INSTRUCTORS GUIDE

by

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copyedited by Elizabeth J. Winters

This guide is designed to accompany
***Anthropology Explored: The Best of Smithsonian AnthroNotes*, 2nd edition.**
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Introduction

Today, more than ever, anthropology has become an important lens through which we can better understand our diverse world, with its global economy and multinational corporations, its increasing ethnic strife, and its rapid loss of traditional practices and cultures. The public's growing interest in the physical and cultural past of humankind, as well as in today's physical, cultural, and linguistic variation, challenges the field of anthropology to offer its insights into the problems confronting our world today.

Anthropology Explored is a collection of 36 essays written in a light and easy-to-read style by some of the world's leading anthropologists. The chapters trace the emergence of humans, describe archaeologists' understanding of early settlements, and explore the diversity of past and present cultures. Illustrated with amusing insightful cartoons drawn by the late artist and anthropologist Robert L. Humphrey, the chapters move from a discussion of communication with apes to a summary of 7 million years of human evolution; from a study of disease throughout human history to new views of the Vikings, the origins of the Inuit people, and the earliest settlers in the new world; from a case study of a Peruvian highland community to a study of aging in societies around the globe.

Culled from the Smithsonian's award-winning serial publication *AnthroNotes*®, these short engaging essays include update sections, which inform readers of recent discoveries in the field as well as shed light on the process of research and discovery. The book is divided into three major sections: *Investigating Our Origins and Variation, Examining Our Archaeological Past*, and *Exploring Our Many Cultures*. The articles reflect the broad nature of anthropology and include such topics as primates, human evolution, race and ethnic identity, disease, origins of agriculture and domestication of animals, forensic anthropology, applied linguistics, African American archaeology, repatriation, cultural relativism and universal human rights, and body art. These essays trace culture changes over time as well as changes in anthropologists' perspectives during the 150 year history of the field.

Anthropology Explored conveys the excitement, powerful perspectives, and broad subject matter of anthropology through what we hope are clear, lively, and informative chapters and case studies. The book spans the entire field of anthropology and is written in a popular and accessible style enlivened by wonderful cartoon illustrations. The first edition, published is 1998, was a Natural Science Book Club Selection and received positive reviews in leading anthropological journals, including *The American Anthropologist* and *American Antiquity*. The second expanded edition includes 13 entirely new chapters, 36 new abstracts, 23 new updates, and 36 new further reading sections. New chapters cover topical issues such as race and ethnicity, repatriation, cultural relativism and universal human rights, forensic anthropology, and body art such as tattoo and piercing.

For students and teachers, *Anthropology Explored* is a lively introduction to the field of anthropology, demonstrating through the Update Sections that knowledge changes over time, but that the fascination with human development and diverse cultures endures through each generation.

Learning Objectives

Section One: *Investigating Our Origins and Variation*

After reading this section, students will be able to:

- discuss the advantages of using chimpanzees to study the evolution of language;
- explain how genetics and the study of chimpanzee behavior can help us better understand violence in human society;
- understand the different theories of how humans originated, evolved, and migrated around the world;
- explain how new DNA evidence is helping us understand the study of human evolution and the complexities of delineating our ancestors;
- detail what types of information skeletal remains can give to anthropologists;
- show how disease patterns mirror changes in human life and human society over long periods of history;
- explain how skeletal evidence reveals interesting facts about the way of life of the ancient Peruvian culture of the Moche;
- demonstrate how forensic physical anthropologists work to recover and identify soldiers missing in action, and how they approach the sensitive issues surrounding MIAs;
- discuss various issues surrounding race and ethnicity, and how they might have developed.

Section Two: *Examining Our Archaeological Past*

After reading this section, students will be able to:

- explain the significance of the development of agriculture and the factors which may have caused it both in eastern North America and in what is today called the Middle East;
- show how human nutrition has declined over time;
- analyze how ethnoarchaeological research can help anthropologists understand our ancient ancestors;
- demonstrate how stereotypes can affect history, but how new archaeological evidence is revising these old notions, as in the case of the Vikings;
- describe some of the different theories about the first Americans as well as types of inquiry and evidence, both factual and ridiculous, that abound;

- demonstrate, using specific examples from case studies, how the theories of archaeologists are changed and shaped throughout their careers;

- show how non-human evidence can be used to study ancient human migration patterns and to suggest new theories;

- support the notion that new research is increasing our understanding of Maya culture;

- explain how Arctic cultures developed and changed through time;

- show how the artifacts of African American culture can be understood and what they can tell us about early African American life in the Americas.

Section Three: *Exploring Our Many Cultures*
After reading this section, students will be able to**:**

- understand the sensitive issues surrounding cultural relativism and universal human rights;

- explain how the roles of Andean women have changed in recent decades;

- show how the identity of the Indians of Mexico changed with the advent of Spanish colonization;

- demonstrate how different methodologies can be used to study such groups as the Plains Indians;

- show how Native Americans have aided in Smithsonian research;

- explain how the Silk Road affected the cultural exchange in the ancient world;

- analyze some of the many issues surrounding the problems of refugees;

- detail the work of one anthropologist to preserve Maya languages;

- show how body art is used to signify both cultural and individual identity and also serves as a form of communication;

- explain how linguists work with lawyers, doctors, and educators, as well as help people understand how language use affects human relationships;

- outline the issues of repatriation that museums face today;

- demonstrate how views on aging differ from society to society and are often affected by cultural values and social variables.

Organization of the Guide

This *Instructors Guide* is designed to assist instructors in helping students grasp the main ideas and concepts of *Anthropology Explored*. The *Guide* parallels in organization the book's 36 chapters: for each chapter, there is a short chapter summary, discussion questions, essay questions, short answer questions, and definitions for several terms used in the chapter. The chapter summary highlights the main points of the article, while the questions help teachers motivate students to discuss, analyze, and debate issues raised by the chapter. At the end of the guide, the answers to the questions for five chapters are offered as a model.

The definitions in the glossary come from several different sources. Occasionally, they are pulled directly from the chapter. Mostly they have been taken from *Webster's Third New International Dictionary of the English Language Unabridged*, G.C. Merriam Company,1976; and the dictionary sources at www.dictionary.com. Most definitions in the glossary have been modified to fit the context of the chapter. Many were revised by the copyeditor of the *Guide*, both for clarification and consistency across chapters.

Teachers are encouraged to ask their students to examine and analyze the various illustrations in the chapters, particularly the cartoons. Each cartoon was specifically designed to illustrate an idea expressed in the chapter, and hence are grist for classroom discussion. Students can discuss the cartoon's meaning and how the artist achieves humor. There is also an essay in the book, "The Art of Anthropology," explaining the cartoonist's technique and philosophy.

Anthropology Teaching Resources and Activities

Today, much of the information on teaching resources, including activities, can be obtained through the World Wide Web. The Smithsonian has many resources, including past issues of *AnthroNotes*®, available through the Department of Anthropology's website, which can be accessed at http://www.nmnh.si.edu/departments/anthro.html, as well as through the Smithsonian's main website at http://www.smithsonian.org

The Smithsonian Institution's Department of Anthropology, which has published *AnthroNotes*® for over 25 years, is a source of excellent information about teaching anthropology. Almost every issue of *AnthroNotes*® includes a "Teachers Corner," offering tested teaching activities for the classroom. Many of these activities, as well as other teaching resources, are on the department's website, and also have been compiled into a *Teacher's Resource Packet in Anthropology*, which you can obtain by contacting the Anthropology Outreach Office, by mail, phone, or e-mail:

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Ruth O. Selig

Ruth O. Selig is Special Assistant to the Director, National Museum of Natural History. After completing her formal education in history (Wellesley B.A.), social science teaching (Harvard M.A.T.), and anthropology (George Washington M.A.), Selig taught English and anthropology to high school and college students, then came to the NMNH to develop an anthropology outreach office and to direct joint University/Museum NSF- and NEH-funded anthropology teacher training programs in Washington D.C. and in Laramie, Wyoming. Since 1985, while holding senior administrative positions at the Smithsonian Institution, she has continued to publish on anthropology and education, co-editing *AnthroNotes* and serving as lead editor/author for the two editions of *Anthropology Explored: The Best of Smithsonian AnthroNotes* (Smithsonian Books 1998, 2004).

Elizabeth J. Winters

Liz Winters is a junior at American University majoring in Anthropology and working in the university's computing laboratory. She worked on the *Guide* as part of an internship at the National Museum of Natural History in the summer of 2004. In her internship application, she wrote that she was hoping to gain "an internship that teaches me some area of anthropology and will put to use my skills in technology as well as writing." The authors are grateful for Liz's excellent work as copyeditor of this *Guide*.

"Ape-ing" Language: Chapter 1
Communicating with Our Closest Relatives
Kathleen D. Gordon

Chapter Summary

Anthropologists have theorized that human language and the use of tools developed together. Until Jane Goodall proved that chimpanzees made and used basic tools, it was widely believed that only humans had the ability to speak and prepare tools. Recent experiments, however, have proven that apes are able to learn symbolic languages based on human language. The first attempt to teach chimpanzees language was in the 1940's, when anthropologists attempted to raise chimpanzees as if they were human babies. One chimp, Viki, learned to use pictures to communicate, but she could only pronounce three words. This proved that chimps may be able to use language, but are not capable of speech, primarily because of structural limitations in their anatomy. However, in the wild, monkeys are able to communicate even without actual speech; vervet monkeys, for example, have calls that differentiate between four major predators.

In the 1960's, anthropologists Allen and Beatrice Gardner taught their baby chimp, Washoe, hand signs in ASL. Washoe was able to learn one hundred and fifty signs. This case was by no means unique, but the experiments were difficult to control scientifically. Gordon presents the sign language experiments as methodologically difficult, yet also demonstrating most clearly apes' capacity for language. For example, Koko, a gorilla, was taught ASL by Dr. Franklin Patterson. She is able to use 500 words and understand an additional 500. She makes use of jokes, lies, and even insults. Apes in other experiments have been known to generalize, for example, using Coke to signify a sweet drink.

Critics have asserted that these chimps were not learning a language but were merely mimicking. This criticism led to the development of an artificial language known as Yerkish. Yerkish is made up of lexigrams on a computer, thus eliminating the need for a human trainer, an important step because it meant that there was no way the experimenters were leading the animal to the correct response. The Yerkish method is problematic, however, because it does not offer much social context for language use.

Recent experiments with bonobos have shown them to have more advanced language capacities than chimps. Kanzi, a bonobo whose mother was trained in Yerkish, began to use and recognize symbols on his own, probably learning them from his mother. This proved that Kanzi was developing language skills, not merely acquiring a conditioned response. Kanzi also names things that he does not want immediately, demonstrating that he is also not reward dependant. Along with the lexigrams, Kanzi uses gestures and has been tested to understand 75 percent of spoken English.

The experiments with Yerkish have shown that chimps have the ability to conceptualize and hear complex vocalized messages, and that this ability exists without any actual speech. Chimps involved in this experiment also demonstrate that language, once begun, continues to

grow. Washoe, for example, was observed learning from companions and modifying her own signs. There appears to be low aggression among signing chimps, supporting the theory that language may have developed out of the need to regulate social behavior.

In the update, the author discusses how even though chimps and bonobos show great progress in language learning, scholars are still skeptical. Kanzi has shown that bonobos can learn language on their own without training, and that early exposure to language is important, as the environment must be highly social and full of language. Kanzi has even begun to use standard grammar rules, as well as inventing his own. Scientists also tested with Kanzi the theory that tool making and language developed together. While Kanzi never made the Oldowan stone flakes scientists hoped he would, he showed great innovation in his attempts. Regardless of these experiments with Kanzi and other chimps and bonobos, there is still little consensus about the interpretation and meaning of the results of all these experiments.

Discussion Questions

1) Why might the development of tools and language coincide in human evolution?

2) Why has it been so difficult to pinpoint the exact time language emerged?

3) How have experimenters attempted to solve the dilemma of whether the chimps are merely mimicking?

4) Why is the chimp's environment so important to language development?

5) Discuss the ways in which Kanzi proves that he is using language and not mimicking.

6) In what context do wild monkeys demonstrate a basic use of language?

Essay Questions

1) The surrogate mother of Viki once wrote, "We said that if an ape had proper upbringing, it might learn to speak spontaneously. But we were wrong. You can dress an ape in the finest of finery, buy it a tricycle, and kiss it to death - but it will not learn to talk." How accurate do you think this statement is? Support your answer with case studies described in the article.

2) Critics of the experiments in this article claim that the chimps are not truly learning language but are mimicking. What could be the varying definitions of language, and how would it affect the case studies in the article?

Short Answer Questions

1) Discuss the tool making experiment attempted with Kanzi. Do you think more was learned by his innovation or his inability to produce the flakes desired?

2) Artificial languages remove the issue of mimicking, yet they are still criticized. What is the main source of criticism for artificial language use?

3) In what ways are chimps and bonobos different, as described in this chapter?

4) Why is it so significant that Kanzi began learning Yerkish on his own?

5) Why is it important that Ai can count from zero to nine and remember strings of up to five numbers?

Glossary

Bonobo: a pygmy chimpanzee once thought to merely be a smaller version of the common chimpanzee, but now shows even greater potential for language learning.
Chimpanzee: an ape species that is partially arboreal and highly intelligent, displaying tool-using behavior and some language skills.
Language: the use of words to convey ideas and feelings to others with a clear form of grammar and syntax.
Lexigraphy: the use of symbols or characters to represent words.
Theory of Mind: the ability to grasp that people may see and think about the world differently.

Are Humans Inherently Violent? Chapter 2
Robert W. Sussman

Chapter Summary

Until the recent book by Richard Wrangham and Dale Peterson, *Demonic Males: Apes and the Origins of Human Violence*, scholars tended to view violence as being unique to humans. Raymond Dart, Sherwood Washburn, Robert Ardrey, and E.O. Wilson all have argued that violence was inherited from prehominid ancestors, while other anthropologists have suggested that human violence is the product of our society and environment. *Demonic Males* offered the theory that a propensity to kill was actually inherited from chimpanzees. Wrangham and Dale asserted that humans split from chimpanzees 6 to 8 million years ago (mya), and that chimps and bonobos split around 2.5 mya. Wrangham and Peterson have offered the chimps as good models for prehominids.

When the fossils of our "large-brained"ancestors from Piltdown, England were discovered to be frauds in the early 1950's, it became accepted that our ancestors were more ape-like than human. Raymond Dart, discoverer of the first australopithecine fossils, suggested that the australopithecines were scavengers in a savanna environment. The fossils, especially skulls, which he had discovered, however, had dents and holes, eventually leading him to conclude that the australopithecines hunted for food, and fought amongst each other.

In 1968, *Man the Hunter* was published by Sherwood Washburn and Chet Lancaster. This book suggested that it is the behavior of hunting which has shaped human nature and differentiated humans from other primates. Sussman criticizes this theory because he claims that the authors did not gather their data from modern hunter-gatherers, but instead employed the nineteenth century concept of cultural "survivals," manners which existed in earlier times but are no longer present. The author goes on to ridicule the theory discussed in *Man the Hunter* by saying that dancing could just as well replace hunting as separating humans from primates.

Later, in the mid-1970s, E.O. Wilson suggested that there are certain traits that are true for all humans: territoriality, male-female bonds, male dominance over females, and extended maternal care. Wilson saw these traits as also being present in primates; however, Sussman claims to have disproved this theory elsewhere. Wilson offered a theory of sociobiology which asserted that organisms live in order to reproduce, and that an organism will cooperate with others only if they share common genes, as in kin selection, or if the others might offer aid to the organism at some later date, as in reciprocal altruism. The author, however, states that evidence found in modern hunter-gather societies shows that they are generally non-aggressive. He claims that the holes in the skulls discovered by Dart were, in fact, made by animals, proving that humans were the hunted, not the hunters.

Demonic Males asked the question, are humans violent as a result of our genetic code, and, if so, can such violence be overcome? The authors, Wrangham and Peterson, state that the bonobo, closely related to the chimpanzee, is the opposite in disposition to the chimp, as bonobos are non-aggressive. Wrangham and Peterson suggest that the drive to kill is the result of

something known as the "selfish gene." To them, the behavior evolved out of natural selection and efforts to survive. They view humans and chimpanzees as having similar behaviors because they are more closely related than chimps are to gorillas. They assert that chimps serve as good models of our ancestors and retain some of their traits. The author of this article discounts these assertions because the connection between gorillas, chimps, and humans is by no means clear, and the chimpanzee species has evolved over time just as humans have. Wrangham and Peterson support their theory based on evidence of chimp behavior gathered by themselves, as well as by Jane Goodall. However, in Jane Goodall's experiments, chimps only began to demonstrate aggression when she employed "restrictive human-controlled" feeding. The author suggests this increase in feeding as one explanation for the violent behavior seen in the chimps, rather than a genetic explanation. He claims that our behavior is decided by socialization practices and human history, not by human nature.

In his update, the author mentions that Wrangham addressed the author's criticisms of his theory. Wrangham claimed that there were 10 instances of chimpanzees killing and 10 disappearances of chimpanzees. Wrangham equates war in humans and deadly attacks in chimpanzees as "coalitionary killing." This is an unusual phenomenon in animals, being more common in social insects and social carnivores. Wrangham believes that it occurs in chimpanzees and humans because of an imbalance of power, rivalries, and drive. The author views the theory of coalitionary killing as problematic and does not see the connections that Wrangham makes between the killing of chimps and that of ants. The author also states that if an imbalance of power was a factor then there would be more evidence of killings. The term "drive" could have a variety of meanings and implications, one more of the many problems Sussman has with this theory.

Discussion Questions

1) How does Wrangham argue that chimps are closely related to human's ancestors?

2) How did Raymond Dart, according to the author, misrepresent the australopithecine fossils?

3) What did Robert Ardrey suggest was the motivation behind human accomplishment? Do you agree?

4) Discuss the author's theory of "man the dancer." What is he trying to suggest by employing it?

5) Discuss Wilson's theory of sociobiology. Do you agree with the author's dismissal of it?

6) How can the comparison of chimpanzees and bonobos disprove Wrangham and Peterson's theory?

Essay Questions

1) Discuss briefly the different theories about a genetic basis for human violence. The author makes it very clear that he disagrees with them. Do you feel that the author is presenting the full picture, or does his bias irrevocably shape the reader's opinion?

2) Discuss the idea of coalitionary killing. Do you agree with Wrangham or the author?

Short Answer Questions
1) What is the "man the hunter" theory?

2) Why is the word 'drive' a poor choice of words? How does Hinde define it?

3) Why can applying words such as "rape" to animal actions be problematic?

4) What is the "imbalance of power" hypothesis?

5) Describe how Jane Goodall's experiments with food incited violent behavior in the chimps.

Glossary
Australopithecine: bipedal, partially arboreal apelike individual who weighed 60-80 lbs and stood between 3.5 and 5 feet tall; their brain was one-third the size of a modern human's.
Coalition: a temporary alliance of distinct parties.
Drive: an urgent, basic, or instinctive need.
Instinct: an inherent aptitude or impulse.
Sociobiology: E.O. Wilson's theory that asserted that organisms live in order to reproduce and that an organism will cooperate with others only if they share common genes, as in kin selection, or if the others might offer aid to the organism at some later date, as in reciprocal altruism.

Chapter Summary

Curiosity about human origins is a uniquely human trait. Since the ninth grade, paleoanthropologist Rick Potts has been curious about and sought answers to his questions about human origins. His early reading of books like *The Naked Ape* by Desmond Morris and *African Genesis* by Robert Ardrey further ignited his passion for anthropology. His determination and insights have revealed much about human evolution as well as the passions of a dedicated scientist. In this chapter, a combination of a biographical essay by Selig and an update by Potts, three stories unfold: the development of a paleoanthropologist's career, the development of the human species over time, and the development of a theory of variability selection, created to help explain the story of human evolution.

After graduating from Temple University, Potts was recruited by Harvard for Ph.D. studies. At age twenty-three, he fulfilled his boyhood dream of doing research at Olduvai Gorge, considered at one time to be the oldest archaeological site in the world. Distinctive human qualities began to emerge in the archaeological record of Olduvai Gorge over five mya but the evolutionary process was by no means immediate. The first big evolutionary step was the ability to walk on two legs. Australopithecines were the first bipeds but they were still able to climb trees, and their brain was only one third the size of a modern human's brain. Stone tools began to develop around 2.5 mya, an indication of increased cranial capacity. About 1.9 mya *Homo erectus* was the first hominid species to leave Africa, but his brain size was still not fully human. The complex behavior now so commonly associated with humans, such as art and religion, did not arise until the brain reached modern size. This process indicated that at no one single point did modern humans originate.

Potts was interested in the high density remains found at Olduvai Gorge. It became clear to him that many of these remains could have been affected by carnivores and water currents in the past. He used an electron microscope to make comparisons between marks on the bones he discovered at Olduvai and marks known to have been made by carnivores and by water transport on modern bones. This comparison allowed him to see how tool makers and carnivores interacted. It also showed the importance of the hominids' ability to transport food and tools. Glynn Isaac published an article in the late 1970s asserting that the Olduvai site was a home base site, where hominids often gathered together. Potts disagreed with this theory and used his discoveries to claim that Olduvai predated the development of home bases. He developed what is known as the "resource transport" hypothesis. He postulated that hominids stored materials and animal remains together at certain locations, called stone caches, so that they could return to process the resources in the future. These were not home base sites, which are visited more frequently. In fact, the accumulation of carcass remains at stone caches attracted carnivores, making the locations difficult and dangerous places to return to often. As a result of his growing reputation in the field, Potts was invited to found the "Human Origins Program" at the Smithsonian National Museum of Natural History.

Potts also began to make important discoveries at Olorgesaille, a site in Kenya where Potts studied ancient environments as the clue to learning more about early hominids. In the 1990's, with the rise of environmental concerns, new research techniques were developed. As a result of these techniques, Potts learned there was an oscillation in environmental variables, but he was still uncertain how these operated on human evolution. He began a study of early mammals to better understand the process of natural selection.

In his book *Humanity's Descent,* Potts proposed his theory of environmental variability as an explanation for the emergence of the human species. His theory contradicted the conventional "savanna" theory that the change to a hot, dry climate, causing the replacements of rainforests with grasslands, brought about bipedalism, in turn causing tool making, and eventually the development of a bigger brain. Potts discovered rather that distinctive breakthroughs in human evolution coincided with increasing environmental changes. His theory of "variability selection" draws connections between adaptive change and environmental variance. For Potts, variability, not spreading savannahs, acted as the key selection agency. Increased adaptability was the result of environmental variance and an effective adaptation.

Potts describes in the chapter update how his research has continued and how it has been received. With a National Science Foundation grant, he has begun a comparative study of human evolution in China and East Africa. He has published his earlier work on research in East Africa, sharpening his questions for examining the evolution of human adaptability in response to other scientists' questions, including their encouragement to him to refine and increase his use of models and environmental data gathering.

Discussion Questions

1) Discuss the development of Potts' career, and how it was influenced by various teachers?

2) What can Potts' career reveal about a scientist's passion and drive?

3) How did Potts' diverse curriculum in college affect his future career?

4) Discuss the importance of the Olduvai Gorge to anthropologists and specifically to Potts.

5) Discuss why mammals are better case studies for the examination of natural selection than humans.

Essay Questions

1) Compare and contrast the savanna theory and Potts' theory of environmental variability? Do you think both theories could operate together and, if so, how?

2) Describe the three intertwined stories within this article. What can each illuminate about the other?

Short Answer Questions

1) What were the australopithecines and why were they important?

2) What is environmental oscillation?

3) Define Potts' theory of variability selection.

4) Why is brain size so important? What can it tell anthropologists about the abilities of an individual?

5) How does a change in brain size coincide with changes in the environment?

Glossary

Australopithecine: bipedal, partially arboreal apelike individual who weighed 60-80 lbs and stood between 3.5 and 5 feet tall; their brain was one-third the size of a modern human's.
Cranial Capacity: the size of the cavity within the skull which reflects the size of the brain.
Homo erectus: extinct species of primitive hominid with upright stature and a relatively large brain compared to australopithecines.
Homo sapiens: the only surviving hominid; species to which modern humans belong; bipedal primate having language and ability to make and use complex tools; brain approximately 1400 cc.
Taphonomy: the study of the conditions and processes by which bones and artifacts decay and become fossilized in the wild. (18)

New Research in Early Human Origins 7 to 1 million years ago Chapter 4
Alison S. Brooks and Rick Potts

Chapter Summary

The reopening of restricted areas and an increase in multinational funding has lead to several recent breakthrough discoveries about our earliest origins. Before 1990 anthropologists counted seven or eight human species on the human family tree, and Lucy was considered to be the earliest known hominid. Now, however, there is new evidence regarding Lucy's ancestors. In order for a find to be classified as a hominid rather than an ape there must be evidence of bipedalism, thick dental enamel, large flat molars, and small canine teeth.

