J. (2014, September 24). *Ohio Walmart video reveals moments before officer killed John Crawford*. The Guardian. https://www.theguardian.com/world/20...rawford-police

Sweet, P. L. (2019). The sociology of gaslighting. *American Sociological Review, 84*(5), 851-875. https://doi.org/10.1177/0003122419874843

Tajfel, H., & Turner, J. C. (1979). An integrative theory of inter-group conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of inter-group relations* (pp. 33–47). Brooks/Cole.

Thompson, C. J. (1836). *Ledetraad til nordisk oldkyndighed*. Det Kongelige Nordiske Oldskriftselskab.

Throckmorton, P. (1987). *The sea remembers: Shipwrecks and archaeology*. Chancellor Press.

Tierney, P. (2000). *Darkness in El Dorado: How scientists and journalists devastated the Amazon*. W. W. Norton & Company.

Trinh, T. M.-H. (1989). *Woman, native, other: Writing postcoloniality and feminism*. Indiana University Press.

Ṭūsī Naṣīr al-Dīn Muḥammad ibn Muḥammad & Wickens, G. M. (2011). *The Nasirean ethics*. Routledge/Taylor & Francis Group.

Tyson, E. (1699). *Orang-outang, sive Homo Sylvestris: Or, the anatomy of a pygmie compared with that of a monkey, an ape, and a man*. Thomas Bennet and Daniel Brown.

Vachon, C., Stipe, M., Weinstein, B., & Weinstein, H. (Producers), & Haynes, T. (Director). (1998). *Velvet Goldmine* (Motion picture). USA: Killer Films, Newmarket Capital Group, & Channel Four Films.

Vafiadou, A., Murray, A. S., & Liritzis, I. (2007). Optically stimulated luminescence (OSL) dating investigations of rock and underlying soil from three case studies. *Journal of Archaeological Science, 34*(10), 1659-1669. https://doi.org/10.1016/j.jas.2006.12.004

Vartanian L, Trewartha T, Vanman E. (2016). Disgust predicts prejudice and discrimination toward individuals with obesity. *Journal of Applied Social Psychology, 46*(6), 369-375.

Verdonck, L., Launaro, A., Vermeulen, F., & Millett, M. (2020). Ground-penetrating radar survey at Falerii Novi: a new approach to the study of Roman cities. *Antiquity, 94*(375), 705–723. https://doi.org/10.15184/aqy.2020.82

Vermeij, E., Zoon, P., Gerretsen, R., & Otieno-Alego, V. (2022). The outcome of the forensic triage preceding disaster victim identification in the downing of Malaysia Airlines flight 17. *Forensic sciences research, 7*(3), 566–575. https://doi.org/10.1080/20961790.2022.2043611

Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

Waddy, J. A. (1988). *Classification of plants & animals from a Groote Eylandt Aboriginal point of view*. Australian National University North Australia Research Unit.

Walker, L. E. (1979). *The battered woman*. Harper & Rowe.

Walter, R. C. (1997). Potassium-argon/argon-argon dating methods. In R. E. Taylor & M. J. Aitken (Eds.), *Chronometric Dating in Archaeology (Advances in Archaeological and Museum Science, Vol. 2)*. Springer.

Wang, H. L. (2014). *Tribal nations map: Our own names & locations*. NPR. https://www.npr.org/sections/codeswitch/2014/06/24/323665644/the-map-of-native-american-tribes-youve-never-seen-before

Watson, R. A. (1976). Inference in archaeology. *American Antiquity, 41*(1), 58–66. https://doi.org/10.2307/279041

Waxman, S. R., & Markow, D. B. (1995). Words as invitations to form categories: Evidence from 12- to 13-month-old infants. *Cognitive Psychology, 29*(3), 257–302.

https://doi.org/10.1006/cogp.1995.1016

Weber M. & Rheinstein M. (1954). *Max Weber on law in economy and society*. Simon and Schuster.

Weiner, A. B. (1977). Review of Trobriand Cricket. *American Anthropologist, 79*(2), 506–507. https://doi.org/10.1525/aa.1977.79.2.02a00790

Weiss, S. F. (2006). Human genetics and politics as mutually beneficial resources: The case of the Kaiser Wilhelm Institute for Anthropology, Human Heredity and Eugenics during the Third Reich. *Journal of the History of Biology, 39*(1), 41–88. https://doi.org/10.1007/s10739-005-6532-7

Weston, K. (1995). Get thee to a big city: sexual imaginary and the great gay migration. *GLQ, 2*(3): 253–277. https://doi.org/10.1215/10642684-2-3-253

White, B. M., & Hall, E. S. (2015). Perceptions of environmental health risks among residents in the "Toxic Doughnut": Opportunities for risk screening and community mobilization. *BMC Public Health, 15*(1), 1-9.

White, T. D., & Folkens, P. A. (2011). *Human osteology*. Academic Press.

Whittaker, G. (2002) Linguistic anthropology and the study of Emesal as a womens Language. In S. Parpola & R. Whiting (Eds.). *Sex and gender in the ancient near east: Proceedings of the 47th Rencontre Assyriologique Internationale, Helsinki, July 2-6, 2001* (683-744). Neo-Assyrian Text Gorpus Project.

Winner, E. (1988). *The point of words: Children's understanding of metaphor and irony*. Harvard University Press.

Wolfe P. M. (1972). *Linguistic change and the great vowel shift in English*. University of California Press.