Lucy was an *Australopithecus afarensis* and lived up to 2.9 mya. In the past decade six new species have been found which predate Lucy, dating from 7-3 mya. These fossils demonstrate that at that time there was great diversity in the human species. *Sahelanthropus tchadensis* discovered in Chad, was one of these species. It represents both the most recently discovered, yet the oldest fossil known, dating around 6-7 mya. It had a small brain, a large brow, thin dental enamel, and small canine teeth. Its non-projecting lower face made it look somewhat more like *Homo* than *Australopithecus*.

Excavations in Ethiopia also have also led to new findings. *Ardipithecus ramidus* dates from 5.8-4.4 mya. In comparison to *Australopithecus* it has relatively large canines, with smaller and more elongated molars with thinner dental enamel. It predates the first *Australopithecus*.

Australopithecus fossils found in Kenya date to 4.2-3.9 mya. These fossils, though more primitive than Lucy, were definitely bipedal. Their hands, however, indicate they still climbed in trees. This finding and others have helped expand scientists' understanding of *A. afarensis*. These fossils, for example, demonstrate that *A. afarensis* had sexual dimorphism, bipedalism, and the ability to climb in trees.

Questions are now being raised, however, whether these finds make Lucy and species related to her a side branch of the *Homo* line. *Homo* species tend to share features which are otherwise missing from Lucy. The authors indicate in this article that it is very difficult to view the process of human evolution as linear, and that more studies are needed to increase our understanding. It will be important to grasp how they are linked functionally, how they developed, and how they are related to genetic changes. Our genes can control our growth in a variety of ways. A study of the different species, according to the authors, will allow scientists to see the interplay of function and genes in order to better comprehend the fossil record.

The authors cite the time between 3-2 mya as the most crucial to human evolution. During this time Lucy disappears and several new species arise, including at least three species of robust *Australopithecus* and at least one species of *Homo*. Stone tools dating to this time have also been discovered in Ethiopia and Kenya. The authors suggest that this new tool using behavior was a driving force behind selected changes in morphology. The tools also demonstrate that this cultural development came before the development of larger brains.

Homo erectus developed first in Africa and then spread out over the globe around 1.7-1.8 mya. There is evidence for East Asia being occupied as early as 1.3 mya. Finds of earlier ancestors have lead to new questions of how they were able to expand from Africa: did they follow animals? did they control fire? what effect did technology have on their population growth? The authors hope that more research will shed light on these questions.

Discussion Questions
1) Why do you think it is important to better understand our earliest ancestors?

2) Discuss how one or two findings can radically change the way we view human evolution.

3) Discuss whether you think the new evidence discussed in this chapter better answers the question of where *Homo* originated.

4) What factors might have led to human migration from Africa?

5) Discuss why it is important that tools developed before human brain size increased?

6) Discuss some reasons why from 1964 until 1990 only four new species were discovered, and from 1991 until 2002 eight were found.

Essay Questions
1) What are some of the key features which define a species as in the *Homo* line. How does *Homo* differ from apes and gorillas, and how can these features be used to trace human evolution?

2) How has the human family tree changed over the years? Is there more than one way in which it can be viewed?

Short Answer Questions
1) What traits does *Australopithecus* have that differs from *Homo*?

2) Why is bipedalism important?

3) Where have a majority of these new finds been discovered?

4) Why is it important to understand how traits are linked functionally?

5) What can the study of genes tell us?

Glossary
Australopithecine: bipedal, partially arboreal apelike individual who weighed 60-80 lbs and stood between 3.5 and 5 feet tall; their brain was one-third the size of a modern human's.
Bipedalism: the ability to walk on two feet.

Homo erectus: extinct species of primitive hominid with upright stature and a relatively large brain compared to australopithecines.
***Homo habilis*:** an extinct species of humans which existed between 1.5 and 2.3 million years ago.

***Homo sapiens*:** the only surviving hominid; species to which modern humans belong; bipedal primate having language and ability to make and use complex tools; brain approximately 1400 cc.

The Emergence of Modern Humans Chapter 5
Alison S. Brooks

Chapter Summary

Scientists continually debate at what point in the course of human evolution modern humans emerged. In order to be classified as modern, the skeleton must be gracile, the teeth small, the braincase tall, the brow ridges reduced, and the face almost completely situated under the braincase. There were several different species of archaic humans before the arrival of *Homo sapiens*, including Neanderthals, who lived in the cold climates of western Eurasia.

The human family tree can be compared in two different ways: as a candelabra and as a hatrack. The candelabra scenario recognizes only one major branching of the human line. There was an initial dispersal of *Homo erectus* around 1.7 mya from Africa to Eurasia. Populations in each area then evolved separately in a parallel fashion leading up to the emergence of modern humans. There was some migration which allowed for gene flow, which prevented the different populations from evolving into separate species.

The hatrack theory constructs the family tree with a single main stem leading to modern humans. There are branches on it at intervals representing evolutionary dead ends, for example, the Neanderthals. Until recently this theory reflected a European/Near Eastern identity, but it was based on incorrect dates or even on forgeries such as Piltdown. Now, however, supporters of this view agree that the central stem is African, and, therefore, is known today as the "out of Africa" hypothesis.

New techniques help to better date new finds. Radiocarbon dating is very accurate for relatively recent finds but cannot be used earlier than 40,000 years ago. New techniques for dating between the period of 200,000 to 40,000 use measurements of the accumulation of radiation damage from soil radiation, measurements of the decay of uranium from ground water which would cause the decay of tooth enamel as it seeped into buried bones and teeth, and measurements of the decay of proteins encapsulated in hard tissues of fossilized animals. None of these methods, however, are independent of the burial environment, so more than one method must be used on each sample to increase accuracy.

The migration of humans is another source for debate among scientists. It is clear that humans reached Asia before they reached Europe, but the relationship between the movements is unclear. In 1987 Rebecca Cann suggested the African Eve hypothesis. DNA found in the mitochondria most clearly demonstrates evolutionary changes. This type of DNA, however, is passed on almost entirely by the mother, rather than by both parents. Africans have the most variants in this type of DNA, suggesting they have been in place longest and showing the origins of our common ancestor; one branch of African DNA is clearly ancestral to the mtDNA of all modern populations outside of Africa.

It is also important, however, to examine whether other archaic humans such as Neanderthals passed on DNA to modern humans. The author lists three central questions

surrounding this study: who were the Neanderthals and what can explain their robust body form, are there any fossils immediate between Neanderthals and modern humans, and are there regional continuities in facial shape or teeth that continue across the transition? Studies have found that Neanderthals have very thick bone with heavy muscle, a condition that has yet to be found in the bones of modern humans. Neanderthals were very different from modern humans in structure as well as behavior.

Some scientists argue that the development of modern human behavior happened suddenly 40,000 years ago as the result of genetic mutation. Brooks, however, believes that some modern human behaviors occurred earlier in non-European sites. The author also brings forth the question of whether Cro Magnons came from Africa. Cro Magnons were named for the site at which they were discovered in France. Unlike the Neanderthals, Cro Magnons were built for warmer weather. They used stone tools unlike anything seen in Europe up to that point, but they were also unlike anything in the Near East or North Africa at that time. Similar stone tools have been found in the Near East but they date from a later time. The author maintains that in order to resolve these controversies more data must be found.

Discussion Questions
1) Discuss what features differentiate modern humans from earlier archaic forms.

2) What could be potential problems if the new dating techniques are not independent of burial environments?

3) Why do you think it is important to study migration patterns?

4) Why is it important to study the Neanderthals?

5) Do you think that the change to modern humans was as abrupt as some scientists believe?

6) Why do you think that there were great leaps forward in human evolution outside of Europe before they happened in Europe? How could the environment be a factor?

Essay Questions
1) Compare and contrast the candelabra and hatrack theories. Is there more evidence to support one or the other?

2) Why is mitochondrial DNA so crucial to the study of evolution? How does it support the "African Eve" hypothesis?

Short Answer Questions
1) Describe the Neanderthals.

2) List and describe three new dating methods.

3) For what time period is radiocarbon dating the most accurate?

4) What, according to the author, have been the problems with Eurocentrism in considering human evolution and how have discoveries in Africa helped broaden scientists' views?

5) Discuss the differences between Neanderthals and Cro Magnons.

Glossary

Cro Magnon: an early *Homo sapiens* (the species and subspecies to which modern humans belong) who lived about 40,000 years ago.
DNA: a nucleic acid that carries the genetic information in the cell and is capable of self-replication and synthesis of RNA.
Mitochondria: organelles in the cytoplasm of nearly all cells, containing genetic material and many enzymes important for cell metabolism.
Neanderthal: an extinct human species living during the late Pleistocene Epoch throughout most of Europe and Asia; associated with Middle Paleolithic tools. (5)
Uranium: a heavy silvery-white metallic element, radioactive and toxic, easily oxidized, and having 14 known isotopes. Uranium occurs in several minerals from which it is extracted and processed for use in research, nuclear fuels, and nuclear weapons.

The Real Flintstones: Chapter 6
Artists' Depictions of Human Ancestors
Diane Gifford-Gonzalez

Chapter Summary

Visual recreations of prehistoric life can create stereotypes. The figures then appear hackneyed and ethnographically uninformed. A vast majority of scenes give a narrow and repetitive view of what prehistoric life was like. The blame, however, not only lies with the artists, according to the author, but also with the archaeologists and paleoanthropologists who fail to recognize the stereotypes and challenge them. The texts which accompany these images, according to Gifford-Gonzales, are usually up to date; ironically, there is a gap between writers and artists. In the author's opinion, scientists tend to scorn visual recreations because they are for the general public. However, visual narratives must be taken seriously. The style of these images is crucial. They must appear plausible, especially in western society where naturalism characterizes scientific illustration, as the media often copies this style. For example the Disney style mimics styles seen at local museums because they indicate plausibility in western minds.

In this chapter the author summarizes several stereotypical "characters" that appear repetitively in imagery of prehistoric life. In conjunction with this summary, the author presents her own research, namely an analysis of 136 pictures of early humans taken from books and magazines.

One example of her analysis is what the author calls "the Drudge." The Drudge is a woman on her hands and knees, usually scraping a hide on the ground, never on a standing frame, even in time periods when frames would have been used. The Drudge is always on the edge of the group, while the men are in the center. The author draws a comparison between the drudge and the image of an eighteenth century scullery maid.

Another stereotype shown in the pictures the author analyzed is the "Guy with a Rock." He is usually poised to hurl his rock onto an animal trapped in a pit, suggesting an almost herculean figure, despite the fact that spears were more reliable and available millennia before the late Ice Age depicted in these illustrations. The "deer on a stick" is also popular. Here, the massive prey of the hunting scenes is reduced to transportable size, so no bloody dismemberment is shown. "Man the Toolmaker," yet another common image, is in the process of making tools, but in such a way that better represents blacksmiths in classic oil paintings than prehistoric toolmakers; "Man the Toolmaker" is pounding two rocks together in a way sure to produce dangerous slivers and chips flying in all directions. Despite nearly 100 years of experimental stone tool making by archaeologists, the illustrator does not show the correct techniques that real prehistoric humans would have used. The "Madonna with Child" is also a common motif. Here the young woman is enjoying a placid, immobile motherhood, in contrast to the business of a paleolithic woman. A middle aged woman is often portrayed as dull and dumpy, and an old woman merely sits and watches. Women, in these scenes, rarely have any social contact. By contrast, ethnographies of hunter-gatherers show that women, even while pregnant and nursing, are active foragers, and that they continue their activities past 60 years of age.

The pictures examined by the author tended to exclude children and the elderly from active and useful work. The pictures also represented women's work in a patronizing way, if at all. In fact, even male activities were limited. Women held more static poses then men, and the elderly were rarely shown upright. The men also tended to do all the hunting, carrying the game home, conducting rituals, building, creating art, and making tools. Women, on the other hand, merely scraped the hides, held babies, and interacted with children.

Archaeologist Ruth Mathis has indicted these images for ignoring the issue of race. Mathis asserts that there is a tendency to show Australopithecines as dark-skinned and modern humans as light-skinned, placing them at opposite ends of the evolutionary spectrum. Such misrepresentations, Mathis believes, can have an alienating impact on children of different races who visit museums whose exhibits may display people like them as the most "primitive". In fact, genetics shows that all modern humans evolved in Africa and spread into other continents only in the last 100,000-150,000 years.

Exceptions to stereotypical representations do exist in artists who build their own expert knowledge. The author calls visual representation science fiction because it portrays science in an accessible way to the general public. The artists' work, in the author's opinion, parallels the author's work by attempting to make sense of the evidence. The author would not like to see a quota system of certain ages, genders, and races consistently being represented, but rather a combination of scientific rigor and creativity resulting in unexpected images.

Discussion Questions

1) Do you think "the Drudge" is a result of stereotypes about only early modern women, or women in general? Why do you think it is so similar to the scullery maid image?

2) In your opinion, why would there be a "Guy with a Rock," even when other men have better weapons?

3) Do you think there is any meaning behind the fact that when the men are transporting the "Deer on a Stick" there is no blood, but back at camp the women are engaged in the bloody task of cleaning the hide?

4) How accurate do you think the "Madonna with Child" image is? Do you think the author is suggesting anything when she names it "Madonna with Child?"

5) Explain why the author calls visual representations "science fiction." How does the popular media perpetuate these images?

6) What appears to be the author's bias in looking at the evidence she describes? In what ways is her evidence weak or her arguments less than entirely persuasive?

Essay Questions

1) A major theme of this chapter is how images of early modern humans are not up-to-date with the texts they accompany. This article was published in *AnthroNotes* in 1995, and while the

references have been updated, the article itself has no update. Discuss whether or not an update might change any of the findings in this article. Do you think the viewpoint of the author influenced her research, and if so how?

2) Discuss the problem of depicting Australopithecines as dark-skinned and early modern humans as light-skinned? According to this chapter, how can this affect school children? How would seeing an exhibit that shows that all modern people actually came from Africa produce a different perception? How would you design that exhibit?

Short Answer Questions

1) Compare the activities of men portrayed to those of women.

2) What are the problems with the "Man the Toolmaker" image?

3) In this article the author places emphasis on what type of pose the figures are holding. What poses are associated with different ages and genders? How do they mischaracterize them?

4) What parallel does the author draw between herself and the artists?

5) Who does the author blame for the visual information gap and why?

Glossary

Discrimination: differential treatment of a person or people on the basis of race, religion, gender, or culture.
Diversity: the condition of having differences or containing an assortment of different types.
Ethnography: the study of a single culture in all its various aspects.
Gender: a social classification based on cultural concepts about the sexes; male and female.
Stereotype: a mental impression representing an oversimplified opinion, attitude, or judgment.

Chapter Summary

The collection and study of bones is currently controversial. Bones, however, contain a great deal of information about past peoples and such information can also shed light on contemporary issues. Paleoanthropologists are able to tell from bones what sex the person was, how old they were, how tall they were, what kind of lifestyle they lived, and what diseases affected them. This chapter summarizes much of the work of physical anthropologists today.

Paleoanthropologists often are called in on modern cases, as well as ancient ones. One of the most notable examples of this was the identification of the skeletal remains of Nazi Josef Mengele. Paleoanthropologists do not just study single skeletons, but rather a wide sampling of them, generally from a cemetery, as it is necessary to study multiple examples in order to better understand the group as a whole. In the case of the Ainu people of Japan, a broad study uncovered their true origins. The Ainu were traditionally viewed as a minority and of low status based on different physical features. Japanese tradition holds that the modern Japanese are descended from the prehistoric Jomon people and that the Ainu are separately descended. New studies, however, have proven that it is the Ainu who are descendants of the Jomon, and the modern Japanese people are most likely descendants of the Chinese invaders, Yayoi. The Ainu, therefore, represent the Jomons who did not intermarry with the Yayoi.

Paleoanthropologists have also discovered that the Mohenjodaro people, who disappeared around 1500 B.C., were not eradicated by invaders as was once believed. No signs of battle injuries have been discovered in the bones of the Mohenjodaro people, and also no genetic differences, indications of an invasion and resultant intermarriage, appear among them. The bones do, however, show high disease patterns, most likely the cause of the decline of this civilization.

The study of disease, diet, and demography of a people helps paleoanthropologists to understand prehistoric groups and how they adapted to their changing environment. For example the health costs of farming and the origin of modern disease are evident from bone condition. The diet of a people can be determined by measuring chemical isotopes and trace elements from ground-up bones. These isotopes and elements differ greatly depending on the diet. Tooth surfaces are also an indication of diet. A change in diet might indicate a change in health and this too would be present in the skeletal record. For example, in the prehistoric southwest of North America, a change to a diet consisting of mainly maize led to bones becoming porous, evidence of iron deficiency anemia.

More recent population studies of African-American slave and post-slavery communities have demonstrated a difference between urban and rural slave communities, as documented in a New Orleans cemetery. Also, a study of burials in Arkansas indicated that men left the community and intermarried with the Native American population. These skeletons indicate that

post-reconstruction communities had more malnutrition, poorer health, and more physical stress than some slave communities.

Many diseases today were also present in prehistoric communities. A study of a disease in its prehistoric form can help scientists discover more about that disease today. A good example of this is osteoporosis and its prevalence in both prehistoric and modern Eskimo populations.

Bones also can illustrate political and social organization, and status and marriage patterns. In the burials at Moundville, Alabama, three different social classes were uncovered: individuals used as trophies, probably sacrificed; an intermediate group of both men and women; and a high status group of only men. Genetics also plays a role in determining social relationships. For example, in Pueblo cemeteries female genetic profiles are not as varied as the male ones, indicating that women must have lived with their kin, while men left home.

In her update Gordon discusses the irony that at the same time there have been impressive advances in technology that can help anthropologists gather even more information from bones, there has also been a strong movement to have skeletons repatriated to Native communities. DNA studies are important today in the field of paleoanthropology, especially since bone sometimes preserves DNA better than soft tissue. The invention of PCR, polymerase chain reaction, which produces copies of the ancient DNA, allows for less damage to the original when under examination or testing. There is, however, the problem of DNA contamination either from the fossilization process or from the scientists themselves. DNA has offered many new clues about past societies, as enumerated in the update, and it will continue to do so as technologies advance.

Discussion Questions

1) Formulate a situation or problem that might occur in the modern world in which a paleoanthropologist might be called to help.

2) Why is the discovery that some slave communities had better nutrition than post-reconstruction African American communities a controversial finding?

3) The author provides a lot of case studies to prove her points, but what do you think are three main points of this article?

4) How have new scientific technologies advanced the field of paleoanthropology?

5) How can the study of ancient diseases shed light on modern ones?

6) How has the study of bones helped dispel cultural biases?

Essay Questions
1) In the article the author quotes the phrase, "*hic locus est ubi mortui viventes docent*" (In this place, the dead teach the living). Using examples in the article, write an essay agreeing or disagreeing with this statement.

2) In the update the author mentions the irony that now that they have the ability to do DNA analysis, there has been a movement to repatriate the bones. Choose a side of the debate and argue its point, making sure to use evidence from the article, but also from the two later chapters about repatriation, authored by Bray and Billeck respectively.

Short Answer Questions
1) Why is it important to look at more than one skeleton in a cemetery?

2) What really happened to the Mohenjodaro people and what was believed before bones were examined?

3) What basic information can bones tell about a person?

4) What can be reconstructed from bones? What can bones tell anthropologists about the changes undergone by early human groups?

5) What were the patterns of social organization in ancient Moundville, Alabama?

Glossary
DNA: a nucleic acid that carries the genetic information in the cell and is capable of self-replication and synthesis of RNA.
Demography: the statistical study of characteristics of human populations, and how these characteristics relate to social and economic conditions.
PCR: polymerase chain reaction, a test-tube cloning technique which produces many more copies of the original DNA than molecular cloning, and in which there is less damage to the original strand of DNA.
Paleoanthropology: a branch of anthropology dealing with fossil man.
Paleopathology: a branch of pathology concerned with diseases of ancient times using evidence from fossil remains.

Chapter Summary

The ways in which diseases have changed through time mirror human evolution. The authors divide this pattern of change into three time periods: the first, second, and third epidemiological transitions. The first epidemiological transition took place around ten thousand years ago and coincided with the agricultural revolution. The second transition happened in the last century coinciding with the development of public health measures. People today are experiencing the third transition as pathogens develop resistance to antibiotics.

In the Paleolithic period the population was very sparse. Some anthropologists estimate that the rates of fertility and mortality were both at maximum levels, while others calculate both fertility and mortality as moderate. There were two types of diseases during the Paleolithic era: parasites, such as lice, and infectious diseases which had arisen and evolved with the prehominid ancestors, and zoonotic diseases transmitted to humans from animals. Populations at this time were too small to support endemic or epidemic diseases. Prehistoric people also tended to avoid areas such as portions of Africa, which would have put them in contact with such organisms as the tsetse flies and the trypanosomes they carried.

The first epidemiological transition occurred with the agricultural revolution. More reliance on cultivated food led to an increase in the incidence and impact of disease. At the same time, by becoming sedentary people began to be exposed to parasites found in human and animal waste. The domestication of animals brought about an increased exposure to zoonotic diseases, while developments in farming, such as the slash and burn technique, created favorable conditions for malaria. The population after the agricultural revolution became big enough to support both endemic and epidemic diseases. As time went on and cities grew, slums became the breeding ground for epidemics, many of which are well documented in history. There was high mortality within the growing cities and mortality began to exceed fertility. As a result, immigration into the cities was necessary in order to maintain a stable population. Trade and travel also introduced and transmitted diseases to people. A good example of this is the transmission of Old World diseases to and from the New World by early explorers. For example, a form of syphilis was carried from the Americas to Europe, where it became a sexually transmitted disease.

The second epidemiological transition happened in the last century. At that time there was movement away from acute infectious disease toward chronic, non-infectious, degenerative diseases. This was mostly brought about by an increased lifespan and environmental pollution. In Third World countries, the first people to experience this transition were the upper classes who had the most exposure to Western products and practices. Industrialization in these countries has actually led to malnutrition as people struggle to switch from subsistence farming to agribusiness. The development of immunization in the last century brought about the eradication of some infectious diseases, most notably smallpox.

Humans are currently experiencing the third epidemiological transition which has seen the emergence of infectious diseases with multiple antibiotic resistance. Movies such as *Outbreak* illustrate growing media and popular attention to this problem. This transition is believed to have been brought about by social, demographic, and environmental changes. Ecological changes such as deforestation and drought have also led to the appearance of new diseases, becoming one of the driving forces behind this third transition. A final factor within the emergence of new infectious diseases is the overuse of antibiotics, which can lead to pathogens developing resistance to drugs. Industrialization has been a large factor in recent health problems. Rising pollution and the overuse of pesticides have been linked to the increase of cancer and respiratory diseases. Modern transportation allows for rapid movement of pathogens from one continent to another.

In their update, the authors list two sources of data on human disease ecology: bioarchaeology (disease patterns of morbidity and mortality in prehistory) and genomic diversity of diseases, which helps to demonstrate relationships and patterns between diseases and their hosts. These methods show anthropologists when diseases emerged and how humans responded to them.

Discussion Questions

1) Discuss how the changes in disease patterns mentioned in this article reflect the changes in human life through time.

2) Discuss the two theories on the rate of fertility and mortality in prehistory discussed in the article. How do they differ and what problems arise because of each of them?

3) What were the two types of disease in the Paleolithic period and how were they introduced to humans?

4) Discuss how the agricultural revolution brought about the first epidemiological transition. For example, what role did the build-up of human waste, contaminated water supplies, and animal domestication play?

5) What insights about the second epidemiological transition can the study of Third World countries reveal?

6) What are some of the factors of the third epidemiological transition? What does the author mean by a “viral superhighway”?

Essay Questions

1) Compare and contrast the first and second epidemiological transitions. What factors brought each of them about; are these factors similar or different? If they are similar, what can that tell us? If different, what changes in human lifestyle brought them about? Finally, how has the population size been affected by these epidemiological transitions?

2) Describe the two forms of gathering data mentioned in the update. Considering the article as a whole, what can they tell anthropologists about disease pattern?

Short Answer Questions

1) How has pollution led to health concerns in more recent times? What are other health problems associated with urban areas?

2) What are zoonotic diseases and how are they introduced?

3) How did syphilis change as a disease once it was introduced into the Old World?

4) What type of disease is obesity? How can lifestyle cause this disease?

5) What are the results of antibiotic abuse in more recent times?

Glossary

Chronic Disease: a disease or ailment of long duration and frequent occurrence.
Degenerative Disease: a disease characterized by progressive deterioration of tissue, such as diabetes.
Endemic Disease: a disease native to or confined to a particular locality or region.
Epidemic Disease: a disease affecting many people within a community, area, or region at one time, such as typhoid fever.
Infectious Disease: a disease caused by the entrance, growth, and multiplication of bacteria, protozoa, fungi, or analogous organisms in the body.
Pathogen: a specific cause of disease, for example, a microorganism.
Vector: an agent capable of transmitting a pathogen from one organism to another either mechanically as a carrier or biologically by playing a specific role in the life cycle of the pathogen, such as the relationship between mosquitoes and the malaria parasite.

The Moche: Chapter 9
An Ancient Peruvian People
John W. Verano

Chapter Summary

About 1200 years before the rise of the Inca civilization, the Moche people lived along the Peruvian coastline from A.D.100-750. The Moche built irrigation canals, grew crops, raised animals for food, hunted, and fished. Their art and technology equaled that of the Maya, contemporaries of the Moche, though they possessed no form of writing. They are perhaps best known for their *huacas*, pyramid-like platforms made of adobe brick and used for religious rituals and for burying their dead. Recent excavations at the site of Sipán have brought about a better understanding of the Moche culture, described in this chapter by the physical anthropologist who analyzed the materials discovered at Sipán, Peru.

Spanish conquistadors plundered Moche burials in hopes of finding treasures equal to those they discovered in Inca graves. The looting of graves has continued to present day due to the Peruvian government's inability to halt thefts. Government sponsorship of archaeological research has been instituted in an attempt to save the remaining artifacts.

Peruvian archaeology had its roots in the nineteenth century when many graves were excavated in dry coastal areas. The dry climate provides excellent protection for remains and artifacts, especially perishable ones. The dryness preserves plant remains, textiles, and wooden objects. It also naturally mummifies biological remains, thus preserving Moche hairstyles and body decorations.

While many of the artifacts may have been lost or stolen, the skeletal remains indicate the physical characteristics, the health, the diseases, and the demography of the population. Before anthropologists possessed the technology to study skeletal remains, physical characteristics could only be determined through art. The site of Pacatnamú offers anthropologists the largest sample of well-documented skeletal remains. Most of these skeletons date from A.D.500-750, and there are 65 burials from a single cemetery, 26 from other parts of the site, and approximately 590 surface collections from three large cemeteries damaged by looters.

Skeletons provide information about the life expectancy of a population. Studies of the death ages show that the death pattern of the Moche matches the U-shaped mortality curve found in living human populations, reflecting the peaks of mortality in infancy and in the adult years. Studies also showed the women were far more likely to live past fifty than the men.

Skeletons help anthropologists reconstruct the physical characteristics of a people. In 1911 Ales Hrdlicka of the National Museum of Natural History asserted that the Moche had broad heads and were short. Recent evidence confirms this theory. There is also evidence of artificial cranial modification in the form of skull flattening, probably a result of infant cradle boarding. Physical characteristics also demonstrate that the Moche did not bury their dead in one large cemetery, but in smaller ones on the basis of families.

Anthropologists also study skeletal evidence for signs of diseases or nutritional deficiencies. The bones of infants and children show few deficiencies in protein or calories, and the adults appear to have been relatively robust. The skeletons of older individuals, however, tended to show signs of arthritis. There was also proof of tooth decay, tooth loss, and periodontal disease.

In his update, the author notes that archaeologists have discovered more tombs of the elite. At the mortuary complex at San José de Moro, archaeologists found the first tomb of a high-status Moche woman, perhaps a priestess of a human sacrifice ritual. Huge polychrome painted murals of Moche deities, warriors, and prisoners were discovered further south. Artistic and skeletal remains also provide new evidence of human sacrifice. Archaeologists found the skeletons of over 70 victims from various time periods, probably war captives. These discoveries prove that human sacrifice was a long standing practice in Moche culture.

Discussion Questions

1) Discuss the significance of the evidence that the Moche farmed and raised animals for food.

2) Consider the ways in which the Peruvian government is attempting to hinder grave plunderers. Do you think it is effective?

3) Examine the evidence that has come out of the Pacatnamú site. How has it helped to reconstruct the physical characteristics of the Moche people?

4) Look carefully at the new research questions posed at the end of the article. How have the author's research questions changed between the writing of article and the writing of the update?

5) Discuss the importance of the tomb of the Moche woman found at San José de Moro, and what that can tell us about the Moche religion?

6) There is evidence, both in art and archaeological findings, that the Moche of ancient Peru practiced ritual human sacrifice. How does this lead to an increased understanding of the Moche people? How does this finding fit into what you know about other cultural religious systems, including your own? Does the biblical story of David, Isaac, and the burning bush tell you anything about the presence of human and animal sacrifice in ancient times?

Essay Questions

1) In the update, the author highlights new evidence of human sacrifice. Before the study of skeletal remains, the only evidence for this practice was found in art. How has the new evidence led to reinterpretations of the art as well as the culture of the Moche? To what extent does the author think human sacrifice took place, and how do you think this is significant to our better understanding of the Moche culture?

2) The author provides information about the mortality rate, diseases, and nutrition of the Moche. Discuss what this evidence tells anthropologists about the Moche. Do you think there is anything unusual in the evidence?

Short Answer Questions
1) What is the U-shaped mortality curve?

2) What does the author think caused artificial cranial modification in the Moche? Is there evidence to support his theory?

3) How did skeletal evidence prove the cemeteries were grouped by family?

4) Why would children's bones be less likely to be preserved? How would this affect the current data about Moche mortality rates?

5) Why is a dry climate the best climate to preserve artifacts and remains? How did this help the author of this chapter in his studies of the Moche?

Glossary
Conquistador: "conqueror," any one of the leaders in the sixteenth century Spanish conquest of Central and South America, including Mexico and Peru.
Huacas: platforms built for religious ceremonies and burial of the dead.
Huaqueros: professional grave robbers.
Manioc: a plant, also called cassava, whose starchy roots are eaten as a staple food only after leaching and drying to remove cyanide.
U-Shaped Mortality Curve: a curve which indicates that the probability of death is at its highest in the first year of life, then decreases drastically in childhood and adolescence, and rises again sharply in the adult years.

America's MIAs: Chapter 10
Forensic Anthropology in Action
Robert W. Mann and Thomas D. Holland

Chapter Summary

Forensic anthropologists have been called in to help with such cases as Jeffrey Dahmer, the Branch-Davidian standoff, the crash of Korean Airlines Flight 801, the War of 1812, Operation Desert Storm, and the Pentagon plane crash on 9/11. They also assist in identifying the remains of soldiers who are missing in action (MIA). The Army has built a one-of-a-kind laboratory near Pearl Harbor called the Central Identification Laboratory, Hawaii (CIL) specifically for the purpose of identifying unknown remains. The role of the anthropologists is to assist medical examiners, police, and the FBI. From skeletal remains it is possible to know the biological age at death, how long a person has been dead, his or her sex, race, stature, and method of death. Anthropologists assisting with this task must be trained in radiology, anatomy, dentistry, forensic pathology, and have an awareness of unique skeletal and dental features.

There are now thirty anthropologists employed at the CIL, as well as three forensic dentists, and over 200 soldiers and civilian support staff. The CIL has the largest staff of forensic anthropologists in the world. It is responsible for POWs/MIAs from all American wars. 80,000 POWs/MIAs remain from World War II, 8100 from Korea, and 1900 from Vietnam. Since 1973 the CIL has been able to account for 800 soldiers. The issue of POWs/ MIAs is sensitive to the American public, emphasized by the slogan of the POWs/MIAs: "You are not forgotten."

Forensic anthropologists play a dual role in the recovery of human remains. First, they are deployed on a twelve person team to find and excavate graves or crash sites. The twelve person team consists of the anthropologist, a military officer, a noncommissioned officer-in-charge, an explosive ordnance disposal technician, a medic, an interpreter, a radio operator, a photographer, and a mortuary affairs specialist. The team is sent to such places as Vietnam, Laos, China, North Korea, South America, the Pacific Islands, Russia, and Armenia. There are many hazards to the trip, and the team must be self-sufficient. Secondly, they perform lab analysis on the remains and hopefully are able to identify American MIAs.

A sample recovery effort is the crash site in Quang Binh of an F-4 Phantom Jet which crashed in 1969. A witness to the crash said that the plane stopped burning when it hit the ground and that the villagers had used the crash as their own personal "hardware store," scavenging the wreck for usable materials. The team, however, let the remaining evidence speak for itself. For example, they examined the remains of the life-support system. Each parachute harness has two "D" rings, and an F-4 can carry two people. The team discovered three "D" rings at the site and was able to determine that there were two passengers on the F-4.

At the end of the fieldwork, the bones, teeth, and personal effects are sent to the Vietnam Institute of Forensic Medicine in Hanoi to verify that they are indeed the remains of an American soldier. If so, they are repatriated to CIL, where they are laid out in anatomical order for

analysis. The first people to look at the bones are an anthropologist and a dentist. They work independently of each other so as not to bias the other's work. The remains are inventoried and photographed, the teeth are x-rayed, and these findings are then compared to ante-mortem records. Dental records, mitochondrial DNA, and signs of healed broken bones lead to most identifications because they are specific to an individual. When both the anthropologist and dentist are finished, they write up their results and compare. If the results are not the same, then it is possible that the scientists are dealing with mixed remains. Once their reports are compiled, they are submitted for internal peer review. After this, many more reviews take place, including involving the family in the investigation.

In the update the author tells how the CIL has expanded since 1998. In the year 2000 they identified 107 missing service members. Tragedy struck CIL in April 2001 when a helicopter carrying one of their teams and a Joint Task Force-Full Accounting team crashed. They were on their way to investigate an American plane that had been shot down by Vietnamese troops during the Vietnam War. Nevertheless, the search for MIAs continues.

Discussion Questions

1) How can skeletal remains help anthropologists identify a person? What bones are most useful for identification purposes?

2) Why are dental records good tools for identifying remains? Can you think of any other identification tools not mentioned in the article?

3) Why has it been difficult for the Vietnamese to find their own persons who went missing in action? Should the American government assist in the search?

4) Discuss the problems of excavating a crash site. How has scavenging by nearby residents affected the possibility of identifying remains?

5) Why is it necessary to first show the remains to the Vietnamese authorities?

Essay Questions

1) There are 80,000 MIAs from World War II and 1900 from Vietnam. The recovery effort for Vietnam MIAs has received a large amount of publicity, even though there are far fewer MIAs. Why do you think this is the case? Do you think it would be easier to find a WWII MIA or one from Vietnam? How might a crash site or grave differ in the WWII era and the Vietnam era?

2) Describe the process the CIL uses to identify remains. What are the checks and balances in place to prevent error?

Short Answer Questions

1) What types of specialists make up the field team?

2) What specialties must a forensic anthropologist be trained in?

3) What is the role of a forensic anthropologist?

4) What did the presence of three "D" rings tell the team about the fate of the occupants of the F-4 plane?

5) Why is important that the anthropologist and dentist work separately?

Glossary

Ante-Mortem Record: a record taken before death.
Forensic: relating to the use of science or technology in the investigation and establishment of facts or evidence in a court of law.
MIA: a soldier or civilian who is listed as missing.
POW: a soldier or civilian who is a prisoner of war.
Radiology: the branch of medicine that deals with the use of radioactive substances in diagnosis and treatment of disease.

Chapter Summary

Our curiosity about our differences has led to three major discoveries about human variation: people can differ in ways that go deeper than skin color and facial form, many of these differences have been beneficial to our evolution, and racial categories are more culturally constructed and arbitrary than true natural entities. In the past, anthropologists have argued about the distinctions separating races, and how many races there are. For example, in 1735, Carl von Linne, also known as Linnaeus, stated that there are four races, while other anthropologists have counted anywhere between 31 and 37 races.

There are many physical factors such as one's blood type that do not correspond to the usual socially defined races. Physical factors such as ear wax consistency can also be similar across races; even skin color does not always act as a good determiner of race. Rensberger points out that people native to India are considered part of the "Caucasoid" group but have darker skin, while many "Negroid" people have skin no darker than people from the Mediterranean. There are, in fact, such a wide variety of people inhabiting the African continent that it is impossible to categorize them all into a single group. Some groups in Africa are more genetically different from each other than Europeans are from Asians. This has led to the realization that no one physical feature nor a combination of features can be used to classify all people by race.

Biologists have played a large role in the study of human races. They believe that many presumed racial differences are the result of natural selection, seen in such examples as skin color, which is proportional to a tropic-pole spectrum. Humans need vitamin D to prevent certain diseases, and sunlight is needed for the body to make this vitamin. Scientists believe that human skin color developed in response to how much sunlight people were exposed to. When people began to move from Africa to Europe, those with lighter skin were healthier, making them more likely to reproduce and pass on the trait. A similar example is seen in the shape of a person's nose. The nose warms and humidifies air before it reaches the lungs. The colder the climate is, the more crucial a beak-shaped nose becomes for survival, as it increases the air's path to the lungs.

That there are so many different physical types of people attests to the fact that there must have been periods of reproductive isolation, perhaps for a few thousand years. The author argues that human populations went through periods of isolation in which they developed traits useful to their survival.

There are many visible differences between populations, however, that have no clear role in human survival, such as the shape of one's eyes. These factors are, according to the author, the result of sexual selection. People deemed ugly by their society are less likely to find mates, and thus their traits are not passed on. Because the concept of beauty differs between societies, physical forms have evolved based on sexual choices.

Until the mid-20th century some anthropologists held the belief that there were "pure" races. Today, however, most anthropologists believe that "pure" races never existed. Reproductive isolation allowed many distinctive features to arise, but if they conferred a powerful survival advantage, these traits could be spread once isolated groups came back into contact with others. The author cites the example of the enlargement of the human brain which occurred long before the development of today's so-called races. Genes that would have been useful only in certain areas of the world would not have spread to other regions. On the other hand, many genes with no clear use did spread. The author argues that science today does not support the concept of races as biological units. Science shows, instead, that people are fundamentally similar with a few highly diverse traits resulting from migration patterns. Variable traits are distributed independently of any race and the belief in the superiority of certain races is the result of cultural prejudice, not scientific fact.

Discussion Questions

1) Why do you think humans are so interested in explaining human differences?

2) Why do you think anthropologists in the past came up with such different numbers of human races? Why is there less acceptance of these forms of classification today?

3) Why is reproductive isolation important? How does it help to explain human diversity?

4) Why do you think most anthropologists discount the theory of "pure" races? Discuss how the idea of superior races developed.

5) Do you find this article completely convincing? Why or why not?

6) Discuss why it is nearly impossible to group all of Africa into a single race.

Essay Questions

1) How are genetic differences good for evolution? How did they develop and what determines which genes are spread?

2) The author believes that races do not really exist, but are merely arbitrary categories developed by people's minds. What evidence does the author present in the article to support this idea? Do you find his arguments convincing?

Short Answer Questions

1) Why are blood type and ear wax important to racial studies?

2) How and why did skin color change with migration?

3) How does the environment determine the shape of one's nose? How does the theory of natural selection help explain traits such as nose shape?

4) What is sexual selection?

5) How does science help disprove the idea of races as natural units? Is there any combination of traits, such as blood type, ear wax, or skin color, that can together offer the possibility of defining a specific race? How do these traits help counter the arguments for natural human races?

Glossary

Gene: a hereditary unit consisting of a sequence of DNA on a chromosome that influences a particular characteristic in an organism; genes undergo mutation when their DNA sequence changes.
Genetic Drift: random fluctuations in the frequency of the appearance of a gene in a small isolated population, owing to chance rather than natural selection.
Migration: movement of a group from one locality or place to another.
Race: historically, an interbreeding, usually geographically isolated population of organisms differing from other populations of the same species in the frequency of hereditary traits.
Reproductive Isolation: the situation in which individuals cannot find mates outside the group that is essentially like themselves.

Race and Ethnicity Chapter 12
Alison S. Brooks, Fatimah L.C. Jackson, and Roy Richard Grinker

Chapter Summary

Race and ethnicity are increasingly viewed as fulfilling a cultural need for Americans. The authors of this article seek to answer three basic questions about race: does it exist, why, and what is the most accurate racial classification, whether absolute, or relative to geography and history? Georges Buffon in the eighteenth century was the first person to use the word "race," viewing it as the result of the environment. Other scientists such as Linnaeus developed the theory that there were four human races, while Johann Friedrich Blumen stated there were five.

In the nineteenth century, the study of human race was dominated by physicians. During this time Samuel Morton used inaccurate statistics to argue that some humans had larger brains and were therefore created separately. This idea was used by many to justify slavery. Early anthropologists tended to argue against this opinion, most notably Edward B. Tylor, but they still believed in separate races. In this period incorrect assumptions developed about why people have certain traits such as skin color.

Anthropologists have also attempted to determine how many different human races there are; however, just as genes change, so do races. Today many anthropologists argue that races do not exist since there is no physical criteria that can reliably differentiate members of large racial groups. Skin color, for example, developed in response to UV penetration. Other traits such as blood type are subject to natural selection. The authors discuss studies of population relationships carried out through direct comparisons of DNA segments. Mutations in genes are examined, and sequences with common mutations are called haplogroups. The authors state that human diversity reflected in such haplogroups is greatest in Africa, where humans originated. Asians and Pacific Islanders are next in diversity, while Europeans have the least. Europeans, however, share many Asian haplogroups, indicating that they did not migrate directly from Africa.

The authors also indicate that studies focusing on individuals tend to group individuals from different populations together, especially in the diverse regions of Africa. There are, however, problems with conducting these studies as scientists must artificially limit the populations they study through sampling. Cultural differences and resultant mating patterns may also create genetically different groups within the same local area.

According to the authors, the word race is increasingly being replaced with the phrase "ethnic group" or "ethnicity." There are two contrasting views of ethnicity: primordialists and instrumentalists. Primoridalists view similarities between individuals of groups in terms of physical features and language that create an identity; in other words, identity is created by nature. Instrumentalists regard ethnicity as created by groups for political and economic reasons. The authors of this chapter reject both of these views as simplistic.

Ethnicity can and has been used to perpetuate stereotypes of cultural homogeneity. An ethnic focus demands that anthropologists search for ways in which people create their own identities. The concept of identity as changeable is crucial to combating stereotypes.

Discussion Questions

1) Having just read this chapter, do you think the authors answered the three basic questions about race listed in the chapter summary: does it exist, why, and what is the most accurate racial classification, whether absolute, or relative to geography and history?

2) Why do you think in the past there has been a difference of opinion about the exact number of different races?

3) Do you think it is important in American culture to classify people in terms of their race or ethnicity? Why might some people find it helpful to do so?

4) How has the development of incorrect assumptions led to unfortunate stereotypes?

5) What factors do you think create a person's ethnic identity?

Essay Questions

1) There are two contrasting views concerning ethnicity, namely the primordialists and instrumentalists. What are these views, how do they differ, and how do they both fail to encompass the whole problem of ethnic identity, according to the author?

2) Why do we have different skin colors? What was the initial answer to this question in the 19th century, and what is the prevalent view today? How have these differences affected people's views of race?

Short Answer Questions

1) Is there a difference between race and ethnicity? Who first used the term race, and when?

2) Who was Samuel Morton, and what supposed discovery did he make?

3) Where on Earth is human diversity the greatest?

4) What is a haplogroup? Why are they useful to studying the human past?

5) Europeans share more haplogroups with Asians than Africans. What can this tell us about the migration patterns to Europe?

Glossary

DNA: a nucleic acid that carries the genetic information in the cell and is capable of self-replication and synthesis of RNA.
Ethnicity: an affiliation resulting from racial or cultural ties.
Fy-gene: a gene which protects against vivax malaria.

Haplogroup: Sequences of DNA which share a common set of mutations.
Race: historically, an interbreeding, usually geographically isolated population of organisms differing from other populations of the same species in the frequency of hereditary traits.

Chapter Summary

Anthropologists consider the Neolithic Revolution to be one of the most important changes to occur in the course of human history. The value of this change, however, has sparked much debate. In the early part of the twentieth century, anthropologists regarded the change from a pastoral society to an agricultural one as beneficial. In their opinion, agriculture allowed for increased productivity which resulted not only in urban centers, but also a greater amount of leisure time. This leisure time allowed for the development of the arts and sciences. Then, around the middle half of the twentieth century, anthropologists began to view the transition to growing crops as having some negative consequences expressed in the accompanying cartoon as an "expulsion from Eden." They blamed agriculture for causing huge population growth, which led to the depletion of natural resources, famine, a decline in nutrition, and an increase in disease.

A case study of the Khabur Basin of ancient Mesopotamia emphasizes, however, that the issue is more complex. The Khabur Basin, for these purposes, can be divided into two separate regions: the wet north and the arid south. The area in the north was very fertile and consisted of a number of farming communities. The first known site in the southern region was Umm Qseir. Anthropologists have discovered animal remains here, among which are the bones of sheep, goats, and pigs. The initial assumption about this site was that it was used as a seasonal encampment. The analysis of the organic evidence, especially that of the bones, however, has proved otherwise.

Bones can tell anthropologists a great deal about a site not only by their mere presence, but through their analysis. Bones tell how old an animal was, and when the animal was slaughtered. Recent advances in technology such as the use of accelerator mass spectrometry dating (AMS) to date small fragments of bone precisely and DNA analysis to trace the genetic heritage of animals are also helping anthropologists better understand how agriculture originated and developed. The first clue that the site of Umm Qseir was not a seasonal one is the presence of pig bones. Pigs, because of their body form and temperament, are rarely driven in herds, but rather are tended by sedentary peoples. Analysis of the bones also revealed that the pigs, as well as the sheep and goats, were slaughtered in the more unproductive seasons, when plants would have provided less food, showing that Umm Qseir was occupied year round. These bones, however, made up only half of the animal remains discovered at this site. In fact, the most interesting evidence came not from the bones of pigs, sheep, and goats, but instead from the remains of wild animals. Wild animals would have come into this area to feed during the fertile time of year, and their presence in the archeological record indicates that the inhabitants of Umm Qseir were still partially relying on hunting. In conjunction with this, anthropologists have also discovered evidence of certain domesticated plants which were introduced into the region. The presence of these varied remains demonstrates that the inhabitants of Umm Qseir were not pastoral, but, in fact, combined both hunting and domestication as a way of subsistence survival.

A comparison of these regions illustrates that the shift to agriculture was not as quick or as clear-cut as it was once believed. The northern region followed the usual post-Neolithic pattern of rapid adoption of domesticates and a heavy reliance on farming and herding. In contrast, people in the south, owing to its more arid environment, sparser settlement, but still plentiful herds of wild animals, developed their own method of survival through heavy reliance on wild resources supplemented by domestic crops and livestock.

This indicates that people of the Neolithic had a great deal more flexibility in structuring their diet than previously thought. It also indicates that the kind of agriculture practiced by small-scale farmers and herders did not destroy the environment and deplete all wild game. Only after the development of big cities in the Khabur and the establishment of a region-wide highly specialized economic system do we have evidence of major environmental change.

Discussion Questions

1) Do you think that human life is better off because of the agricultural revolution? Why or why not?

2) How can physical evidence from bones and seeds be used to reconstruct the way of life of an ancient society?

3) The views on the Neolithic Revolution changed drastically from the beginning of the twentieth century to the 1960s and 1970s. Think about what was going on in the world during these times. How much of this change in views do you think is a product of anthropological research, and how much is it a product of the times?

4) Examine the cartoon "Expulsion from Eden." What is the cartoonist trying to convey, and does he convey it accurately? Would you change it in any way and, if so, how?

5) What evidence marks a sedentary lifestyle? A pastoral lifestyle?

Essay Questions

1) A pastoral society and an agricultural society represent two different ways of life. Using the evidence presented in the article, compare and contrast these two societies with respect to how the people in each society would have lived, survived, and functioned. Is one type of society more likely to leave a record of its existence than the other, and if so why?

2) Do you think that the case study and evidence presented in this article effectively resolve the debate about the value of the Neolithic Revolution? Use evidence from the article to support your opinion.

Short Answer Questions

1) Summarize briefly the importance of both plant and animal remains, wild and domestic. Why are they so essential to the interpretation of the Neolithic Revolution?

2) How do advances in technology help us better understand the societal changes in ancient Mesopotamia?

3) What plants and animals are used as indicators of pastoral and agricultural lifestyles? Are any of them ambiguous? Why are pigs important to these types of study?

4) What do the terms "pastoral" and "agricultural" signify in a society? By using them, what generalizations about these societies are we calling to mind?

5) What environmental and economic factors might play a role in determining subsistence changes over time? Why is it so difficult to know all the reasons why such changes in subsistence took place?

Glossary

Agriculture: a subsistence strategy involving intensive farming of permanent fields using such means as the plow, fertilizer, or irrigation.
Accelerator Mass Spectrometry (AMS): a process that uses radiocarbon dating to precisely date archaeological evidence and that can be applied to small amounts of organic material.
Society: a socially bounded group of people who interact in basic economic and political institutions together.
Neolithic Revolution: the rise of the domestication of plants and animals.
Pastoral Society: a society which subsists by herding animals.

Chapter Summary

People often view the ancient way of life as inferior to the modern one. Some argue that human health, nutrition, and economic prosperity have increased through the ages. Most anthropologists, however, disagree with this popular view. To illustrate they use the few avenues available to them: studies of modern hunter-gatherer groups, the assumption that diseases remain much the same through time, and skeletal evidence. Individually these methods are problematic. For example, modern day hunter-gatherer groups have had contact with the modern world and its diseases. The organisms causing diseases do not remain constant through time because like other living organisms, they evolve and adapt to their environment. Skeletal remains, on the other hand, are only able to offer a limited sample of a population. Anthropologists, therefore, must employ all three of these methods, which generally support each other, to reconstruct the health and nutrition of prehistoric people.