Wolfram, W., & Schilling-Estes, N. (2003). Dialectology and Linguistic Diffusion. In Brian D. Joseph & Richard D. Janda (Eds.), *The handbook of historical linguistics* (pp. 7113-735). Blackwell.

Wu, J. (2022). Tense and aspect in Mandarin Chinese. *Oxford Research Encyclopedia of Linguistics*. https://doi.org/10.1093/acrefore/9780199384655.013.913

Young, B., Conti, D. V., & Dean, M. D. (2013). Sneaker "jack" males outcompete dominant "hooknose" males under sperm competition in Chinook salmon (Oncorhynchus tshawytscha). *Ecology and evolution, 3*(15), 4987–4997. https://doi.org/10.1002/ece3.869

This page titled References is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

DETAILED LICENSING

Overview

Title: anthropology: the study of humans

Webpages: 35

All licenses found:

- CC BY 4.0: 71.4% (25 pages)
- Undeclared: 25.7% (9 pages)
- Other: 2.9% (1 page)

By Page

- anthropology: the study of humans - *CC BY 4.0*
  - Front Matter - *Undeclared*
    - TitlePage - *Undeclared*
    - About the Authors - *CC BY 4.0*
    - InfoPage - *Other*
    - Table of Contents - *Undeclared*
    - Licensing - *Undeclared*
  - 1: Introduction to Anthropology - *CC BY 4.0*
  - 2: Introduction to Biological Anthropology - *CC BY 4.0*
  - 3: Evolution - *CC BY 4.0*
  - 4: Primates and Human Evolutionary Relatives - *CC BY 4.0*
  - 5: The Fossil Record and Human Ancestry - *CC BY 4.0*
  - 6: Homo sapiens and Human Biological Variation - *CC BY 4.0*
  - 7: Forensic Anthropology - *CC BY 4.0*
  - 8: Introduction to Linguistics - *CC BY 4.0*
  - 9: Language Culture and Society - *CC BY 4.0*
  - 10: Language Structure - *CC BY 4.0*
  - 11: Historical Linguistics - *CC BY 4.0*
  - 12: Language Acquisition - *CC BY 4.0*
  - 13: Introduction to Cultural Anthropology - *CC BY 4.0*
  - 14: Subsistence - *CC BY 4.0*
  - 15: Social Organization - *CC BY 4.0*
  - 16: Rituals Religion and Expressive Culture - *CC BY 4.0*
  - 17: Ideology Identity and Inequality - *CC BY 4.0*
  - 18: Introduction to Archaeology - *CC BY 4.0*
  - 19: Archaeological Fieldwork - *CC BY 4.0*
  - 20: Artifact Analysis - *CC BY 4.0*
  - 21: Preservation - *CC BY 4.0*
  - 22: Historical Archaeology - *CC BY 4.0*
  - Back Matter - *Undeclared*
    - Index - *Undeclared*
    - Glossary - *Undeclared*
    - References - *CC BY 4.0*
    - Detailed Licensing - *Undeclared*
    - Detailed Licensing - *Undeclared*

This page titled anthropology: the study of humans is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.

DETAILED LICENSING

Overview

Title: anthropology: the study of humans

Webpages: 35

All licenses found:

- CC BY 4.0: 71.4% (25 pages)
- Undeclared: 25.7% (9 pages)
- Other: 2.9% (1 page)

By Page

- anthropology: the study of humans - *CC BY 4.0*
  - Front Matter - *Undeclared*
    - TitlePage - *Undeclared*
    - About the Authors - *CC BY 4.0*
    - InfoPage - *Other*
    - Table of Contents - *Undeclared*
    - Licensing - *Undeclared*
  - 1: Introduction to Anthropology - *CC BY 4.0*
  - 2: Introduction to Biological Anthropology - *CC BY 4.0*
  - 3: Evolution - *CC BY 4.0*
  - 4: Primates and Human Evolutionary Relatives - *CC BY 4.0*
  - 5: The Fossil Record and Human Ancestry - *CC BY 4.0*
  - 6: Homo sapiens and Human Biological Variation - *CC BY 4.0*
  - 7: Forensic Anthropology - *CC BY 4.0*
  - 8: Introduction to Linguistics - *CC BY 4.0*
  - 9: Language Culture and Society - *CC BY 4.0*
  - 10: Language Structure - *CC BY 4.0*
  - 11: Historical Linguistics - *CC BY 4.0*
  - 12: Language Acquisition - *CC BY 4.0*
  - 13: Introduction to Cultural Anthropology - *CC BY 4.0*
  - 14: Subsistence - *CC BY 4.0*
  - 15: Social Organization - *CC BY 4.0*
  - 16: Rituals Religion and Expressive Culture - *CC BY 4.0*
  - 17: Ideology Identity and Inequality - *CC BY 4.0*
  - 18: Introduction to Archaeology - *CC BY 4.0*
  - 19: Archaeological Fieldwork - *CC BY 4.0*
  - 20: Artifact Analysis - *CC BY 4.0*
  - 21: Preservation - *CC BY 4.0*
  - 22: Historical Archaeology - *CC BY 4.0*
  - Back Matter - *Undeclared*
    - Index - *Undeclared*
    - Glossary - *Undeclared*
    - References - *CC BY 4.0*
    - Detailed Licensing - *Undeclared*
    - Detailed Licensing - *Undeclared*

This page titled anthropology: the study of humans is shared under a CC BY 4.0 license and was authored, remixed, and/or curated by jeffrey mccully.