The diet of prehistoric hunter-gatherers indicates, in the author's opinion, that they had, in fact, better nutrition than many more recent groups of people. Prehistoric hunter-gatherers generally ate mostly fresh vegetables and meat. The study of modern hunter-gatherers with similar diets has shown that modern hunter-gatherers display very few medical deficiencies such as anemia, while the farmers living near to them do. This is likely a result of the fact that modern hunter-gatherers tend to eat a more eclectic diet than the nearby farmers who rely on mainly one source of food, such as rice or maize. Skeletons from prehistoric peoples show much the same pattern. The bones exhibit fewer manifestations of diseases resulting from poor nutrition, and the teeth show fewer indications of having undergone stress, than those of groups of people in later prehistory. It is commonly assumed that food supply and distribution has improved since prehistoric times, but there is evidence to the contrary. The stories of starvation in ancient and modern hunter-gatherers, in general, come from people forced to live in extreme environments, such as deserts and the arctic. Evidence would suggest that before the natural resources were depleted, hunter-gatherers survived easily.

In addition to disease, anthropologists also take into account the life expectancy of ancient hunter-gatherers. It is difficult to estimate the life expectancy of a people. The bones of children are relatively easy to establish age, but once adults' bones have fused, the process of determining age becomes more problematic. The author, however, believes that life expectancy of prehistoric hunter-gatherers was approximately 25 years. This seems low to us, but, in fact, it matches and often exceeds life expectancy in eighteenth and nineteenth century Europe, as well as in India into the twentieth century.

The author asserts that models of history which equate privilege to progress are misleading. History, in his opinion, should be viewed as populations growing and competing, with certain peoples and societies thriving at the expense of others. The update of this chapter states that much scholarly debate about the nutrition of hunter-gatherer people, prehistoric arthritis, and the transmission of diseases into hunter-gatherer populations was sparked by this

article. The author's use of skeletal pathology, especially in estimating life expectancy and frequency of diseases, has given rise to some controversy. Other anthropologists assert that skeletal scars indicating diseases do not necessarily reflect the real prevalence of disease in a population. It is evident, though, that hunter-gatherer populations had excellent nutrition and less incidence of disease than more modern peoples. New forms of technology, such as DNA testing, are now expanding our understanding of patterns of disease in ancient populations.

Discussion Questions

1) What are the pros and cons of each method for reconstructing the health of prehistoric hunter-gatherer societies: studying modern hunter-gatherers, relying on disease patterns, and examining skeletal evidence?

2) Describe the basic diet of a prehistoric hunter-gatherer. How is it better than that of modern people?

3) What can the skeletons of prehistoric hunter-gatherers tell anthropologists about the nutrition of hunter-gatherers?

4) What characteristics of modern societies make diseases more prevalent now than in ancient time?

5) Why is the age of adult skeletal remains so much harder to discover than that of the remains of children?

6) What is the major challenge of interpreting the data gathered from skeletal pathology?

Essay Questions

1) Thomas Hobbes characterized the life of a hunter-gatherer as "nasty, brutish, and short." Using the evidence given in the article, discuss why this statement is wrong and how the biases of scholars have led to some misrepresentation of the hunter-gatherer way of life.

2) Discuss each method for reconstructing the prehistoric hunter-gatherer's standard of living and explain why no one method can tell the whole story.

Short Answer Questions

1) What is skeletal pathology and how has it recently sparked debate among anthropologists?

2) Why are epidemics more likely to occur in modern civilizations than in prehistoric times?

3) How are teeth important in examining the nutrition of an ancient people?

4) How does the history of the bubonic plague in France prove the author's point that plagues happen more commonly in larger population centers?

5) Which modern diseases discussed in this essay are lacking in prehistoric societies?

Glossary

Hunting and Gathering: a subsistence strategy involving the foraging of wild plants and animals.

Life Expectancy: the number of years a person in a specific population is expected to live; roughly the average age of death for a population.

Nutrition: the balance of vitamins, fats, calories, minerals and protein.

Skeletal Pathology: the study of structural changes in a skeleton caused by disease, degeneration, malnutrition, and trauma.

Uniformitarian Reasoning: the idea that natural processes must operate in the past in the same way that they operate in the present.

Ethnoarchaeology Among the Efe: African Hunter-Gatherers
John W. Fisher Jr.

Chapter 15

Chapter Summary

The Efe live in the Ituri Forest of the Democratic Republic of the Congo. They and other Pygmies of the Ituri, collectively known as the BaMbuti, are well known to anthropologists and are often cited as an example of tropical forest hunter-gatherers. Anthropologists dispute, however, how economically dependent the Efe and other groups are on their neighbors, village-living farmers of the Lese and other tribes. German anthropologist Paul Schebesta believed that the BaMbuti maintain a serf-like relationship with the farmers, while British anthropologist Colin Turnbull argued that the BaMbuti are independent but entered into a symbiotic relationship with the villagers when it suited them.

The Harvard Ituri project was one of the first comprehensive studies of human ecology, demography, health, and nutrition among tropical forest hunter-gatherers. It built upon the earlier Harvard Kalahari project that studied the Ju/'hoansi (see Brooks and Draper, "Aging: An Anthropological Perspective," in the volume). Anthropologists in the Ituri project observed a symbiotic relationship between the Efe and the Lese. Their studies indicated that it would be hard for the Efe to survive without the cultivated foods of the Lese farmers.

The understanding of ancient hunter-gatherers requires insight into their behavior and adaptations to their environment. The author of the chapter, archaeologist John Fisher, hoped to make sense of his findings of ancient bones and stones from studying a group of modern hunter-gatherers. He questioned the universality of the camp design, activity patterns, and disposal practices. Previous research among the Ju/'hoansi of the Kalahari showed they had small, closely spaced huts. There was debris outside the huts, and only messy activities had specially allocated space. All Efe camps conform to a single general spatial pattern where their huts are placed around the perimeter of the camp. Interpersonal relationships influence the spacing between huts. There are definite trash dumps, and many activities are centered around a fireplace. The composition, or population, of the camps are fluid, making it hard for anthropologists to determine how many people had inhabited a camp based on archaeological evidence.

The study of the Efe helps anthropologists interpret the material remains of people who inhabited prehistoric sites, and draw conclusions about their behavior, such as the length of time they occupied the site and their activities. Such studies cannot, however, lead to a generalized model for all prehistoric hunter-gatherers. A comparison with the Ju/'hoansi helps demonstrate many similarities and differences. The Efe and the Ju/'hoansi are similar in their general layout of the camp, but different in the details of the layout and use. It is a challenge for archaeologists to explain these similarities and differences.

In the update, the author describes how maps made of Efe camps help reconstruct the location of dwellings at campsites through the examination of spatial relationships of fireplaces

and trash heaps. Discoveries of similar relationships at ancient sites help archaeologists estimate the population and the community's use of space. The author also addresses the issue of size sorting in the distribution of artifacts, and how changes in lifestyle can lead to changes in spatial organization.

Discussion Questions

1) From the evidence presented in the article, debate whether the Efe and the Lese have a relationship that is more dependent or symbiotic.

2) Discuss what insights into Efe life archaeologists can gain from examining their camps.

3) What insights about ancient hunter-gatherer life can be inferred from the study of modern hunter-gatherers?

4) Discuss the similarities between the Efe camps and the Ju/'hoansi camps of the Kalahari.

5) Discuss how changes in lifestyle affect the Ju/'hoansi camps.

6) At the end of the article, before the update, the author lists some questions he hopes to answer. Why are these important questions?

Essay Questions

1) Discuss the similarities and differences between camps of the Efe and camps of the Ju/'hoansi as mentioned throughout the article. What generalizations about hunter-gatherer life can be made from these camps? What cannot be determined from this comparison?

2) Much information about hunter-gatherer life can be determined by an examination of their refuse or waste. Discuss what refuse can tell anthropologists, but also how it can confuse them.

Short Answer Questions

1) Describe the symbiotic relationship between the Efe and the Lese.

2) How can the distances between fireplaces and trash heaps provide information about the location of dwellings?

3) Why have the Ju/'hoansi become more sedentary? What effect has this change to sedentism had on the site structure of the Ju/'hoansi?

4) Compare the dangers faced by Australian hunter-gatherers and the Efe in their respective environments. How do the dangers affect the camp layout and size?

5) How are sleeping arrangements fluid among the Efe?

Glossary

Archaeology: the subfield of anthropology that studies human behavior, adaptation, and culture history through systematic examination of cultural and material remains.

Ethnographer: an anthropologist who spends prolonged periods living with a specific people to write detailed descriptions or ethnographies of that culture.

Hunting and Gathering: a subsistence strategy involving the foraging of wild plants and animals.

Serf-like Relationship: a term denoting a subservient status and a certain level of dependency for some foods and other essentials.

Symbiosis: a mutually beneficial relationship between two or more groups of people.

The Vikings: Chapter 16
Old Views and New Findings
William W. Fitzhugh

Chapter Summary

Students are often taught that Columbus was the first European to discover America, in 1492. However, the Vikings arrived in North America 500 years before Columbus. Viking exploration and settlement of North America ranged from A.D. 860 until 1500. In medieval times Vikings acquired a negative image as a people constantly pillaging and plundering the European coast. There were also, however, Icelandic tales of the Vikings' bold voyages. These tales were rediscovered by nineteenth-century poets and historians, most famously the poet Longfellow. Nineteenth century scholars romanticized the Vikings, though archaeologists of the times often misinterpreted evidence. In the twentieth century, reinterpretations of findings gave us new views of the Vikings, and also demonstrated how scholars learn from the past.

The Vikings were primarily seafaring farmers who spread out from Scandinavia over Europe and the British Isles. Vikings had a profound impact on their environment and those that they encountered. In Iceland, for example, clear social and environmental changes occurred after the Vikings' arrival.

Iceland was the jumping off point for the West-Viking expansions to Greenland and North America. Archaeology and oral history in the form of sagas are useful in reconstructing their voyages, including those made to Vinland. It is evident from the presence of Viking and European objects found among Native American artifacts that Vikings made contact with Native Americans. The discovery of such artifacts indicates that the Vikings expanded even further than once was originally thought.

The Vikings did not gain their name until the later part of the eighth century. In A.D. 793 the Lindesfarne Monastery was sacked by the Vikings and this date is usually offered as the start of the Viking age. Scholars consider the end of the Viking age as 1066, with the Norman invasion of Britain. The name Viking really only refers to the seafaring members of the society. Those who stayed home are often called Goths, Norwegians, or Danes. The term "Norse" refers to the medieval Nordic people who were mainly Christian by A.D. 1000. The term Viking, however, is often the only name recognizable to a North American audience, and therefore is given a broader meaning in this chapter.

At home the Vikings were farmers, and livestock farming was an essential part of Norse identity. Carpentry was to men as weaving was to women, in that it was not a trade but a skill known by all. Shipbuilding was essential for raiding and expansion. Viking ships have been preserved in burial mounds and it is clear from this evidence that the ships were able to withstand fierce storms. These ships gave the Vikings the ability to trade, make war, convey animals, and cross open oceans.

The Viking population expansion was economic and political. In the latter Viking Age, they were more likely trading and extorting money than they were raiding and stealing. Sometimes older Vikings would return to a previously raided place to settle down and marry. Through these practices the Vikings transformed Western Europe. They also had economic ties with Eastern Europe, and, during the times of the Byzantine Empire, they sold their services as protectors of the ruling caliphs. The Vikings' trade routes reached as far east as India and they traveled as far south as northern Africa.

In A.D. 1000 Leif Eriksson explored lands to the west and south of Greenland: Helluland (Baffin Island), Markland (Labrador), and Vinland (Newfoundland and the Gulf of St. Lawrence region). Eriksson's family members continued his exploration and colonization for the next decade, but colonization suddenly ceased for the ensuing 350 years, until the Greenland colonies were eventually abandoned in 1450. A few Norse artifacts have been found in Native American archaeological sites, indicating some trade contact. There are many theories as to why the Vikings expanded as they did: better ships, internal stress from population growth and scarce land, a loss of personal freedom as political and economic centers sprang up, and increasingly widespread Christianity. Perhaps the best explanation is simply that the Vikings considered exploration and colonization the best way to increase their opportunities.

Discussion Questions

1) Why do you think the Vikings' role in North American colonization is often omitted from books on American history? Why do we know so little about the Vikings?

2) How have poetry and opera affected our views of the Vikings? What stereotypes developed?

3) Discuss whether or not the sagas are accurate accounts. Could they have changed over the years?

4) How are new views helping to dispel older assumptions and misconceptions about the Vikings? How were your earlier views of the Vikings different from your views after reading this chapter which describes them as skilled seamen, craftsmen, tradesmen, and farmers?

5) Why is the resurgence of interest in the nineteenth century important to the changing views of the Vikings?

6) What are some of the theories why the Vikings expanded and colonized new lands? How did trade and sailing ships affect that expansion?

Essay Questions

1) The assumptions about the Vikings have changed in significant ways over the centuries. In what ways? How have they colored our view today? Is this article an effective way of combating those earlier assumptions?

2) Compare and contrast what literary evidence and archaeological evidence can tell about a society? How do they complement each other and how do they contradict one another?

Short Answer Questions

1) How did the Vikings impact the Icelandic environment?

2) Explain why the finds at L'Anse aux Meadows were important.

3) Where does the name "Viking" come from, and what does it mean?

4) How do the names "Viking," "Norse," and "Goth" differ?

5) What different skills did Viking men and women have, and how did those skills characterize their role in society?

Glossary

Colony: a body of people settled in a new territory, foreign and often distant, retaining ties with their motherland or parent state.
Norse: a term referring to the medieval Nordic people who were predominantly Christian after A.D. 1000.
Saga: a prose narrative sometimes of legendary content but typically dealing with prominent figures and events of the heroic age in Norway and Iceland especially as recorded in Icelandic manuscripts of the late twelfth and early thirteenth centuries.
Stock-Farming: a form of agriculture that includes the tending of cattle, sheep, goats, and pigs.
Viking: seafaring members of the Nordic people; the name "Viking" was given to them because they sailed from "viks" (a bay or harbor); they were said to go "a-viking" and thus the name developed and is often used to characterizes Nordic people from A.D. 793 until 1066.

Who Got to America First? Chapter 17
Fact and Fiction
Stephen Williams

Chapter Summary

It is clear that the earliest settlers of the Americas were the ancestors of modern Native Americans. There is, however, much debate about whether these ancestors migrated from across the Atlantic or the Pacific Oceans, and exactly when. In 1590 Joseph de Acosta suggested that the native inhabitants must have come from Asia across a land bridge. Originally hunters, they later developed agriculture and became complex societies. Acosta discounted any connection between the Native Americans and the Lost Tribes of Israel or the sunken continent of Atlantis. Ten years later, Gregorio Garcia published a two volume work asserting that the Lost Tribes of Israel, refugees from Atlantis, and Carthaginians, among others, had migrated to the New World, carrying the seeds of civilization.

The question of human origins is a central question in the study of anthropology. Neither Acosta nor Garcia had the evidence available today, including genetics and DNA, to prove their points. They were limited to studying such things as the physical appearances of people and their languages. Native American languages are very different from Old World languages. The patterns of Native American languages suggest internal diversification and continuous migrations from Northern Asia. The presence of dogs also supports the hypothesis of migration, since they seem to have followed humans from Siberia. The staples of corn, potatoes, and beans, though, were derived from plants domesticated by Native Americans.

The accepted "father" of American archaeology was Thomas Jefferson. In his book, *Notes on the State of Virginia* (1787), he described an earlier excavation of a Native American mound. Judging by evidence from this excavation, Jefferson believed in the theory of Asian origin. Some of best supporting evidence of an Asian origin came from Jefferson's study of Native American languages. He saw their diversity as proof that they had been in the New World for a long time. As the country expanded into the Ohio valley, extensive man-made mounds were discovered. A hypothesis was put forth that they were the product of an advanced but extinct culture, completely unrelated to the Native Americans. Fraudulent documents, the Grave Creek and Davenport inscriptions, supported this hypothesis, supposedly proving that the moundbuilders were a literate, trans-Atlantean people. Samuel Haven first contradicted this theory in 1856; John Wesley Powell completely disproved it in 1900 during his research on mounds sponsored by the Smithsonian Institution.

In 1891, Rasmus B. Anderson put forth a new theory in his work, *America Not Discovered by Columbus*. He suggested that America was jointly discovered by the Chinese, Arabs, Welsh, Venetians, Portuguese, and the Poles. Most importantly though, he believed the Vikings were the first people to arrive across the Atlantic. The only support he had for this hypothesis was the Norse Sagas. Much fraudulent evidence was contrived to support this theory, such as the Kensington Rune Stone in the 1890s and the "salting" of the Beardmore site in Canada with true

Norse artifacts. Helge Ingstad discovered in 1960 genuine evidence of the Vikings at L'Anse aux Meadows on the Northern tip of Newfoundland.

Some believe that the stone heads discovered in Vera Cruz support the theory of a migration from Africa to Mesoamerica during the Olmec period around 700 B.C. This theory was first suggested by Leo Wiener of Harvard, who believed he had found linguistic similarities. Ivan Van Sertima at Rutgers University is currently the main supporter of this hypothesis, which has many critics. Williams, for example, believes that Sertima bases his opinion on "pride and personal bias." There is, according to the author, no archaeological evidence to support it. For Williams, the majority of evidence points to the Bering Strait theory of human migration into the New World.

In his update Williams reports the unlikely new theory proposed that Atlantis was actually in Lake Titicaca in Bolivia. He also reports that there are still some ongoing investigations of the Kensington Stone and the Mormon tablets. He amends his earlier statement that in the nineteenth century scholars supported the Moundbuilders hypothesis. Williams states that recent research has shown that most people in the nineteenth century believed that Native Americans had built the mounds.

Discussion Questions

1) Why is it important to question the Columbus theory?

2) How were Acosta and Garcia restricted in their research?

3) Why are dogs useful in proving Asian migration?

4) Why is the study of linguistics important in the debate about the first Americans?

5) Williams asserts that it is important to keep personal bias out of the study of American origins. Do you think he does this effectively?

6) Why do you think some anthropologists manufacture evidence?

Essay Questions

1) In his proof of Asian origins and the role of the Bering Strait, Williams lays out several points that prove his theory. What are they? What do they tell us about the way in which anthropologists do research?

2) Describe the theories of Acosta and Garcia. How are they different? What different ideologies do they support? If genetic and DNA evidence had been available to them, how do you think the theories would have changed?

Short Answer Questions

1) What did Magellan's voyage prove?

2) What solid evidence finally supported the Viking theory?

3) What are some of the problems with the inscriptions found that supposedly support Atlantic and Pacific crossings?

4) Why might people believe the stone heads of Vera Cruz to be of African origin? Why is this theory unlikely?

5) What are the two kinds of evidence used to support the theories of Atlantic and Pacific crossings?

Glossary

Atlantis: a mythical island that supposedly was sunk beneath the sea.
Bering Strait: a narrow stretch of water separating Alaska from Siberia and connecting the Arctic Ocean with the Bering Sea; the site of a hypothesized land bridge.
Bias: a strong belief or point of view that does not allow one's mind to respond impartially to contradictory objective information.
Mormon: a member of a religion created by Joseph Smith in 1830 that believes that American Indians are in fact the Lost Tribe of Israel.
Moundbuilders: the builders of colossal earthworks in North America; originally, some believed that the Moundbuilders were a now extinct race, rather than Native Americans.

Researching the First Americans: Chapter 18
One Archaeologist's Journey
Ruth Osterweis Selig and Dennis J. Stanford

Chapter Summary

Most archaeologists agree that Native Americans are descendants of a generalized Mongoloid people who lived during the late Pleistocene era. Sometime after 50,000 years ago, hunting bands began to come to the New World, following herds of animals. By 11,000 years ago human hunters, referred to as Clovis, already inhabited most of the Americas. The appearance and spread of the Clovis culture, however, is a mystery. Archaeologists question whether the Clovis people were, in fact, the first, and why there is no evidence for their culture in eastern Asia and Northern Siberia.

In 1960 a caribou bone apparently worked by humans was found in the Yukon Territory's Crow basin dating to around 27,000 years ago. Bones that might have been tools were also discovered at the sites of Dutton and Selby which dated to over 11,000 years ago. Archaeologist Dennis Stanford and others began to hypothesize that a pre-Clovis people existed and used bone technology. The idea of bone technology is risky because similar evidence can be produced by natural forces. Graduate student Gary Haynes conducted research at the National Zoo and in the wild and found that many natural processes damage bone in similar ways as human butchery.

The article written by Selig was originally published 20 years ago. In this edition of *Anthropology Explored*, Stanford has added a lengthy update, demonstrating how his ideas about early migration have changed drastically in recent years. There is now more linguistic and physical anthropological data supporting more than one migration pattern to the Americas. Stanford now believes that Clovis was not the only early culture in the Americas.

Throughout the update, Stanford traces how his hypotheses have changed as he has conducted more research. He began his study of early peoples in 1966 and at that point he believed Clovis to be the earliest American culture. During the 1980s, when American relations with the former Soviet Union were improving, Siberia began to open up to researchers; however, the stone artifacts found there were completely different from Clovis. According to Stanford, no radiocarbon-dated sites more than 11,000 years old have been found within approximately 3000 miles of the Bering Strait.

During the 1990s Stanford examined several sites in the Southeastern part of the United States. Also, a site called Cactus Hill was discovered in Virginia, supporting the theory of early occupation of eastern North America. However, the original question of where Clovis came from remains unanswered. Stanford suggests that people arrived in the New World from Western Europe via boats; precedents for similar maritime travel exist in the settlements of Australia and Japan. Stanford has noticed similar technology to Clovis in the Solutrean culture of Spain and Southwestern France. He has examined artifacts from several different sites to offer support for his controversial argument. Stanford ends his update with his conclusion that

people crossing over from Asia were not the ancestors of the Clovis people, a belief he has supported most of his professional career.

Discussion Questions
1) Discuss how broken bones seen as ancient tools can be subject to various interpretations. How did the caribou bone support both Stanford and Haynes' theories?

2) How did Stanford and Haynes go about disproving one another? Why is professional criticism helpful in science?

3) Why is it significant that highly evolved lithic (stone) technology did not appear until 14,000 years ago and is similar to early Eskimo technology?

4) How have political relations with countries, such as those between America and the Soviet Union, affected research?

5) How could linguistic evidence be used as evidence of migration patterns?

6) Why do you think ideas of human migration to the New World are constantly changing? Why is it so difficult to track down the "earliest Americans?

Essay Questions
1) Since Selig's initial article, how have Stanford's theories changed? What various factors led to these changes?

2) Why is the theory that people arrived via the Atlantic Ocean in the Clovis period so controversial? Do you think Stanford is able to prove his theory?

Short Answer Questions
1) What kind of archaeological artifacts is Stanford examining?

2) What is taphonomy, and why is it important to archaeologists?

3) What evidence does Stanford use to suggest that the Clovis people were not the only people inhabiting the Americas before 13,000 years ago?

4) How were the finds in Siberia problematic?

5) Where are there precedents for very early boat travel?

Glossary
Clovis: a prehistoric human culture widespread throughout North America from about 12,000 to 9,000 B.C., distinguished by the use of sharp fluted projectile points.

Eskimo: a people inhabiting the Arctic (North Canada, Greenland, Alaska or East Siberia); the Algonquians of the American Northwest called them Eskimos (“eaters of raw flesh”) while they call themselves the Inuit (“the people”).
Flute: a long, usually rounded groove incised as a decorative motif on the shaft of a projectile point.
Solutrean: relating to the Old World Upper Paleolithic culture, discovered in France, that succeeded the Aurignacian and was characterized by unique stone implements and stylized symbolic forms of art.
Taphonomy: the study of the conditions and processes by which bones and artifacts decay and become fossilized in the wild. (18)

The First South Americans: Chapter 19
Archaeology at Monte Verde
Tom D. Dillehay

Chapter Summary

The earliest date for human arrival in South America is still disputed. Anthropologists have long suggested that Clovis people were just big-game hunter who arrived 11,000 years ago, or perhaps much earlier. Many anthropologists now no longer consider the Clovis and Folsom people to be purely big game hunters, but also small game hunters and gatherers of plants. In the 1970s only a small series of bones and tools existed, but now there is a large body of evidence from new sites dating to at least 11,500 years ago in North America and 12,000 years ago in South America.

The author discovered the Monte Verde site in 1976. Layers of peat had preserved organic material, such as wooden tools, chunks of animal hide and meat, and earthen floors. The peat also preserved interesting architectural forms and arrangements, indicators of social and economic organization slightlymore complex than had once been associated with late Ice Age culture in the New World. Even deeper deposits of possible stone tools were found, perhaps dating to an earlier people. An interdisciplinary team assembled under Tom Dillehay's leadership to attempt to recreate the palaeoecology and to understand the human intervention in the area. They concluded that while currently Monte Verde has moderately warm, dry summers and cold, rainy winters, in the late Pleistocene it was only slightly colder and more humid. Mastodons, saber-tooth tigers, and paleocamelids roamed the area.

The author divided the site of Monte Verde into two areas, east and west. On the east, he found the remains of ten or eleven hut foundations. Plant remains, stone tools, food stains, and small braziers were discovered in each hut. He also determined that cooking was communal because two large clay and charcoal hearths were found centrally located among the huts. He discovered no human bones at Monte Verde, but he did find a footprint in clay and fossilized excrement, possibly human. On the western side he came upon a non-residential structure with a roughly ovoid-shaped artificial rise of sand and gravel. On top of this rise, he discovered a wishbone-shaped architectural platform with plant remains possibly used for medicine.

The stone tools found at Monte Verde are similar to those found at other last Ice Age sites. The people at Monte Verde, however, also used naturally fractured stones, an uncommon practice at other sites. The inhabitants had three different methods of making tools: flaking, pecking-grinding, and modification through the use of some unflaked stones. Animal bones and wood were also used as tools for digging and gouging.

The evidence found at Monte Verde shows that the inhabitants exploited resources from the distant reaches of the Maullin Valley. Anthropologists estimate that there were around 25 to 35 inhabitants living there in the Late Pleistocene era. The presence of organic remains prevents the site of Monte Verde from being misinterpreted as a pure "kill" site. This fact cautions

anthropologists to keep an open mind as to the possible differences in the ways of life among the first Americans.

In his update, the author confirms that archaeologists have discovered several sites in North America that could possibly have even earlier human occupation dates than Monte Verde, especially those found in the eastern United States. If humans did, in fact, migrate across the Bering land bridge, then it would make sense for sites to be earlier in North America than in South America. Anthropologists are now beginning to hypothesize about multiple migrations, influences from Africa and Australia, and a diversity of people. Johanna Nichols of the University of California at Berkeley believes that the diversity of Native American languages is proof of great diversity in the late Pleistocene. Several geneticists agree with her, based on their study of genetic diversity. There are still some anthropologists, though, that maintain that the Clovis were the first inhabitants, though Dillehay and others dispute this argument because they feel it fails to explain the cultural and biological diversity in the western hemisphere.

Discussion Questions

1) Divide into groups and debate the Clovis theory mentioned in the update and the theory proposed by the author. Why is it significant that early humans arrived in South America earlier than previously thought or was supported by archaeological evidence?

2) How was the discovery of organic material at Monte Verde a pivotal discovery in better understanding our ancestors' occupation of North and South America in the late Pleistocene?

3) The site of Monte Verde was divided into eastern and western parts. What do you think this can tell us about the organization of the people?

4) In the article the author uses a modern population to make estimates about how many people lived at the site, and what plants were used for medicine. Do you think using modern people to make assumptions about ancient people is an accurate way of reconstructing prehistoric society?

5) Do you think it is significant that no human remains were found at Monte Verde? Why is it so difficult to find early human remains in the New World? What other evidence has been found to suggest human occupation?

6) Discuss some of the ways in which the inhabitants of Monte Verde made use of animal remains.

Essay Questions

1) The author uses the site of Monte Verde to show how it is similar to contemporary sites, but also how it is unique. Discuss some of the ways that this is true. Does its uniqueness change our views of late Pleistocene habitation and migration?

2) An interdisciplinary team was assembled to reconstruct the paleoecology of the site and evaluate human presence. How did the climate of Monte Verde differ from the climate today?

To what extent, based on the evidence of the article, do you think the inhabitants affected their natural environment? Why is it important to have different specialists working at a single site?

Short Answer Questions
1) How were the earthen and wooden tools preserved at Monte Verde?

2) Describe the unique structure found in the western part of Monte Verde?

3) What animal resources were available to the inhabitants of Monte Verde?

4) What indirect indicators of humans were discovered at Monte Verde?

5) Why do anthropologists believe cooking was done communally?

Glossary
Brazier: a shallow pit for holding burning coals.
Entomology: the study of insects.
Malacology: the study of mollusks.
Palynology: the study of pollen and spores.
Peat: a mass of partially carbonized vegetable tissue formed by decomposition in water.

Who Were the Ancient Maya? Chapter 20
Jeremy A. Sabloff

Chapter Summary

The ancient Maya civilization flourished for almost 2000 years, from around 500 B.C. until the Spanish conquest in the A.D. 1540s. The Maya civilization was originally divided by scholars into three main phases: *Preclassic, Classic,* and *Postclassic*, each with its own sub-phases. These divisions mark significant changes within the course of Maya history as described in this chapter. Sabloff, a leading Maya specialist, prefers to use the names *Early Phase, Middle Phase,* and *Late Phase*, but still occasionally retains the older names for the sake of clarity. Recently, insights about the development and accomplishments of the ancient Maya have been discovered through important archaeological, epigraphical, and ethnohistorical studies. These studies have also demonstrated that the Mayas played an integral part in Mesoamerica and had contact with various peoples. There are three geographical zones in the Maya civilization: the lowlands, the highlands, and the Pacific coastal plain and Piedmont.

The early history of the area began shortly after the end of the final Ice age, over 10,000 years ago. There was sporadic, short-term occupation of the area by nomadic hunters and gatherers. Maize was first domesticated around 3500 B.C., a major development, as domestication brought about settled village life.

The Early Phase of Maya civilization lasted from 2000- 300 B.C. The earliest settlements were in the Pacific coastal and Piedmont zone, with complex technological, economic, political, artistic, and religious developments. From around 1000 until 500 B.C., the population rose, while the availability of land decreased. This resulted in larger population aggregations, leading to administrative developments, more intensive farming practices, competition, and conflict. Around 500 B.C. population centers began to arise and the first public buildings and monumental stones were erected. Perhaps most importantly there was trade and the emergence of hieroglyphic writing.

The Middle Phase of the Maya civilization lasted from 300 B.C. until A.D. 1200, and included the Late Preclassic, the Classic, the Terminal Classic, and the Early Postclassic periods of the older classification. Scholars view this middle phase as the height of Maya civilization and much of it was centered, though by no means completely, around the southern lowlands area. Cities at this time were at their largest size, and the rulers had the greatest amount of power. There were also astounding artistic, architectural, and scientific achievements. They spread from the Pacific coastal region, to the southern highlands, and finally to the southern lowlands. Many of these achievements, though, began in the Late Preclassic period and only later became the hallmarks of the Classic period.

The Classic period spanned A.D. 300 until 800. New cities were founded at this time, and it is estimated that by the end of the Classic, the population of the lowlands was perhaps over five million people. The arts and sciences thrived, and an intricate religion was developed. A class system also emerged. Interactions with powerful cities such as Teotihuacán, in Central Mexico,

may have influenced political and economic development in the Maya area. Newly translated Maya hieroglyphics demonstrate the complexity of the political system and reflect a constant rise and fall of cities.

The Terminal Classic (A.D. 800 -1000) and the Early Postclassic (A.D. 1000-1200) were once viewed as the fall of the Maya civilization. Archaeological evidence demonstrates that many of the major cities in the southern lowlands declined rapidly after A.D. 800. They became lightly populated and less economically important. Scholars at one time saw the Maya civilization as completely collapsed by A.D. 900. Southern lowland cities, however, concentrated around water and trade routes. For example, one Maya group, the Chontal, was water-orientated and began to spread from their area of influence at this time. A shift from the southern to northern lowlands has also been noted by scholars, with densely populated cities in the North. Other research at the site of Chichén Itzá in the north has revealed its widespread political and economic influence. This famous site was also a destination for pilgrims, making it religiously important.

The Late Phase of the Maya civilization lingered from A.D. 1200 until the 1540s with the Spanish Conquest. At this time there was new emphasis on mercantile activities, changing urban designs, and diminished investments in large architectural projects that had once served to glorify the city and ruler. There was also the emergence of a political confederacy led by the northern lowland center Mayapán. Water-based trade around the Yucatán peninsula became important as well. Some highland centers even managed to flourish until the Spanish conquest.

The Spanish conquest effectively ended the Maya civilization, as the population was decimated through the introduction of measles, smallpox, and other diseases. The conquest destroyed much of the Maya elite and their cultural practices.

Discussion Questions

1) Do you think the fact that the Maya civilization encompassed three separate environmental zones was a factor in how it developed? Do you think these zones affected the civilization's structure?

2) Writing developed in the highlands, while monumental buildings developed in the lowlands. What possible reasons could account for this difference in achievements?

3) Why was the cultivation of maize so important to the development of the Maya?

4) What are the problems, as seen by the author, of dividing Maya history into the Preclassic, Classic, and Postclassic period? Having read this article, would you divide it differently? Why might the author prefer not to use the word "classic" in his divisions?

5) How did the Spanish destroy the Maya civilization? From the evidence that the author offers, do you think that Maya civilization was in the process of ending even before Spanish contact?

Essay Questions
1) Examine the three phases of Maya civilization suggested by the author. What were the important developments of each phase? How does the author indicate that these were not clear-cut phases?

2) The ability to read the Maya hieroglyphic writing is a new development. Discuss how it has aided archaeologists in understanding the physical evidence they uncover. Use examples from the article.

Short Answer Questions
1) What effect did an increase in population and decrease in land have on the development of the Maya civilization?

2) What are some of the achievements that indicate that Maya civilization was at its height in the Classic period? Are these at all ambiguous?

3) Why is research at Copán significant?

4) What changes occurred during the last phase of Maya civilization?

5) Why is the site of Chichén Itzá important?

Glossary
Epigraphy: the study of inscriptions.
Ethnohistory: the use of historical information to study cultural development.
Highlands: elevated or mountainous land.
Lowlands: land of a lower elevation than that around it.
Mesoamerica: area reaching from Mexico to Honduras and El Salvador in northern Central America.

Chapter Summary

Plant domestication is the creation of a new form of a plant used solely for human purposes, distinguishable from its wild predecessors and dependent on human cultivation for survival. Domesticating plants was a revolutionary change in human history, enabling a small group of people to create food for the masses. This gave people more free time and the chance to pursue new activities. The general assumption is that plants were domesticated in the Americas first in Mesoamerica, and that maize and squash spread to eastern North America from there. New evidence, however, proves that eastern North Americans domesticated plants separate from outside influences, as happened in other early agricultural centers, such as China, the Near East, and South America. The eastern part of North America, however, offers the most detailed archaeological evidence.

There were three distinct phases in eastern North American plant domestication. The first phase ran from 3000 B.C. until 2000 B.C. At this time four plants were fully domesticated and three others were cultigens harvested from the wild: chenopod, marshelder, squash, sunflower, erect knotweed, little barley, and maygrass. There is evidence of indigenous crop domestication around 2000 B.C. in Tennessee, Arkansas, Illinois, Kentucky, Ohio, Missouri, and Alabama. The second phase ranged from 250 B.C. until A.D. 200. During this phase economies based on food production began to arise. There is evidence of diets including more seeds, and that seed crops were the focus of concentrated cultivation. Maize appears at this time, but only in small amounts. Archaeological evidence demonstrates that farming communities began to develop in Ohio, Illinois, and other states farther south. Large geometric earthworks, conical burial grounds, and elaborate mortuary decorations, manifestations of Hopewellian communities, are present at this time. In the third and final phase A.D. 800-1100, there was a shift to large field and maize-centered agriculture. Maize is at the center of the diets of people inhabiting areas between North Florida and Ontario, Canada, the Atlantic coast and the Great Plains. Mississippian chiefdoms emerged at this point, indicating a major social transformation.
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There has been resistance to these new theories. Much of the skepticism results from the fact that of the first domesticated plants, only squash and sunflower are prevalent today. Archaeologist Bruce Smith, however, firmly believed that seeds, not maize cultivation, led to the development of Hopewellian societies. He saw *Chenopodium* as a good potential domesticate to prove his theory because of its prevalence in the archaeological evidence. He started out by comparing ancient and modern versions of the seeds, but what he needed was a large sized collection of whole, well-preserved chenopods that were obviously put in storage by humans. He found such evidence in a museum collection housing finds from an earlier excavation of Russell Cave, Alabama.

Russell Cave was originally excavated by Carl Miller in 1956. Smith examined Miller's records of the finds and found that Miller wrote in a brief paragraph, "These people knew the potential of these wild uncultivated seeds as a single food source." Smith also discovered within

the records that Miller had found a basket full of seeds; unfortunately, this basket was recorded as having been stolen. Smith searched through the museum collection from the dig and found an envelope filled with charred seeds, later confirmed as chenopod. Revolutionary techniques were used to analyze these seeds, including water flotation technology, accelerator mass spectrometry (AMS), a scanning electron microscope (SEM), and stable carbon isotope analysis. These techniques showed that the seeds had thicker coats than their wild counterparts, indication of a domesticated species.

Through a long process of consultation with other experts, Smith was able to prove that gourds were domesticated in North America. In his update, Smith discusses the research that has followed since he proved eastern North American domestication. Much of it has been done with dating techniques such as AMS dating. Other scientists have proved that the domestication of the sunflower happened earlier than previously thought, around 2300 B.C. The study of fecal remains has shed light on the diet of the Native Americans of the time and helped to prove that they were, in fact, eating seeds. Research about the domestication of plants is on-going and continues to be a very active field in the Americas.

Discussion Questions

1) Using this chapter as a case study, discuss how scientists act as detectives.

2)Why do you think there was such resistance to the theory that plants were domesticated in eastern North America?

3) Why is plant domestication so important in human history?

4) This chapter not only proves that plants were domesticated in North America, but also describes in detail the process that Smith underwent to validate his hypothesis. Why does he describe his methods step by step? What does this chapter tell you about science and scientists?

5) The update was written ten years after the initial article was published in *AnthroNotes*. How does the update relate to the original article?

6) Discuss several methods Bruce Smith used to disprove the Mesoamerican origins theory.

Essay Questions

1) There were three distinct phases of plant domestication in eastern North America laid out in the chapter. What are they and what effects would they have on Native American societies?
2) Many new technologies were used by Smith in his analysis of the seeds. Discuss these new technologies and their importance as described in the update.
3) How was Smith's research a breakthrough in our understanding of Native American history?

Short Answer Questions

1) What are the indications of a Hopewellian society and why is domestication tied to the emergence of Hopewellian villages?

2) When did maize first appear in eastern North America?

3) What are some of the seven plants present in the first phase?

4) Why are fecal remains important, and what can they tell us?

5) What major social change occurred in phase three?

Glossary

Accelerator Mass Spectrometry (AMS): a process that uses radiocarbon dating to precisely date archaeological evidence and that can be applied to small amounts of organic material.
Chenopod: a food plant harvested by eastern Native Americans whose seeds show evidence of domestication.
Hopewell: an ancient society dating from around 250 B.C. until A.D. 200 characterized by large geometric earthworks, conical burial grounds, and elaborate mortuary decorations.
Maize: Native American corn.
Scanning Electron Microscope (SEM): a microscope that has the ability to magnify small objects many thousands times greater than conventional microscopes.

East Meets West: Chapter 22
New View of Arctic Peoples
William W. Fitzhugh

Chapter Summary

For a long time, it was thought that Arctic people were descendants of Ice Age hunters, their way of life preserving prehistoric culture. The Vikings were the first Europeans to come into contact with Arctic people, calling them "skraelings" and deeming them to be semi-human creatures. Englishman Martin Frobisher, 500 years later, came across the Inuit in his quest to find a Northwest passage to Asia.

Several different groups make up Arctic culture, living in similar types of areas and developing similar kinds of culture. Fitzhugh asks questions such as: Who were the Arctic people during the time of European exploration? Where did they come from? What is their history? Fitzhugh uses these questions both as the focus of his study and to examine the ways in which Arctic peoples were viewed throughout history.

There are many cultural and economic similarities among people living around the shore of the Arctic Ocean and the North Pacific Rim. The seacoasts have allowed Arctic peoples to come into contact with one another for centuries. Archaeologists have found evidence for the migration of Asian peoples into northeastern Siberia and from there into the Americas. There are clear similarities between the earliest Siberian and Alaskan peoples. Around 10,000 years ago, a maritime-focused economy developed from Siberia all the way to what is now the state of Washington. From recent studies it appears there was a trend towards sedentism.

In Siberia as people moved towards the coast, their life became increasingly sedentary. The cultures that remained inland, however, tended to preserve a nomadic life style. There is evidence that areas in Siberia and Alaska developed similar technology, including the use of microblades, in which stone tools are edged with sharp cutting blades. These can be traced in the east as well. The author questions whether the similarity is the result of a deep cultural strata gathered from shared ancient history or from more recent contact. Analysis of archaeological finds has proven, according to the author, that they are mostly the result of historical contacts.

The region around the North Pole provides a natural route for the migration of people from Asia to America. It is the only documented area of contact between the two. There appears to have been a flow of culture from the more complex centers in Asia into the New World, with the Northern regions acting as a buffer. Fitzhugh uses the concept of geography and environment to explore the similarities and differences among various Arctic peoples.

Modern times have greatly affected Arctic culture. Indigenous populations have expanded several ethnic groups, languages are becoming extinct, the environment has been damaged, and industrialization has harmed subsistence cultures. There also has been an influx of new people into the area. It is becoming increasingly clear how important the Arctic region is to scientific understanding of global climate change and human history.

In his update, the author outlines how new research has helped advance understanding of the culture and history of the Arctic. Studies of weather patterns have been particularly beneficial in understanding how the environment formed and changed. Fitzhugh also emphasizes the importance of native knowledge of the environment and calls for new ways to incorporate such knowledge into scientific and area studies.

Discussion Questions
1) Discuss how views of the Arctic and the origins of Arctic cultures changed over time.

2) Why do you think early anthropologists were eager to connect Arctic culture with prehistoric culture? How can Arctic culture help us better understand prehistoric culture?

3) Although scholars believe Eskimo culture developed in the Bering Sea region, why are archaeologists still unsure exactly where the origins of this culture developed?

4) Why was the development of reindeer herding important in Siberia?

5) Discuss the significance of the Smithsonian's "Crossroads" exhibition. How did the exhibition help in the revitalization of Native cultures?

Essay Questions
1) Discuss how the author uses geography and environmental studies to analyze the diversity within Arctic cultures. Why is there more diversity longitudinally, for example, in subsistence strategies?

2) In the conclusion and update the author discusses new problems for the Arctic cultures. What are they? Why have they arisen, and do you think they can be prevented?

Short Answer Questions
1) What do the cultures in Siberia and Alaska have in common?

2) Why did mammoths exist in the Eurasian Arctic 5000 years longer than elsewhere?

3) What are some examples of culture contact and exchange among Arctic cultures?

4) What is a "skraeling?"

5) Why did reindeer herding never take hold in Alaska?

Glossary
Bering Strait: a narrow stretch of water separating Alaska from Siberia and connecting the Arctic Ocean with the Bering Sea; the site of a hypothesized land bridge.
Eskimo: a people inhabiting the Arctic (North Canada, Greenland, Alaska or East Siberia); the Algonquians of Northeastern North America called them Eskimos (“eaters of raw flesh”) while they call themselves the Inuit (“the people”).

Inuit: the term preferred by native speakers to describe the Eskimo people.
Skraeling: a semihuman creature with one leg and a screeching voice; a term the Vikings used to describe Arctic people they came into contact with.
Viking: seafaring members of the Nordic people; the name "Viking" was given to them because they sailed from "viks" (a bay or harbor); they were said to go "a-viking" and thus the name developed and is often used to characterizes Nordic people from A.D. 793 until 1066.

The Archaeology of African American Life Chapter 23
Theresa A. Singleton

Chapter Summary

This chapter presents a survey of African American archaeology or the archaeology of the African Diaspora, which examines the daily lives of past African American communities. The field began in the 1960s with the excavations of slave cabins. Archaeologists look at broken pottery, mortar, food bone, tools, buttons, beads, and other objects in order to reconstruct the past African American way of life. They are interested in discovering how African heritage was transplanted, replaced, or reinterpreted in America. Archaeologists compare the way of life of slaves, free blacks, and tenant farmers, as well as comparing urban and rural African Americans.

Most slaves and free blacks were poor and illiterate. The written records, therefore, generally come from European Americans and are either flawed or one-sided. The archaeological record also can be biased because it records only discarded objects, not the ones used for multiple generations or not likely to be well-preserved. This allows for inferences to be made about particular aspects of African American behavior, but is not direct evidence of behavior. Archaeologists, therefore, also must examine historical and ethnographic written sources and oral traditions.

Archaeologists are especially interested in artifacts suggestive either of African or African American traditions. Tentative evidence seems to indicate that slaves were able to sustain their traditions. Many ceramics, "colonoware" for example, were originally thought to be Native American. However, ceramic pieces have been found in African American communities postdating the demise of the local Native American tribes. 80 to 90 percent of the ceramics found at Drayton Hall, South Carolina are "colonoware," resembling West African pottery. Markings on the pots also are similar to cosmograms used in traditional rituals in the Congo-Angolan region. The presence of pottery also indicates that the enslaved made food to their own taste, and also probably prepared it for their masters, influencing the local white southern cuisine.

At the sites of Curriboo and Yaughan, archaeologists have found rectangular, African-style houses, designed and constructed by slaves. These houses most likely were made of mud brick walls covered with thatched palmetto leaves. No remnants of walls survive, but trenches were discovered with a mortar-like clay inside, most likely the primary construction material. Several written records support the mud-brick theory. W.E.B. DuBois makes a reference to slave-built, mud-walled structures in his work on African American houses. These houses were built and inhabited between 1740 and 1790. They were then replaced with European American dwellings in the early 1800s. This change in housing coincides with the development of the European American view that anything African was backward and inferior.

At the Jordan Plantation in Texas, archaeologist Kenneth Brown discovered artifacts he believes were used in divination and healing rituals. They probably had special significance to

African Americans of the time. African Americans may also have used blue beads which carry special significance for Muslims, as they supposedly ward off the Evil Eye.

Some slave sites contain objects which date to post-emancipation times, indicating a continuity from slave to free labor. Archaeologists have examined a wide variety of sites and developed several main questions: "What are the living conditions and basic material culture of these communities? What aspects of the archaeological record relate to ethnic behavior and what aspects to economic and social conditions?" The archaeology at non-slave sites tends to be more varied and subtle. At the house of Benjamin Banneker there is no indication of ethnicity. His farmstead is identical to contemporary European American ones. This degree of assimilation may be characterized in other property owning freed slaves as well.

The most striking difference between European Americans and African Americans is the food they ate. African Americans tended to eat more pork, especially pig feet. They also ate collard greens and opossum. A study of former slave communities on the coast of Georgia have proven that African Americans were worse off for the first years of their freedom than while enslaved. Some scholars argue that the slave diet was in fact more nutritious and that their caloric intake was more than a modern one. This is not the generally accepted view, however, and most scholars see the slave diet as inadequate.

Malnutrition appears to have been a frequent problem as indicated by high child mortality and a prevalence of diseases associated with nutritional problems. Studies by zooarchaeologists have shown that slaves supplemented their mundane diet by hunting and fishing. These activities resulted in 35 to 40 percent of the meat in their diet. Nutritional problems are especially evident in teeth. Examinations of burials at Philadelphia's First African Baptist Church show signs of occupational hazards. The people of this community appear to have suffered from tuberculosis, iron deficiency anemia, arthritis, and cholera. Slaves were also often given alcohol as medicine.

In the update, the author notes that recently there has been a shift to call African American archaeology the archaeology of the African diaspora, because this term encompasses a broader geographic scope. Studies in plantation slavery still dominate the field, but there is a growing variety of topics. For example, studies in maroon communities have become increasingly popular in places such as Brazil, Cuba, the Dominican Republic, Florida, Jamaica, and Suriname. Many of these, though, are still in the preliminary stages. This research is expected to discover evidence of how the maroons survived in harsh environments, and how they were able to set up social, political, and economic systems, some of which remain today. Other archaeologists are working to counter the past practice of African Americans being erased from local histories, as in Argentina. Archaeologists are now beginning to work with the descendants of slaves as a way of linking them to their past.

Discussion Questions

1) What is African American archaeology and what questions does it seek to answer? How has this field changed in recent years?

2) Why is it hard to trust written accounts of slaves and slavery? What does the bias in such accounts tell you?

3) Discuss why Benjamin Banneker's house showed no signs of his ethnicity.

4) Why has the name "African American archaeology" been changed to "archaeology of the African diaspora"? How does this reflect a shift to more in-depth social analysis across many more communities?

5) What was the basis of determining the quality of life at Millwood plantation?

Essay Questions
1) Why is it interesting to see if African Americans retained parts of their African culture throughout the course of slavery? What does that tell us about their culture and traditions through time, as well as our own culture?

2) What is the main comparison between slave and emancipated communities? Taking the evidence provided in the article, attempt to draw conclusions about each community's way of life.

Short Answer Questions
1) How is food an indicator of ethnic behavior?

2) Why is the discovery of "colonoware" important?

3) Why is it controversial to assert that the diet of slaves was more nutritious than a modern diet? Could this assertion be proved conclusively?

4) What did the skeletons of Philadelphia's First Baptist Church reveal about the nutrition of the community?

5) Why have recent studies of maroon communities proved interesting?

Glossary
Diaspora: the settling of a scattered people, often in widely dispersed settlements.
Divination: the art or act of foretelling future events or revealing occult knowledge by means of augury or an alleged supernatural agency.
Maroons: black freedom fighters who successfully escaped enslavement and formed their own autonomous communities.
Ritual: a detailed spiritual procedure faithfully followed.
Slavery: the state of one being bound in servitude as the property of a slaveholder or household.

Chapter Summary

Cultural relativism is the belief that cultural traits can be best understood within the context of the cultural system of which they are a part. These traits, according to cultural relativism, must not be judged by external or absolute standards. Anthropologists believe that each culture has its own inherent integrity with a unique value system. When anthropologists examine different cultures, they try to withhold and suspend judgment in order to accurately describe them. Anthropologists have called into question the practice of neutrality, particularly in light of the discussion of universal human rights, which anthropologists have avoided participating in on relativist grounds. Now, however, they are becoming more active in cultural survival and the human rights of threatened groups. Anthropologists have spoken out against genocide and testified in courts to protect religious traditions and sacred lands.

According to the author, the idea and practice of cultural relativism has its limits. An extreme relativist would not reject infanticide, senilicide, "honor killing," or other types of culturally sanctioned homicide. Such anthropologists are in the minority. Cultural relativism, however, provides the basis for a discussion of differences, leading to the ability to accept another culture as rational and intelligible. Relativism allows societies to live together without losing traditional beliefs.

Despite its ability to help cultures understand one another, the relativist position provides a challenge to universal human rights. The differences are seen clearly, for example, in Islamic perceptions of morality and immorality in comparison to those of the Western world. The differences are so great that at times negotiation appears impossible. Many Islamic governments claim immunity from international human rights standards, and have been criticized by human rights groups and feminists. Consensus has been reached, though, on many issues such as opposing all forms of violence against women, ending female genital mutilation, and identifying rape during armed conflict as a war crime.

The issue of female circumcision has incited a great deal of debate between universal rights advocates and relativists. The practice is rarely found outside of Africa, and it is unclear if it is religiously mandated. Fluehr-Lobban struggled at first whether to accept it as part of the culture and people she was working with, or to agree with feminists. In the end, she decided that the fact that women are being mutilated is far more important than staying neutral, and she decided to speak out against the practice.

The neutralist position of the author resulted from the first-hand knowledge of local sensitivities about the practice of female genital mutilation. There has been increasing amounts of dialogue in countries such as the Sudan, perhaps leading towards a change in practices. The author believes that relativism may frame and enlighten debates, but in the end, moral judgment and human rights force choices to be made.

Judgments about involvement, according to the author, should be made when harm is taking place, including death, pain, disability, or a loss of pleasure and freedom. Neutrality must be suspended when reasonable people from different cultures agree something causes harm. The concept of harm has been the driving force behind medical, psychological, feminist, and cultural opposition to female genital mutilation.

The author offers domestic abuse as a case study to discuss the role of anthropologists. *Darar* is the Arabic word for harm and abuse, both physically and emotionally. Women in countries such as the Sudan, Egypt, and Tunisia have the right to go to court when they are abused, but often this is a last resort. It is difficult to remain neutral in such cases, and a decision must be made between the right of the husband to discipline and the right of the wife not to be harmed. Domestic violence has only recently been added to the list of international human rights violations. In the author's opinion, anthropologists can help by supplying their first hand knowledge of various situations.

Several countries, including the Sudan and Nigeria, have adopted Islamic law, shari'a, as national or provincial law. Under shari'a, stoning is the punishment for adultery. The sentence of stoning has been condemned and only a minority of Muslim leaders supports it in reality, often for their own political agendas. For example, the Sudanese government instituted shari'a as a means of controlling insurgents in the Sudan. Stoning is a part of some Islamic sects, but this practice should be indefensible from a moral standpoint. The punishment of stoning has yet to be carried out by these countries due to widespread protest when women are sentenced to it.

According to Fluehr-Lobban, the rule that harm must be avoided should help anthropologists and others direct their course of thinking and action. It is important to understand diverse cultures, but it is also necessary to notice when harm is taking place. In the opinion of the author, anthropologists who withhold judgment because of cultural relativism are irresponsible. They must use their knowledge to offer expert advice about people suffering great injustices.

Discussion Questions

1) How would you define cultural relativism in your own words after reading this chapter?

2) Discuss how a cultural relativist and universal rights advocate might agree or disagree.

3) Discuss how participation in international dialogues on universal human rights might present a conflict for an anthropologist. How might some anthropologists be able to help in international efforts on behalf of human rights?

4) Why do you think anthropologists speak out freely against the Holocaust and Apartheid, but debate their stand on female genital mutilation and domestic abuse?

5) The author points out that there are more female leaders of Islamic nations than Western ones. What do you think this tells us about our views of Islamic nations? Is the issue more complex than even the author suggests?

6) Do you think judgments should be passed at any other time than when harm is occurring?

Essay Questions
1) Describe the dilemma that the author faced with respect to female genital mutilation. What were her main reasons for passing judgment? Discuss why you think it was such a hard decision for the author, taking into account cultural relativism, human rights, and the notion of harm.

2) Discuss the article's case studies of the Sudan, Egypt, and Tunisia. Why is the problem of domestic abuse such a difficult issue in these countries?

Short Answer Questions
1) What constitutes harm as defined in the article?

2) What is the difference between an extreme relativist and an egalitarian relativist?

3) What are "universal human rights" as defined by the international conventions?

4) What three crimes against women mentioned in this chapter are examples of what Westerners and Muslims agreed, in an international convention, must be opposed?

5) Define cultural relativism.

Glossary
Cultural Relativism: the belief that cultural traits are best understood within the context of the cultural system of which they are a part, and that they should not be judged by external or absolute standards.
Egalitarian Relativism: the belief that all human beings are moral agents with equal potential for making ethical judgments.
Female Genital Circumcision: the removal of all or part of the clitoris and/or labia.
Harm: death, pain, disability, or a loss of freedom and pleasure resulting from an act of one human being upon another.
Human Rights: universal rights to which one is entitled simply by virtue of being human.

Andean Women: Chapter 25
United We Sit
Catherine J. Allen

Chapter Summary

When the author first visited Sonqo, Peru, she was irritated by the apparent secondary position of women. After careful examination, though, she began to see that the role of women was more complicated than she had first believed. Traditional Andean ideology maintains that both society and the cosmos are organized in terms of complementary opposites. *Tinkuy* is the word the Sonqueños use to describe the dynamic encounter that creates unity from the opposition of different forces. This affects the way that the two genders are viewed and how they must behave.

Households in Sonqo are built around the married couple. The word *warmiqhari* means "woman-man" and represents the coming together of two different but interdependent forces possessing separate but complementary knowledge, interests, and abilities. Women are characterized by their immobility. This is evident in the way they dance, in full skirts, twirling in place. The word for influential women means something quite different than the one for influential men. Noble men are called *qhapac*, meaning "noble" or "mighty," while women are called *wira*, meaning "fat" or "substantial." Women do have power, though, and it is asserted in their control of the house.

In community politics, women are at a disadvantage. The assembly consists of the senior male members from each household. Women are allowed to attend if their husband is ill, absent, or dead, and even then they sit apart from the men and are usually silent. The assembly is presided over by the president of administration along with his vice-president and secretary. Often he can also be accompanied by the *alcalde*, or mayor, and his staff. They also can be aided by schoolteachers and government agents. The office of the president is elected every two years. The president holds a potential for self-aggrandizement, and consequently the assembly continually asserts that they themselves make the decisions, and that the president is merely their voice and the one who puts their decisions into action.

At first glance, the assembly appears to be a group of middle-aged men with only a few women and elderly included. They meet at intervals where they argue and vote. It cannot be denied that men are the most vocal, but it is also clear that women and elderly men act as almost an unseen "production crew." There is no council of elders, but rather decision-making is made through casual visits where the opinions of women carry a great deal of weight. The mothers and matrons (*mamakuna*) and elderly fathers (*kuraq taytakuna)* play an important unseen role in the assembly.

Women do encounter problems, though, when they do not have a husband or are at odds with him, making it hard for them to address the assembly. This is made clear by the author in her story about the widow who attempted to return to Sonqo to receive her rights as a widow. When she initially tried to address the assembly on her own, she was rejected. She returned to

the town in a social setting, however, and gains the support of the women. This forced the assembly to accept her rather than commit a social faux pas. Women's power resides in veto and commentary. Mentally, they are continually at the sides of their husbands.

In her update, Allen discusses how modernization has affected the community. The Sonqueños grow cash crops now and have discontinued the old communal system of crop rotation. They participate more in urban markets. Many have accepted a form of Evangelical Protestantism over their former religion, which combined Catholicism with Inca influences. These changes reflect urban influence in this rural community. *Wira warmi*, the old female ideal of a woman sitting next to a low clay stove, nurturing children and cooking, is viewed as outmoded and from their grandmothers' time. This change is also reflected in the way women now dance, in lines and upright, with undulating hips. The author tells of an occasion when the women were too busy to prepare soup for men at a work party; instead, they served salad. The women then proceeded to take the author to view their new greenhouse and watch them play soccer, clear evidence of a change in roles. Another major shift within the society is a change in houses. The small thatched adobe dwellings, which used to be seen as "nests," have been replaced by two-story tile-roofed houses with television antennas. The author states that changing to this more North American-style housing will result in a different rhythm in the Sonqueños' daily lives. Regardless of these changes, though, many women still prefer to cook seated on the floor next to an old-style stove, an indication that tradition is still important.

Discussion Questions

1) What annoyed the author when she first visited Sonqo?

2) Do you think the results of her research would have been different if the research had been done by a man?

3) Examine the cartoon. What is the cartoonist trying to convey about the role of women, and does he do it effectively? In our society, one often hears that a woman is "the power behind the throne." What does that mean, and is it similar to what is being described in the cartoon?

4) The assembly holds more power than the president. What does this tell us about Sonqo?

5) How are influential men and women characterized differently? How do women in Sonqo express their opinions and concerns? How would you answer this for our society and do you think that this is changing?

6) How are women and elderly men an unseen "production crew"? Why do you think the author compares the public forum to a play?

Essay Questions

1) *Wira warmi* is the traditional female ideal. Using the evidence from the article, define it and discuss how it has changed between the writing of the article and the update.

2) In traditional Andean ideology, there is a dual organization of society and the cosmos. How does this create unity out of opposition? How does this duality factor into the role of women? Do you think it is the only shaping factor of their position in society?

Short Answer Questions
1) What is the role of the president in the ayllu?

2) How did the widow win over the assembly in Allen's story?

3) How did the mother pressure her son into accepting the office of *alcalde*?

4) What is *warmiqhari*?

5) How have changes in dancing reflected the changes in the role of women? What other evidence is there in daily life that women's roles are changing?

Glossary
Alcalde: the mayor of an Andean community.
Ayllu: a native Andean community with membership based on kin ties and/or shared ownership of land.
Mamakuna: mothers or matrons in the Sonqo society.
Qhapac: the Andean word, translated as "noble' or "mighty," used to denote that a man is influential.
Wira: the Andean word used to denote a woman as influential, usually translated as "fat" or "substantial."

Chapter Summary

At the time of the Spanish conquest of the Aztec capitol Tenochtitlán in 1521, a number of distinct Indian groups lived in the northern Mexican region of Chihuahua. These groups were all separate, and there was no overall political organization. In this chapter, the author discusses the changes of identity among these Indian groups as the Spanish attempted to establish control over Chihuahua.

Identity, a central feature of human existence, can be defined as the relationship between who we think we are and who others think we are. Identity is the product of interplay between such insider and outsider perspectives and is subject to change. Merrill is interested in how identity is created, maintained, and transformed. For the author, the colonial context is a good opportunity to answer his questions. Colonization introduces new kinds of social, economic, and political relations, causing revisions in native identities, which are not always accepted if these are imposed by outsiders.

The author uses the Tarahumara/Ralámuli people as his case study. The Tarahumaras, at the time of the first contact with the Spanish, inhabited 50,000 square kilometers of territory and probably did not think of themselves as a single ethnic of cultural group. Over the past 400 years they have disappeared from about a third of this territory, either displaced by European settlers or assimilated into the emerging mixed Indian, European, and African population.

When the Spanish came to Mexico, they brought their own ideas about identity. For them the basic ethnic distinction was between "Spanish" and "Indian." Within these categories, there were other distinctions that reflected differences in birth and religion. It is clear, according to the author, that the Indians maintained their own ethnic classifications, which were not as hierarchical as the Spanish, and they often used language as the principle marker of identity.

The author summarizes three processes he observed while studying the formation of Indian identity, including: a reduction in the number of terms used to label local groups, the spatialization of identity, and modifications in Indian ethnic classifications. The author cites the emergence of more inclusive categories of ethnicity and a better understanding among the Spanish of native linguistics and cultural relationships as one cause of the decrease in the number of Indian groups reported in the historical documents. In the seventeenth and eighteenth centuries, the Spanish extended the term “Tarahumara” to include the Tarahumaras and other Indian groups as well. Today the Tarahumaras consider that name to be a Spanish imposition and call themselves Ralámuli, which has several levels of meaning described in the chapter. In the case of two groups, the Varohíos and the Guazapares, the Varohíos retained their identity, while the Guazapares lost theirs. The author believes that the relationship of their languages to the Tarahumara language was one reason for this disparity. The Guazapares’ language was much like the Tarahumaras’ language, so they were more easily assimilated under the general label of “Tarahumara” than the Varohíos, whose language was more distinct.

The Tarahumaras responded in a variety of ways to colonization, and their responses are reflected in the location of their communities. Groups who rejected the Spanish tended to live in remoter regions and were less affected. People who were active participants in the regional economy and were seen as having accepted the colonial culture lived in settlements near the missions and Spanish economic centers. However, both groups combined indigenous and introduced ideas and practices as they created their colonial period cultures.

For studies such as this one, the main source of evidence comes from historical documents. New data arises only when new documents or new interpretations of documents are discovered, Although the author notes that he has found no new information since the initial publication of this chapter, he explains how ethnohistorians work and why scholarship may change more slowly than in areas such as human evolution, where data and interpretations are constantly undergoing revision.

Discussion Questions

1) The author defines identity as who we think we are and who others think we are. In some cases, he also sees language as a key marker of identity. Do you agree with him?

2) Discuss what external factors might affect identity.

3) Discuss what kinds of changes a colonial system might introduce to native societies.

4) The term Ralámuli has several different levels of significance. What are they and how are they important?

5) Discuss how people's attitudes towards colonization are related to their geographic location.

6) The author indicates that most of his information in this study came from historical documents. How might new data be discovered today?

Essay Questions

1) What are the three processes of Indian identity formation discussed in the chapter, and how do they help us better understand their changing identity during the Spanish colonization period?

2) How was the Spanish concept of identity constructed? What factors did they use to differentiate people, and how does it differ from the Indian's concept of identity?

Short Answer Questions

1) What is the difference between Tarahumara and Ralámuli?

2) How were Indian schemes of ethnic classification modified?

3) Why did the Spanish begin to use fewer terms to label local groups?

4) What differences do the terms "good Christian" and "bad Christian" denote in the Spanish classification of the Indians? Can you interpret the cartoon in the chapter?

5) Who were the "castes?"

Glossary

Castes: categories in the Spanish classification system which denoted people of mixed Indian, European, and African genetic heritage.
Colonization: the extension of control over a new territory and its inhabitants, usually accompanied by establishing settlements of emigrants there.
Gente de Razón: the term used to collectively refer to people of mixed genetic heritage who were able to speak Spanish.
Identity: the set of behavioral or personal characteristics by which an individual is recognizable as a member of a group.
Ralámuli: the modern name for the Tarahumaras, which was changed due to its association with Spanish colonization.

Whose Past is it Anyway? Chapter 27
Plains Indian History
Loretta Fowler

Chapter Summary

The Gros Ventres and the Arapaho tribes at one point were a single people. Now, however, they are separate and culturally distinct. Fowler examines the complexity of the reservation society at Fort Belknap, shared by the Gros Ventres and the Assiniboines, using three different methodologies in order to better understand Plains Indian history.

The first methodology the author employs is ethnohistory. Ethnohistory is the interpretation of historical documents from an anthropological perspective. The author tried to examine every historical document about the Gros Ventres written in the past 200 years, including the field notes of previous anthropologists. This analysis demonstrated continuities in the Gros Ventre culture, such as the enemy-friend relationship. The Gros Ventres have always been known for their competitiveness. Their enemy-friend relationship is a form of competitive giving and thus reinforces sharing among the tribe. From her analysis of practices like this, the author concludes that cultural identity is based upon people's perceptions and interpretations of changing traditions.

The author's second methodology is cohort analysis, an approach developed by Karl Mannheim. Mannheim believed that people who are born within a particular time span often have shared experiences that significantly distinguish them from other cohorts in their society. The author identifies two different cohorts among the Gros Ventres: the elder and youth cohorts. The elder cohort experienced Gros Ventre ceremonial life at its heyday. They were encouraged to adopt the ways of non-Indians so as to be able to compete with them. The youth cohort did not experience this height of ceremonial life; rather, they participated in a national social movement to revive Indian culture.

The author also notes that within a cohort, people may experience life differently, thus forming generation units. The author determines there are two different generation units among the Gros Ventres: the education clique and the militants. The education clique consisted of young people who attended colleges and universities near the reservation. There, they created a sense of community by reviving such practices as the powwow. They also lobbied together for educational goals. The militants, however, went to school away from the reservation. They often went to cities, where they demonstrated for civil rights. The practice of powwowing illustrates the differences between the two units. To the education clique, the powwow represented a cultural revival and a chance to celebrate history and veterans. The militants, however, used the powwow to remember such events as the massacre of the Nez Perce and to protest United States Indian policy.

The third methodology, folk history, is the analysis of the stories people tell about their past. The Gros Ventres share the reservation with the Assiniboines, and a comparison of their stories illustrates how each views the past. The author's interest in folk history lies in the fact that it is an entry to contemporary symbols and their meanings. By combining these three different methods, the author believes it is possible to better understand the dynamics of cultural change.

In the update, Fowler summarizes the recent history of the Gros Ventres since the initial writing of this chapter. She also introduces the history of the Arapaho tribe so as to provide a comparison to the Gros Ventres. She believes such a comparison will provide a better understanding of how the culture and history of Plains Indians developed the way it has.

Discussion Questions

1) Why do you think it is important to employ more than one methodology when conducting a study of a people?

2) Describe the complexity of relationships among the two tribes inhabiting Fort Belknap.

3) Why do you think the author chose to examine historical documents from only the past 200 years?

4) Do you agree with the author that cultural identity hinges on the interpretation of changing traditions? What else might create a cultural identity?

5) Discuss the different roles of the powwow. How did it change for different generation units?

6) How can different interpretations of folk history stimulate flexibility, maneuverability, and creativity among the Gros Ventres and the Assiniboines?

Essay Questions

1) Compare and contrast the two different cohorts, the elder and the youth cohort, among the Gros Ventres. How did the tribe's experiences and world circumstances affect the values of each cohort?

2) The author employs three different methodologies in her study of the Plains Indian history. What are they? How are they conducted? What are the limitations and benefits of each?

Short Answer Questions

1) Describe the main differences between the education and militant cliques.

2) How is the Arapaho history beneficial to understanding Gros Ventre history?

3) What is a generation unit?

4) How has the recent history of the Gros Ventres affected the tribe?

5) How is the combination of the three methods useful in understanding the dynamics of cultural change?

Glossary

Cohort Analysis: the idea, developed by sociologist Karl Mannheim, that people who are born within a particular time span often have shared experiences that significantly distinguish them from other groups in their society.
Ethnohistory: the use of historical information to study cultural development.
Folk History: the analysis of the stories people tell about their past.
Powwow: a council or meeting of Native Americans, often involving the performance of rituals.
Reservation: a tract of public land set aside by the U.S. government for some special use; for example, Indian reservations set aside to be used by Indians.

Native Americans and Smithsonian Research Chapter 28
JoAllyn Archambault and William C. Sturtevant

Chapter Summary

The Smithsonian Institution was founded on August 10, 1846, and very early became a leader in anthropological research. The Smithsonian acted as a repository for both contemporary and archaeological Native American collections and works of art. In 1879 the Bureau of American Ethnology was founded, resulting in many publications on the cultures, languages, prehistory, and history of Native Americans.

Indian participation in Indian research is crucial, especially in publications about languages, history, and social relations. Indian participation, according to the authors, includes both writing publications and offering data about cultures, languages, and history. Since the initial founding of the Smithsonian, the anthropology department has incorporated Native Americans into its staff and worked with Native Americans as writers and consultants, as in the case of the *Handbook of North American Indians*.

In the past, Smithsonian anthropologists acted as pioneers for Native American rights. The chapter discusses both Frank Hamilton Cushing and James Mooney as good examples of anthropologists attempting to pass on their knowledge of Native Americans to combat prejudices.

Other anthropologists have aided in the understanding of Native American cultures and history. C.C. Royce, for example, mapped Native American lands, and John C. Ewers wrote the standard text used in Blackfeet Indian schools to teach Blackfeet history. The testimonies of anthropologists have also helped in court cases about Native land rights. The Arctic studies center has produced many exhibits on Arctic history, several of which have traveled to remote parts of Alaska and Siberia, increasing the understanding of early Arctic history among descendant populations.

The American Indian program in the Department of Anthropology was founded in 1986 to coordinate and increase Native American involvement with the department. The program provides outreach programs, encourages research, and offers technical assistance to tribal museums and cultural programs.

In the update to this chapter, the authors discuss ways the anthropology department has helped strengthen collegial relationships with various Native American peoples and scholars. The Paleoindian program offers archaeological experiences to community members. Since the initial publication of this chapter, the Arctic Studies Center has created two exhibits on the native people of Alaska and Japan. The American Indian program has sponsored public workshops by master craftsmen from South Dakota and Oklahoma and worked with tribes of Oregon and Washington.

Discussion Questions
1) Why do you think Indian participation in research about Indians is important?

2) Why would archaeology and physical anthropology be less dependent on Indian contributions to their research?

3) Discuss how Smithsonian anthropologists assisted Native leaders in the movement for Native American Indian rights.

4) How could the testimony of Smithsonian anthropologists be helpful in court cases about Native American land rights?

5) Why is the archives program important to Native peoples?

6) Discuss the importance of the American Indian program's support to the Southwest Oregon Research Project.

Essay Questions
1) Indian participation in Indian research is critical. Anthropologists, however, also play an important role. Who were some of the more influential anthropologists mentioned in the article, and what were their significant contributions to the understanding and preserving of Native American culture?

2) In the update, the authors discuss how Smithsonian anthropologists have helped strengthen collegial relationships with Indian peoples and scholars. What are some of the ways they have done this? Do you think it is more effective to give opportunities to individual Native people or to create traveling exhibits about Native culture? What does each approach offer?

Short Answer Questions
1) What is the Smithsonian American Indian program?

2) What is the Southwest Oregon Research program?

3) Who was John Wesley Powell?

4) Describe Robert Laughlin's virtual exhibit.

5) What is the Smithsonian's Arctic Studies Program? The Paleoindian Program?

Glossary
Archive: a collection containing records, documents, or other materials of historical or anthropological interest.
Linguist: a professional who studies human speech and language in their various aspects.

Participant Observation: a methodology used in the study of cultural anthropology in which the researcher spends a prolonged period of time participating with and observing subjects in their natural setting.
Repository: a place where things can be deposited for safekeeping.
Syllabary: a writing system whose characters represent syllables.

The Silk Road: Chapter 29
A Global Cultural Economy
Richard Kurin

Chapter Summary

The Silk Road, a network of ancient trade routes, spanned the Asian continent and formed a global economy for thousands of years. In the east these routes ran to Japan and in the west to Turkey and Italy. The Silk Road serves as a symbol of a complex cultural exchange made possible by the network of thousands of miles of land and sea routes. These routes were often treacherous but the value of the goods made them crucial.

Silk is produced from the secretion of a certain kind of caterpillar. The secretion dries into a filament, making a cocoon. The exact process of producing silk is described in detail in the chapter.

There are three main periods of intensive use of the Silk Road which historians agree on. The first period lasted from 206 B.C. until A.D. 220. It included trade between the Ancient Chinese Han Dynasty and Central Asia with Rome and Egypt. Silk during this period was a medium of exchange, much like a form of money. The Chinese highly guarded their silk production practices; and though the Romans greatly valued silk, they were never able to produce it themselves. Roman glass, asbestos, amber, and red coral made it back to China.

The second period lasted from A.D. 618 until 907. It included China during the Tang dynasty, Central Asia, Byzantium, the Arab Umayyad and Abbasid empires, the Sassanian Persian empire, and India. This period also coincided with the spread of Buddhism and the expansion of Islam. During this period silk production spread to the west, though it is unclear exactly how. It was not only silk and other objects which spread through these channels, but ideas as well.

The third period occurred in the thirteenth and fourteenth centuries between China, Central Asia, Persia, India, and early modern Europe. The Mongols controlled most of the silk routes at this time. The Christian crusades and Moorish influence in Spain brought Europe back in contact with the East after the Middle Ages. During this time, Marco Polo traveled across Asia in 24 years, and his exploits rekindled interest in the East.

Through Arab scholars, Europeans gained new knowledge about such things as astronomy, as well as regaining some of the lost knowledge of the Greeks and Romans which had been translated into Arabic. The thirteenth and fourteenth centuries were full of political, commercial, and religious competition. Silk was not the primary commodity of trade at this time; instead, such things as pearls, spice, and ceramics were popular. In the fifteenth century, commercial trade and competition became so important that people began to search for sea routes between Europe and Asia.

Through time, Europeans developed their own silk industry and attempted to grow silk in the New World. By the mid-1800s silk weaving became industrialized through the invention of looms and synthetic dying processes in factories. Raw silk was sent from Japan to Paterson, New Jersey, which became the "American Silk City."

There are many stories that came out of the Silk Road. The author uses the histories of porcelain, musical instruments, paper, and the sport of polo to illustrate the influence of the Silk Road. The Silk Road today is in an area of continual political change and economic uncertainty. New nations are increasingly having to face dilemmas as to how to preserve their history.

Discussion Questions
1) Why do you think that the Chinese guarded their silk production methods so closely?

2) As described by Kurin, how is silk produced?

3) Why do you think Roman senators forbade men to wear silk? How did the Pax Romana aid in the silk trade?

4) Why do you think the spread of Buddhism and the expansion of Islam coincided with the second phase of the Silk Road?

5) How did the Silk Road spur on the Renaissance?

6) Why is the traveling of Marco Polo significant?

Essay Questions
1) How has silk affected political and economic relations? How has it shaped world history?

2) Describe the modern day problems facing the cultures along the Silk Road.

Short Answer Questions
1) When were the three intense phases of the Silk Road, and what were some of their significant features?

2) What is the "American Silk City?"

3) What is the history of polo?

4) How did the Silk Road get its name?

Glossary
Byzantium: an ancient city on the site of present-day Istanbul, Turkey.

Ottoman Empire: a vast Turkish sultanate of southwest Asia, northeast Africa, and southeast Europe.
Porcelain: a hard, white, translucent ceramic made by firing a pure clay and then glazing it with variously colored fusible materials; china.
Roman Empire: an empire that succeeded the Roman Republic and lasted until 476; at its greatest extent, it encompassed territories stretching from Britain and Germany to North Africa and the Persian Gulf.

Silk: a valuable lustrous fiber produced from the cocoons of certain insect larvae.

Refugees: Chapter 30
Worldwide Displacement and International Response
Stephen C. Lubkemann

Chapter Summary

In 1951 the United Nations defined a refugee as an "individual who is outside his or her own country and is unable to return as a result of a well-founded fear of persecution on grounds of race, religion, nationality, political opinion, or membership of a social group." Refugees, according to the UN, have rights: they are allowed safe asylum, an education, medical care, and protection from repatriation. Many refugees, however, do not fit into the categories created by the definition and as a result do not qualify for refugee rights.

Refugees are created by difficult, traumatizing conditions. In some countries, these conditions have been occurring for so long that they are now accepted as facts of life. The author discusses how anthropologists should examine the affects of displacement on various dimensions of social life, social change, and international security.

There are both involuntary and voluntary migrants. An involuntary migrant is a person who is displaced for political reasons, while a voluntary migrant leaves for economic reasons. Voluntary migrants have often not been regarded as refugees, but are increasingly being viewed as such. Causes of population displacement include the detrimental effects of war on the environment, ethnic rivalry and nationalism, development initiatives, structural adjustments resulting from economic policies, and environmental degradation.

One of the outcomes of displacement is the forging of socio-political consciousness and political identity, as in the case of the Palestinians. Massive population movements can affect the political stability of a country by changing its ethnic composition. These impacts tend to be even more noticeable when the refugees remain in camps and are not incorporated into the larger society.

Self-settled refugees are difficult to study due to their fear of being deported and their subsequent hiding from authorities. Anthropologists have pioneered work on self-settled refugees, becoming advocates for them. Anthropologists have also examined how displacement can become a highly gendered process, affecting the gender distribution of labor, and the relationship and roles of men and women. The trauma of displacement can make the adaptation to a new culture difficult. Anthropologists have demonstrated how cultural beliefs and practices are directly related to how well a person copes with displacement.

Lubkemann's own research also focuses on how social, cultural, economic, and political factors shape the practices of humanitarian organizations and the relationships among these various organizations.

There is an increasing trend in the West to become more restrictive in granting asylum. Some countries prefer to only offer temporary relief without granting "conventional refugee" status, with its resultant rights. These policies, according to the author, though stricter, are increasing rather than decreasing the number of illegal entries into Western countries.

The author concludes the chapter with a discussion of non-governmental organizations (NGOs) and humanitarian action. Lubkemann believes that NGOs have played a pivotal role in the organizing and providing of assistance to displaced and war affected people worldwide. Humanitarian action, however, is often more concerned with money and publicity. They often make decisions which do not create long-term solutions, thus creating further problems over time.

Discussion Questions

1) Why do you think the emergence of "total warfare" has increased the number of refugees in the world?

2) How would you change the UN definition of a refugee to encompass more people?

3) How has the author's work in Mozambique supported the arguments he makes in the article?

4) Why do you think humanitarian action groups tend to be more focused on money and publicity than other groups?

5) How has forced migration led to some cultures gaining a stronger political and cultural identity?

6) Discuss how massive population movements can change the political makeup of a country.

Essay Questions

1) Discuss the difference between a voluntary and involuntary migrant. Do you agree with the author that they are both, in fact, involuntary? What rights can each expect to have?

2) How does migration effect and change gendered jobs and relationships? What evidence does the author use to support his assertions? How might such changes be helpful to individual men and women?

Short Answer Questions

1) Describe why it is more harmful for refugees to remain in camps and not be integrated into the larger society.

2) What is a self-settled refugee?

3) How have anthropologists been able to study self-settled refugees?

4) What is the UNHCR?

5) What is the difference between and an NGO and a humanitarian action group?

Glossary

Draconian: exceedingly harsh, very severe.
Ethnic Cleansing: the systematic elimination of an ethnic group from a region or society, as by deportation, forced emigration, or genocide.
Humanitarian: one who is devoted to the promotion of human welfare and the advancement of social reforms.
Migration: movement of a group from one locality or place to another.
Refugee: as defined by the United Nations, an individual who is outside his or her own country and is unable to return as a result of a well-founded fear of persecution on grounds of race, religion, nationality, political opinion, or membership of a social group.

Linguistic Survival Among the Maya Chapter 31
Robert M. Laughlin

Chapter Summary

The author of this chapter began his study of today's indigenous Maya culture in 1959 as a member of the Harvard Chiapas project. During this time he collaborated with several Maya and began a collection of folktales and dreams to supplement the vocabulary in the only rudimentary dictionary of the Tzotzil language available at that time. By 1973 Laughlin had published *The Great Tzotzil Dictionary of San Lorenzo Zinacantán*. Since that time, Laughlin has also published collections of folktales and dreams, as well as two bilingual booklets on history, oral history, and customs. He has also helped establish a puppet theater, a live theater, and a weekly Tzotzil-Tzeltal radio program.

Laughlin, with the help of Maya friends, began a literacy program for the Maya. The program is in great demand. In the beginning of the program, there was debate whether to allow women into the classes, as some believed it was improper for men and women to be together in the evenings when classes were taught.

In the years since its founding, the program has awarded over 500 diplomas. Several of the creative writing pieces produced by the program's students have been published. The author lists several reasons that people join the program: they want to improve their Spanish through translation exercises, they want to learn, they see the class as making them smarter, and they want to appreciate their own traditions. The program has received much recognition, and the Maya society has benefited as a consequence.

In the 2004 update the author lists the accomplishments of the program since the 1998 edition of the book. There have been several publications of Maya writings, as well as Maya plays produced. By 2004, over 5500 people had received diplomas from the literacy project in both Tzotzil and Tzeltal. Laughlin's story of anthropology in action is an inspiring example of what one anthropologist has been able to give back to the people he chose to spend his life studying and with whom he has collaborated on many productive projects.

Discussion Questions

1) Why was it important to compile a dictionary of Maya languages?

2) How did studying folktales and dreams help create the dictionary?

3) Discuss the difficulties of reconstructing a language.

4) Why do you think theater has played such a role in teaching the Maya language? Why was starting a puppet theater such a clever way to begin?

5) Discuss the hesitations of allowing women to participate in the class.

6) In his update the author lists many accomplishments of the program. Which ones do you feel are the most significant, and why?

Essay Questions
1) Why is preserving language a key to preserving a culture? How has Laughlin's work contributed to cultural preservation among the Maya today?

2) Why it is helpful to the Maya students to record their personal and family history, as well as to produce creative writing samples?

Short Answer Questions
1) What topics does the literacy program focus on primarily?

2) The author lists some of the incentives for participating in the program. What are they, and how does participation achieve them?

3) How has the program brought Maya society recognition?

4) How has the economic crisis of Mexico been a problem for the program?

Glossary
Folktale: a story or legend forming part of an oral tradition.
Linguistics: the study of the nature, structure, and variation of language, including phonetics, phonology, morphology, syntax, semantics, sociolinguistics, and pragmatics.
Literacy: the ability to read and write.
Maya: Mesoamerican Indian people inhabiting southeast Mexico, Guatemala, and Belize, whose civilization reached its height around A.D. 300-900.
Oral History: information about past events obtained in interviews with persons having firsthand knowledge, or history passed down from generation to generation.

From Tattoo to Piercing: Chapter 32
Body Art as Visual Language
Enid Schildkrout and Adrienne L. Kaeppler

Chapter Summary

Body art is an ancient practice used to convey status and accomplishments, as well as to encode memories, desires, and life histories. As body art moves across cultural boundaries, it tends to lose its initial meaning, and take on new meanings in new cultural contexts. This chapter is divided into two sections: "Body Art as Visual Language" by Enid Schildkrout and "Tattooed Beauty: A Pacific Case Study" by Adrienne L. Kaeppler. In the first section, Schildkrout discusses the various forms of body art and their varying significance.

According to Schildkrout, body art encompasses both permanent forms and also semi-permanent and non-permanent practices. The author indicates that often, though not always, a permanent mark indicates an irreversible change or life passage, while a non-permanent mark denotes a more fleeting moment or fashion.

Schildkrout summarizes several different body art techniques. Body painting is the most ephemeral and flexible form; it offers the greatest potential for transformation. Often the colors hold significance. Makeup consists of paint, powders, and dyes which are used to enhance or transform a person's appearance. Hair, one of the more obvious parts of the body, can be changed, and often hairstyles and colors can hold symbolic and ritual significance.

Body shaping usually falls under the category of permanent changes and can include skull shaping, neck elongation, and plastic surgery. It is more common to shape women's bodies.

Scarification, otherwise called cicatrisation, gives the skin texture by cutting the skin and controlling the healing process. Clay, ash, and other materials can be inserted into the wound, producing permanent coloration and wheals or bumps called keloids. Branding is another form of scarification.

Tattooing is the insertion of ink or other pigments through the outer layer of skin, the epidermis, and into the dermis, the deeper skin. Only recently have people been able to remove tattoos. Tattoos can be read both as a commitment to a group or as an individual statement.

Piercing is the long term insertion of an object through the skin in a way that permits healing around the opening. People are most commonly pierced through the soft tissues in their face, but the piercing of other parts of the body has also been known from ancient times to the present.

The concept of beauty varies from culture to culture, but is usually in some way associated with a healthy body. The author offers many different examples of beauty in different cultures. Body art can allow people to reinvent themselves as beautiful.

In the second section of this chapter, Kaeppler examines tattooing in a case study of Pacific cultures. She describes the different practices of the Marquesas, the M_ori, the Hawaiians, and the Micronesians. By analyzing these different cultures, Kaeppler illustrates the similarities and differences among the different practices used in tattooing, and the different social meanings tattoos hold among cultures.

Kaeppler concludes her section by discussing contemporary tattoos. In the cultures she first examined, tattoos were used to indicate the status of a person within a group; in the contemporary global society, tattoos draw from various traditions and tend to indicate individuality. In contemporary society, according to Kaeppler, the practice of tattooing has gone from crude to artistic.

Discussion Questions

1) Discuss the various forms that body art takes, and what it can convey. For example, how can it be used to encode memories and desires, or express status, cultural identity, or individuality?

2) How can body art be misunderstood? Do you think our culture has a cultural prejudice against body art? Can you cite any personal evidence for this prejudice?

3) What can the depictions of body art reveal about the person who designed the art? What do they reveal about the person bearing the body art?

4) Why do you think men and women of Pacific cultures were often tattooed in a number of different areas of their body? How was tattoo encoding cultural beliefs?

5) Why do you think people often get body art at vulnerable moments in their lives, such as during periods of mourning?

6) How have tattoos undergone a revolution in their popularity and in the way they are received? What other kinds of body art are increasingly prevalent today?

Essay Questions

1) What are the various forms of body art listed in the first section of this chapter? How are they similar and different, and what are some examples of how they are used?

2) In the second section the author provides four examples of tattoo in the Pacific. How is tattooing culturally significant in these cultures? Why do you think she chose these cultures as a case study?

Short Answer Questions

1) Describe the way in which the Marquesas divide the body in preparation for the tattoo.

2) Where do the M_ori most often tattoo themselves?

3) What are some of the functions of body art?

4) What role can tattooing play in religion?

5) How is scarification created in traditional African societies, and why did it often occur during "coming of age" rituals?

Glossary

Keloid: bump or wheal produced by intentional insertion of clay, ash, or other materials into a cut.
Makeup: paint, powder, or dye used to enhance or transform one's appearance.
Piercing: the insertion of an object through the skin in a way that permits healing around the opening, most commonly in the soft tissues of the face; the making of an opening in order to wear an object.
Tattoo: the insertion of pigment through the skin.
Scarification: the cutting of the skin and the subsequent controlling of healing so as to give the skin texture; cicatrisation.

Medicine, Law, Education: Chapter 33
Applied Linguistics
P. Ann Kaupp and Roger W. Shuy

Chapter Summary

The fields of medicine, law, and education all have need for specialized communication and have been the subject of applied linguistic analysis. Recently there has been a shift in linguistics towards examining communication behavior and its relationship to the culture as a whole. This has spawned several subfields: sociolinguistics, the study of language and its relationship to social setting; psycholinguistics, the study of how language is learned, produced, and understood; and applied linguistics, the application of linguistic studies to real problems.

Roger Shuy, a linguist, regards the conversations between patients and their doctors as being particularly significant. The medical profession, in fact, believes that 95 percent of successful treatment comes from the ability of the physician to elicit accurate information from the patient. The way in which a doctor asks a patient a question can be misleading or can induce inadequate answers. Shuy researched cross-cultural communication problems occurring between black, inner-city patients and their physicians. His taped interviews depicted the patients as attempting to learn the jargon of the doctors, but the doctors making little attempt to communicate better with their patients. Shuy asserts that more research is needed in this field.

Language and its relationship to law can be divided into two categories: language in the courtroom and language used as evidence. The study of language in the courtroom can range widely, with topics including the perceptions and evaluations of the jurors; the language of the witnesses, judges, attorneys, and defendants; and the language of questioning, jury instructions, the constitutional rights of defendants, and the competence of interpreters.

An examination of language used as evidence showed that primary evidence such as audiotape or video records were more persuasive than the secondary evidence of witnesses. The problem with audiotape, however, is that it fails to provide context to the situation, such as the positions of the speakers. Videotape is slightly better, but still can be misleading due to factors such as quality and perspective. Because of this, linguists are often essential in deciphering tape-recorded evidence.

In the past there has been a preoccupation in the field of education with language forms rather than language functions. It has been proven that the ways in which people use language to accomplish tasks is more complex than simply the mastering of grammar. There is a non-holistic tradition among teachers to focus more on the form of language than the function. However, some experiments with ESL classes (English as a second language) and beginning literacy demonstrate that it is better to learn function first and then form, rather than the reverse.

Large classes have also been shown to be detrimental to language learning. Dialogue is considered the natural way of learning language, starting with the dialogue between parents and children. Large classes inhibit this formative dialogue. As a result many teachers have developed dialogue journals, attempting to return dialogue to the classrooms. Research has proven that teachers in an elementary classroom tend to talk 95 percent of the time, while in dialogue journals their role in communication is cut by half, giving an advantage to students. In the classroom teachers tend to ask test-type questions, while in the journals, their questions are directed towards gaining information and spurring conversation. The dialogue journal also gives the students a chance to complain, an important function of language.

Other studies of language in the classroom have shown that often the genders are treated differently. Shuy examined the male-female classroom responses in a high school class led by former Secretary of Education William Bennett. He discovered that males tended to respond more frequently than females and that they were less likely to be interrupted. Roger Shuy questions if teachers, especially male ones, do not tend to challenge female students more often than males ones, and vice versa.

In the update written by Shuy, he notes that linguistic studies in these fields have continued to grow. In contemporary linguistic theory, there is now a divide between the generativists' focus on forms, universals, and the mind, and the functionalists' focus on the study of language holistically, taking into account its variability, conveyed meaning, and discourse structure. Shuy also notes that there has been a shift in linguistic interest in education from native speaker problems to the problems of learning English as a second language. There has been less of an impact on the medical field, though some schools, especially nursing schools, are offering courses in communicative strategies. There has been much interest in the field of law concerning linguistics, and several books have been published about it. The most popular area of study, though, is gender studies. There has been a movement to better understand language in relationships and the work place, among other things. Shuy, however, laments that the field of applied linguistics is not as holistic as he would like to see it.

Discussion Questions

1) What do the fields of medicine, law, and education have in common linguistically?

2) Why do you think anthropological linguistics is shifting towards looking at communication behavior and its relationship to the culture, including communication styles of men and women?

3) How could a doctor sway a patient using language? Why do you think there are communication problems between black, inner-city patients and their doctors?

4) Why do you think females elicit different teacher responses than males in the classrooms? Have you witnessed any evidence for this? If true, what impact might this have on female students?

Essay Questions

1) As an attempt to bring dialogue back to the classroom, teachers have developed dialogue journals. Using the excerpts in the text, do you think they are an effective solution to the problem? Is written dialogue as important as spoken?

2) Discuss why it is better for ESL classes to learn function first, then form. Support your answer with evidence from the article.

Short Answer Questions

1) What is applied linguistics? What areas does this chapter focus on to explain applied work?

2) What are the benefits and drawbacks of tape recorded and video recorded evidence? What other ways are linguists helpful in courtroom settings?

3) What is the difference between narrative testimony and fragmented testimony? In what ways do they elicit different responses in men and women?

4) Why do you think the word "smashed" got a different response than "hit" in the minds of jurors?

5) In 2003, a new examination in communication behavior was established for licensing doctors. Based on what you learned from this chapter, do you think this new requirement is a good idea. Why or why not?

Glossary

Applied Linguistics: the application of studies of linguistics to real life problems.
Linguistics: the study of the nature, structure, and variation of language, including phonetics, phonology, morphology, syntax, semantics, sociolinguistics, and pragmatics.
Narrative Testimony: courtroom evidence in which the witness is permitted to respond at length with considerable freedom.
Psycholinguistics: the study of the structure and use of language, how it is learned, produced, and understood.
Sociolinguistics: the study of the structure and use of language as it relates to a social setting.

The Repatriation Mandate: Chapter 34
A Clash of World Views
Tamara L. Bray

Chapter Summary

Repatriation is the legislatively mandated return of human remains and specific categories of cultural items housed in museums and other institutions to culturally affiliated Native American groups. In most repatriation cases, it is human remains that are repatriated for purposes of reburial. Other items that might be returned include funerary articles, which are defined as any item believed to have been intentionally placed with an individual at the time of death as part of a death rite or cultural ceremony; sacred objects, which are specific ceremonial articles that are needed by traditional Native American leaders for the practice of traditional religion; and items of cultural patrimony, which are understood to be communally owned cultural property that has on-going historical, traditional, or cultural importance to a Native American group. Repatriation is an important issue for both Native peoples and Museums since the materials being repatriated are of central importance to both.

The repatriation movement has its roots in the civil rights movement of the 1960s. In 1974 the American Indians Against Desecration (AIAD) was founded to put political pressure on the government for the return and reburial of Native American remains. The first piece of repatriation legislation was the National Museum of the American Indian Act, which was passed in 1989. This Act established the new Smithsonian National Museum of the American Indian (NMAI). It also required an inventory of the collections of all human remains and funerary items housed in the Smithsonian's National Museum of Natural History, and called for the return of such items if cultural affiliation could be established. Subsequently, in 1990, the Native American Graves Protection and Repatriation Act (NAGPRA) was passed. This Act extended the initial repatriation legislation to encompass all institutions, agencies, and museums housing Native American collections, and extended the scope of the law to include sacred objects and objects of cultural patrimony as well as human remains and funerary objects. These were important pieces of legislation because they acknowledged that scientific rights do not automatically take precedence over religious rights.

For Native Americans the main issue of repatriation is that the reburying of ancestral skeletal remains should take precedence over the archaeologists' and physical anthropologists' interests in preserving and studying them. They see such research and the continued preservation of such materials in museums as perpetuating stereotypes about Native American peoples. Many believe that collecting and studying the bones of their ancestors is a racist practice and they would like the power to control how their past is portrayed. Many scientists, on the other hand, view the act of repatriation and reburial as going against the fundamental principles of science, which have to do with the preservation and increase of knowledge. They view these remains and objects as comprising a part of a heritage which is shared by all Americans, not just Native Americans. They see themselves as the ones who preserved and should continue to preserve this heritage.

The author concludes that, though it is still a very sensitive issue, the repatriation movement has been a step in the right direction towards improving relations between anthropologists and Native Americans. The legislative mandates have opened up a new space for dialogue between Native peoples and museum professionals that has created new lines of communication and begun to lay the foundations for more collaborative undertakings.

Discussion Questions

1) What is repatriation? Summarize briefly the history of the repatriation movement.

2) Why are human remains the subject of most repatriation claims? What other types of objects are subject to repatriation?

3) Why do you think additional repatriation legislation was added to include sacred objects and cultural patrimony?

4) Why do you think the repatriation movement had its beginnings in the civil rights movement?

5) Why do you think it took so long to get repatriation legislation passed?

6) Discuss the meaning of the chapter title. Does repatriation contradict basic principles of science? On what issues of repatriation might physical anthropologists and archaeologists differ from most Native Americans?

Essay Questions

1) Discuss the positive outcomes of the repatriation movement. How has the argument over the repatriation of objects increased communication between anthropologists and Native Americans?

2) The author attempts to present both sides of the argument about repatriation. Do you think she is unbiased, and if not, which side do you think she is more likely to take?

Short Answer Questions

1) Does a funerary object denote certain types of objects, or can anything be a funerary object?

2) What constitutes a sacred object?

3) What determines an object of cultural patrimony?

4) How would you define repatriation?

Glossary

Cultural Patrimony: communally owned cultural property that has an on-going historical, traditional, or cultural importance central to a Native American group.
Epistemology: the branch of philosophy that studies the nature of knowledge, its presuppositions and foundations, and its extent and validity.

Funerary Object: an item believed to have been intentionally placed with an individual at the time of burial as part of a death rite or cultural ceremony.
Repatriation: legislatively mandated return of human remains and specific categories of cultural items housed in museums and other institutions to culturally affiliated Native American groups.
Sacred Object: specific ceremonial artifacts needed by traditional Native American leaders for the practice of traditional religion.

Museums and Repatriation: Chapter 35
One Case Study
William T. Billeck

Chapter Summary

In 1868, a Cheyenne child died and was laid on a burial scaffold with offerings and remembrances. The Cheyenne tribe, however, was on the run from the United States Army. When the Army came upon the burial, the soldiers removed the body, offerings, and remembrances and sent them to the Army Medical Museum in Washington, D.C. The remains were lost, but the burial frame and grave objects were eventually given to the National Museum of Natural History. Laws were passed by Congress in 1989 and 1990 stating that museums must return such funerary objects when requested through the process of repatriation. By the end of 1993 the National Museum of Natural History (NMNH) had returned the skeletal remains of over 30 Cheyenne to the tribe, eliciting wide media coverage. However, the tribe decided to leave the 1868 funerary objects with the museum so these objects could not be reburied. Tribal leaders plan to develop an exhibit with museum staff to highlight these traditional Cheyenne objects and explain their significance.

The Smithsonian Institution created an office of repatriation at the National Museum of Natural History in 1991. This office gathers information on the museum's holdings and sends it to tribes. A tribe interested in repatriation must submit a claim for human remains and objects. These remains or objects are examined by the repatriation office to determine if they are affiliated with the tribe. The research is based on biological, geographical, historical (written and oral), genealogical, archaeological, linguistic, folkloric, ethnological, and archival evidence. In order for a return to take place, the human remains must be shown to be culturally affiliated with the requesting tribe, and the objects must either be sacred, funerary, or objects of cultural patrimony.

The remains of 3600 people and thousands of objects have to date been offered to 84 tribes. 3300 remains have been returned to 48 tribes. A large number of objects have also been returned, based on the requirements set by Congress. The Repatriation office has had over 250 visits from tribal representatives, 64 of which were sponsored by a grant from the Smithsonian's Repatriation Review Committee, an independent, Congressionally-mandated group of seven members. During these visits several tribal representatives have shown concern about some of the ways in which sacred, religious, and ceremonial objects are stored. As a result of these concerns, the museum now incorporates traditional care into their storage facilities.

Most repatriation claims have been for human remains acquired through archaeological expeditions. For some historic period human remains, the names of the individuals are known. Historic period human remains were also taken from battlefields and cemeteries by Army medical staff and given to the Army Medical Museum.

The author uses the well-known story of Ishi to illustrate the complexity of repatriation. Ishi was a Yana Indian from Northern California who worked with anthropologist Alfred Kroeber and lived his last years at the museum of the Anthropology Department of the University of California. When he died in 1916 his body was cremated, but his brain was saved. In 1999 Ishi's last remains were repatriated by the Smithsonian to descendants living among the Pit River Tribe and the Redding Rancheria Tribe in California.

The chapter focuses on the National Museum of Natural History's experience with repatriation, using case studies such as Ishi and also the Cheyenne who have shown great interest in how museum collections can shed light on their history and heritage. Almost all of the cases that the office has dealt with have led to the reburial of human remains and objects. The office and tribes work together to repatriate remains and cultural objects, but they also work together to preserve and educate others about Native American history and culture.

Discussion Questions

1) How are Native Americans and museums working together on repatriation?

2) Why do you think the Smithsonian makes such an effort to repatriate human remains and objects? How has the U.S. Congress helped make this happen?

3) Why did the Cheyenne not wish to take back the burial goods of the child? How will these objects help the Cheyenne tell their story in the future?

4) What are some of the ways that the Smithsonian assesses objects and skeletal remains to determine their origin and with which tribal group they are culturally affiliated?

Essay Questions

1) The Army Medical Museum collection is highly controversial. Explain why it is so controversial and whether the controversy is merited.

2) Repatriation cases have attracted a lot of media attention, especially in the case of Ishi. Explain why this is the case. What changes in American culture have made repatriation possible?

Short Answer Questions

1) Explain the process of repatriation. What steps must be gone through?

2) Why were the objects found with the Cheyenne child so valuable to the tribe? What did these objects reflect about the tribe in the past?

3) Why was there concern about how objects were being stored?

4) What was the solution for the storage of the buffalo skull, according to the chapter?

5) How have the relationships between Native Americans and tribes changed due to repatriation?

Glossary

Ethnology: the study that analyzes and compares human cultures in aspects such as social structure, language, religion, and technology; cultural anthropology.

Folklore: traditional customs, beliefs, dances, songs, tales, or sayings preserved orally and among a people or group.

Genealogy: a history of the descendants of a person, the study of family relationships and lineages.

Lineal Descendant: a descendant who can trace a genealogical relationship through an unbroken line of descent.

Repatriation: legislatively mandated return of human remains and specific categories of cultural items housed in museums and other institutions to culturally affiliated Native American groups.

Aging: Chapter 36
An Anthropological Perspective
Alison S. Brooks and Patricia Draper

Chapter Summary

Many societies today, both complex and traditional, are attempting to cope with problems of the elderly. Medical and technological advances have allowed for increased longevity. This article addresses a central question in anthropology: How does the human experience differ from one society or cultural tradition to another? The anthropologists involved in this study first had to grapple with the problem of which aspects of aging to compare. For example, in the United States the elderly value their independence, while in traditional societies, independence is not necessarily practical or desirable. Project A.G.E. (Age, Generation, and Experience) is a long-term project designed as a cross-cultural study of aging. Its goal is to stop Western ideas of aging from being imposed upon other societies.

Seven anthropologists were involved in the study at seven locations in five different cultures: the !Kung villages of Northwestern Botswana; the Herero, an agropastoralist village of Botswana; four neighborhoods in Hong Kong; Blessington, Ireland; Clifden Ireland; Swarthmore, Pennsylvania; and Momence, Illinois. These societies were chosen to maximize the diversity of the following variables: size, social complexity, economy, mobility, scale, and technology. The main purpose of the study was to discover how culture shapes the structuring of social roles.

The anthropologists spent seven weeks living in the societies before they began interviewing. Their interview questions were shaped so as to draw out the peoples' attitudes about aging. The questions were divided into five different categories: terminology and differentiation, transitions between age groups, feelings about age transitions, evaluative questions about the age groups, and past and future questions.

Anthropologists encountered problems while interviewing both the !Kung villagers and residents of Clifden, Ireland. Their questions confused, amused, and irritated the people. The !Kung found the process difficult because they do not generalize by age, but by personality, residence, sex, and health. They also do not count above three, and therefore could not comprehend questions dealing with numerical age. The anthropologists were unable to elicit the !Kung's feelings about aging, and even their way of questioning violated the rules of !Kung society.

Care of the elderly is a prominent issue among Americans, who tend to view their problems with the elderly as unique. There are more elders than ever before, many of whom live alone. American often assume that in other societies children live with and take care of their elderly parents, but this is not always the case. The village of Clifden has been greatly affected by the emigration of its youth, as a quarter of the population is elderly, more than in the American sites studied. Half of the elderly women are widowed, while almost half of the elderly men never married. As a result, many of the elderly lack a child living nearby. Among the

!Kung, many of the elderly have lost their children to disease and violence. Herero women tend to marry older men, so there is a high proportion of widows in the population.

In all the sites studied, the families provided the majority of economic and personal care for the elderly. The definition of what this care consists of, however, differs. In the United States the elderly expect to be financially independent, while in Ireland there is a state dole. There are certain behaviors in the United States which signify that a person cannot live alone; this is not the case in Clifden. Most elderly people do not drive in Clifden, though, and the society looks out for its elders. The !Kung villagers tend to receive both economic and physical care, and in Herero people belong to cattle-holding lineage groups that provide for their members.

Oddly enough the elderly in the United States seem to be happier than the youth. They have economic independence to a greater extent than many of those younger than themselves. The elderly Irish are also mostly happy, due perhaps to the security that the government dole and nearly free healthcare brings. Both the !Kung and Herero, however, had pessimistic views about aging. Modern life has lessened many of the hardships of old age, making it more agreeable in societies such as America.

The A.G.E. project has shown that living conditions, concerns, and the definition of the elderly is dependent on cultural values and societal variables. Each society has very different networks for giving care. In modern societies the physical effects of aging have been mitigated, but this is not the case in traditional societies, accounting for their more pessimistic outlook on aging.

In their update the authors note that Ireland's economy has greatly improved since entering the common market, and as a result emigration has lessened. The !Kung have had to deal with disease and drought, but the government has been offering some assistance. They are also dealing with a changing society around them and are attempting to hold onto their traditional culture. The most serious risk for them, however, is HIV/AIDS.

Discussion Questions

1) What has made old age unique to modern humans?

2) How would you compare your family's views about aging with those described in this chapter, both with respect to views in America but also in the other cultures as well.

3) Why do you think the elderly in the United States value independence? What does that tell you about American culture? In general, how do you think the elderly are treated in the United States?

4) Why is independence impractical in many traditional societies?

5) Why was it important for the anthropologists to live in the society for seven weeks before conducting their interviews?

6) What were the problems with interviewing the !Kung and the residents of Clifden as opposed to the other societies discussed in this chapter?

Essay Questions
1) Examine the five different types of questions and the variables being studied. Why was it important to have such a range of questions and variables? Do you think they were successful? Do you think the questions were leading?

2) How did the definition of care differ from society to society? What does that tell you about each society?

Short Answer Questions
1) Why is there such a high percentage of widows among the Herero?

2) How has modernization in Botswana and Namibia affected the !Kung?

3) How has entering into the common market affected Clifden, Ireland?

4) There are certain behaviors in America which indicate that a person can no longer live independently. What are some examples of these behaviors and do they carry the same indications in Clifden?

5) How did the study show that the American elderly are happier than the American youth and middle aged?

Glossary
Emigration: leaving one's natural home.
Feminization: the development of female characteristics; female dominance of an issue, profession, or idea.
Norm: a standard or principle serving to define common and acceptable behavior.
Salience: a physical prominence, striking point, or feature.
Urbanization: the state of gaining the characteristics of a city or urban area.

Selected Answers

Chapter 1

Discussion Questions

1) Why might the development of tools and language coincide in human evolution?
(They both demonstrate a way of problem solving: for tools, acquiring the desired things, and for language, communication.)

2) Why has it been so difficult to pinpoint the exact time language emerged?
(It is difficult to pinpoint the exact time when language emerged because it is hard to define what constitutes a language.)

3) How have experimenters attempted to solve the dilemma of whether the chimps are merely mimicking?
(Experimenters have attempted to resolve the issue of mimicking by developing Yerkish, a language of lexigrams on a computer, which eliminates the need for a human trainer.)

4) Why is the chimp's environment so important to language development?
(A chimp's environment is important because it provides interaction with other chimps who are also learning the language. In the case of Nim, who had an unstable environment, it was clear that he was not learning as quickly as other chimps.)

5) Discuss the ways in which Kanzi proves that he is using language and not mimicking.
(Kanzi proves that he is using language and not mimicking by the use of hand gestures, grammar, and asking for things he does not want immediately.)

6) In what context do wild monkeys demonstrate a basic use of language?
(Certain wild monkeys are known to have as many as four different calls that correspond to different predators.)

Essay Questions

1) The surrogate mother of Viki once wrote, "We said that if an ape had proper upbringing, it might learn to speak spontaneously. But we were wrong. You can dress an ape in the finest of finery, buy it a tricycle, and kiss it to death - but it will not learn to talk." How accurate do you think this statement is? Support your answer with case studies described in the article.
(While experiments with sign language, such as in the case with Washoe, can be questionable because the chimp could merely be mimicking, the fact that Kanzi began to learn language on his own and developed grammar would seem to prove that he had the ability to learn language, but not the required anatomy to speak.)

2) Critics of the experiments in this article claim that the chimps are not truly learning language but are mimicking. What could be the varying definitions of language, and how would that affect the case studies in the article?
(Students should explore whether they believe language is innate or acquired. If it is innate, than the experiment with Kanzi would support this theory, but if acquired, then the case studies with sign language could no longer be criticized.)

Short Answer Questions
1) Discuss the tool making experiment attempted with Kanzi. Do you think more was learned by his innovation or his inability to produce the flakes desired?
(While he never produced the desired tools, it is interesting that he showed such innovation in his attempts. Tthis shows a certain level of problem solving skills and creativity.)

2) Artificial languages remove the issue of mimicking, yet they are still criticized. What is the main source of criticism for artificial language use?
(The source of criticism is that they provide little or no social interaction.)

3) In what ways are chimps and bonobos different, as described in this chapter?
(They were once thought very similar, but bonobos demonstrate more ability at learning language and have radically different social behavior.)

4) Why is it so interesting that Kanzi began learning Yerkish on his own?
(It is interesting because it would seem to show that he had an innate ability for learning language.)

5) Why is it important that Ai can count from zero to nine and remember strings of up to five numbers?
(Her comprehension is very advanced; humans tend to only be able to remember up to seven numbers at a time.)

Selected Answers

Chapter 7

Discussion Questions

1) Formulate a situation or problem that might occur in the modern world in which a paleoanthropologist might be called to help.
(Situations such as the discovery of a body or cemetery are instances when a paleoanthropologist would be called to help.)

2) Why is the discovery that some slave communities had better nutrition than post-reconstruction African American communities a controversial finding?
(Information such as this could be misinterpreted to say that slavery was not an evil.)

3) The author provides a lot of case studies to prove her points, but what do you think are three main points of this article?
(The three main points or issues of this article are: what sort of information can be learned from bones, how can it be used, and what does that demonstrate about human behavior and history.)

4) How have new scientific technologies advanced the field of paleoanthropology?
(New scientific technologies have helped to advance the field of paleoanthropology by allowing paleoanthropologists to learn more things about bones. For example, DNA studies can prove what individual bones belonged to or to whom they were related.)

5) How can the study of ancient diseases shed light on modern ones?
(The study of ancient diseases can shed light on modern ones because it can help scientists better understand causes and patterns of infection and outbreak.)

6) How has the study of bones helped dispel cultural biases?
(A good example of this comes from Japan, where the Ainu people are generally discriminated against by the modern Japanese. The Ainu were believed to not have been descendants of the Jomon, from whom the Japanese claim ancestry. A DNA study proved, however, that the Ainu were the actual the Jomon descendants.)

Essay Questions

1) In the article the author quotes the phrase, "*hic locus est ubi mortui viventes docent*" (In this place, the dead teach the living). Using examples in the article, write an essay agreeing or disagreeing with this statement.
(Students should consider how the study of the dead teaches modern people such information as ancestry and the history of diseases and social organization.)

2) In the update the author mentions the irony that now that they have the ability to do DNA analysis, there has been a movement to repatriate the bones. Choose a side of the debate and argue its point, making sure to use evidence from the article, but also from the two later chapters about repatriation, authored by Bray and Billeck respectively.
(Students should consider whether it is more important to be respectful of a culture and its heritage than to learn about our ancestors and the information they can teach us.)

Short Answer Questions
1) Why is it important to look at more than one skeleton in a cemetery?
(It is important to look at multiple skeletons within a cemetery in order to understand the social relations of the community and its death patterns.)

2) What really happened to the Mohenjodaro people and what was believed before bones were examined?
(It was originally believed that the Mohenjodaro were conquered but new evidence shows that they really were eradicated by disease.)

3) What basic information can bones tell about a person?
(Bones can tell the sex of a person, the age, their nutrition and lifestyle, and how they died.)

4) What can be reconstructed from bones? What can bones tell anthropologists about the changes undergone by early human groups?
(The study of bones can reconstruct a society and its way of life. Bones are able to tell anthropologists if human groups underwent any major stresses in their life.)

5) What were the patterns of social organization in ancient Moundville, Alabama?
(The patterns of social organization in Moundville are: individuals used as trophies or sacrifices, an intermediate group of men and women, and a high status group of only men.)

Selected Answers

Chapter 8

Discussion Questions

1) Discuss how the changes in disease patterns mentioned in this article reflect the changes in human life through time.
(As humans began to live more sedentary lives, diseases which result from large concentrations, waste, and exposure to new environments became prevalent. When medical advances, such as immunization, happened in the second transition, infectious diseases, such as smallpox, declined, and chronic diseases, resulting from increased longevity, increased. In the third transition, because humans have modified their environment and are increasingly abusing antibiotics, infectious diseases are returning but with new resistance to drugs.)

2) Discuss the two different theories on the rate of fertility and mortality in prehistory discussed in the article. How do they differ and what problems arise because of each of them?
(One theory sees both fertility and mortality of prehistoric people to be at the maximum level. Another theory, though, asserts that there was only moderate fertility and mortality. After the agricultural revolution, there was large population growth. It is generally believed that people were better nourished and therefore mortality decreased, but infectious and nutritional diseases also increased.)

3) What were the two types of disease in the Paleolithic period and how were they introduced to humans?
(The two types of disease are the organisms which evolved with humans from their prehominid ancestors, and the zoonotic diseases which originated with animals but were transmitted to humans.)

4) Discuss how the agricultural revolution brought about the first epidemiological transition. For example, what role did the build-up of human waste, contaminated water supplies, and animal domestication play?
(The new sedentary lifestyle and the increased population density brought about the first epidemiological transition through population growth, exposing people to waste, and driving people to explore new environments.)

5) What insights about the second epidemiological transition can the study of third world countries reveal?
(As third world countries westernize, anthropologists are able to see how a culture which exists pre-industrialization shifts to agribusiness based economies, and the effects that this change has on the health of its people.)

6) What are some of the factors of the third epidemiological transition? What does the author mean by a "viral superhighway"?
(The third epidemiological transition was brought about by environmental changes and the overuse of antibiotics. The "viral superhighway" refers to the ability for people to travel anywhere in the world in hours and spread diseases between regions just as fast.)

Essay Questions
1) Compare and contrast the first and second epidemiological transition. What factors brought each of them about; are these factors similar or different? If they are similar, what can that tell us? If different, what changes in human lifestyle brought them about? Finally, how has the population size been affected by these epidemiological transitions?
(The first epidemiological transition was brought about by an increased sedentary lifestyle, an increase in population size, and an exposure to waste. The second epidemiological transition happened as a result of the eradication of certain infectious diseases and the fact that people are living longer.)

2) Describe the two forms of gathering data mentioned in the update. Considering the article as a whole, what can they tell anthropologists about disease pattern?
(Bioarchaeology offers evidence for disease patterns of morbidity and mortality in prehistoric times as reflected in ancient skeletal materials. The study of the genomic diversity of pathogens and parasites shows how diseases are related to their hosts and whther there is any pattern of infection. This article shows the relationship between disease patterns and human change. The authors use human change to illustrate three different major shifts in disease patterns. A change in disease patterns, however, could also be seen as highlighting a change in human lifestyle.)

Short Answer
1) How has pollution led to health concerns in more recent times? What are other health problems associated with urban areas?
(An increase in pollution has brought about the third epidemiological transition and an emergence of new diseases. The population density of an urban area is usually quite high. This allows for diseases to be spread quickly. The disposal of waste is also a problem in cities, and if not done properly, it can expose people to parasitic diseases.)

2) What are zoonotic diseases and from where are they introduced?
(Zoonotic diseases are diseases which developed in animals who then transmitted them to humans.)

3) How did syphilis change as a disease once it was introduced into the Old World?
(*Syphilis only became sexually transmitted after being introduced from the New World to the Old. Before then, it was endemic and not sexually transmitted.)*

4) What type of disease is obesity? How can lifestyle cause this disease?
(Obesity can be an indication of malnutrition and its main causes are a sedentary lifestyle and poor nutrition.)

5) What are the results of antibiotic abuse in more recent times?
(The results of antibiotic abuse are the emergence of diseases resistant to drugs.)

Selected Answers

Chapter 13

Discussion Questions

1) Do you think that human life is better off because of the agricultural revolution? Why or why not?
(*Teachers should encourage students to think about the pros and cons of the results of the agricultural revolution, such as urban centers and leisure time, and what advances these brought about. Also, changes in disease patterns and nutrition are significant)*

2) How can physical evidence from bones and seeds be used to reconstruct the way of life of an ancient society?
(The bones and seeds recovered can show precisely what a society consumed and to what degree they depended on different foods.)

3) The views on the Neolithic Revolution changed drastically from the beginning of the twentieth century to the 1960s and 1970s. Think about what was going on in the world during these times. How much of this change in views do you think is a product of anthropological research, and how much is it a product of the times?
(Discuss the growing awareness of environmental problems that came about in the mid-twentieth century, reflected in such important books as Rachel Carson's Silent Spring and such important figures as Ralph Nader. Also discuss the population problems at that time, for example the "baby boomer" generation, and over-population in Africa, India, and China. These modern concerns impacted scholars' views of the past.)

4) Examine the cartoon "Expulsion from Eden." What is the cartoonist trying to convey, and does he convey it accurately? Would you change it in any way and, if so, how?
(The cartoon conveys the change in opinion about the Neolithic Revolution by depicting a group of hunter-gatherers sending away a group of farmers whose lifestyle no longer fits with theirs. The cartoonist has cleverly labeled this "Expulsion from Eden?" to draw upon the debate over the value of the Neolithic Revolution.)

5) What evidence marks a sedentary lifestyle? A pastoral lifestyle?
(The existence or lack of building foundations, wall paintings, trade indicators, artistic and scientific remains, evidence of war, and writing would help identify a society as sedentary or pastoral, as well as evidence from seeds and bones.)

Essay Questions

1) A pastoral society and an agricultural society represent two different ways of life. Using the evidence presented in the article, compare and contrast these two societies with respect to how the people in each society would have lived, survived, and functioned. Is one type of society more likely to leave a record of its existence than the other, and if so why?
(Consider the importance of staying in one place versus moving around, producing to a certain extent one's own food versus relying completely on nature, coping better with natural elements versus being at nature's mercy, and living in small groups versus a more complex society.)

2) Do you think that the case study and evidence presented in this article effectively resolve the debate about the value of the Neolithic Revolution? Use evidence from the article to support your opinion.
(*The sites in the North represent more of what was generally accepted to have happened in the agricultural revolution, in a rapid transition to farming, while Umm Qseir in the South illustrates that the transition was neither drastic nor immediate. By using sites in both the North and South as examples, the author demonstrates the complexity of the transformation.)*

Short Answer Questions

1) Summarize briefly the importance of both plant and animal remains, wild and domestic. Why are they so essential to the interpretation of the Neolithic Revolution?
(If the remains of certain plants and animals are known to be present in societies which are clearly sedentary or pastoral (for example, pigs for sedentary and sheep for pastoral), then they can be used as indicators of lifestyle in other newly discovered sites.)

2) How do advances in technology help us better understand the societal changes in ancient Mesopotamia?
(*These scientific methods allow for more accurate dating that enables anthropologists to more clearly trace the course of change within a society through time.)*

3) What plants and animals are used as indicators of pastoral and agricultural lifestyles? Are any of them ambiguous? Why are pigs important to these types of study?
(*Pastoral societies tend to be indicated by the presence of remains of sheep, goats, wild animals such as gazelle, and wild plants such as shrubs. Agricultural societies often are indicated by the remains of sheep, goats, pigs, cattle, evidence of emmer, barley, and pulses (peas and beans). The presence of both sheep and goats in agricultural and pastoral societies makes them ambiguous. Pigs are considered strong evidence of sedentary life.)*

4) What do the terms "pastoral" and "agricultural" signify in a society? By using them, what generalizations about these societies are we calling to mind?
(The term pastoral tends to indicate that a society moves around, depending on the season. There are no urban centers and less leisure time. The term agricultural tends to indicate that people are remaining in one place, relying at least partially on producing their own food. They have urban centers and leisure time, and, therefore, are probably more developed with respect to the arts and sciences. Many societies, though, appear to have been a mix of the two.)

5) What environmental and economic factors might play a role in determining subsistence changes over time? Why is it so difficult to know all the reasons why such changes in subsistence took place?
(Whether or not the environment is rich in resources could affect how quickly a society becomes agricultural, but the complex interplay of causal factors is still unclear in the development of domestication of both animals and plants.)

Selected Answers

Chapter 14

Discussion Questions

1) What are the pros and cons of each method for reconstructing the health of prehistoric hunter-gatherer societies: studying modern hunter-gatherers, relying on disease patterns, and examining skeletal evidence?
(Modern hunter-gatherers live in the modern world and are not completely removed from it. The pathogens causing diseases do not remain constant through time; like other living organisms, they evolve. Skeletal evidence offers only a sampling of a society.)

2) Describe the basic diet of a prehistoric hunter-gatherer. How is it better than that of modern people?
(The basic diet of prehistoric hunter-gatherers consisted mainly of fresh vegetables and meat. This diet was more eclectic than a more modern diet and contains no over-processed carbohydrates.)

3) What can the skeletons of prehistoric hunter-gatherers tell anthropologists about the nutrition of hunter-gatherers?
(The skeletons can show signs of diseases which result from poor nutrition, such as anemia.)

4) What characteristics of modern societies make diseases more prevalent now than in ancient time?
(Modern societies have larger populations and are sedentary. The greater concentration of people and their waste means that diseases spread more quickly. Trade and travel amongst modern people allows for the introduction of new diseases. The case study of the SARS virus presents a current example.)

5) Why is the age of adult remains so much harder to discover than that of the remains of children?
(At a certain age a child's bones will fuse and stop growing. Until this point, anthropologists can estimate the age of the child at death by measuring the growth of the bones. Once the bones have fused, however, they provide much less evidence as to the exact age of the adult at death.)

6) What is the major challenge of interpreting the data gathered from skeletal pathology?
(There is much debate amongst anthropologists about whether the skeletal evidence of disease can be used to approximate the prevalence of a disease within a population, and whether it can be assumed from the data that a specific person died from or survived a particular disease.)

Essay Questions

1) Thomas Hobbes characterized the life of a hunter-gatherer as "nasty, brutish, and short." Using the evidence given in the article, discuss why this statement is wrong and how the biases of scholars have led to some misrepresentation of the hunter-gatherer way of life.
(The article argues that hunter-gatherers had better nutrition and less prevalence of disease than modern people. History, however, has portrayed hunter-gatherer life in the way that Thomas Hobbes characterizes it. Thomas Hobbes' statement reaffirms the opinion that progress equals privilege, a view which the author is seeking to disprove.)

2) Discuss each method for reconstructing the prehistoric hunter-gatherer's standard of living and explain why no one method can tell the whole story.
(Modern hunter-gatherers will always be to a certain extent affected by the modern people around them and the history that has happened since prehistoric times. This could, for example, mean that there are new diseases which have arisen since prehistoric times that the prehistoric ancestors of modern hunter-gatherers would not have been exposed too. Diseases are living organisms, and just as humans have changed, so have diseases. The skeletons of people offer a lot of clues about their life; however, they do not provide more than a sampling from a community.)

Short Answer

1) What is skeletal pathology and how has it recently sparked debate among anthropologists?
(Skeletal pathology is the study of structural changes in a person's skeleton caused by disease. Anthropologists debate the extent of information that skeletal pathology can tell an anthropologist about a particular person.)

2) Why are epidemics more likely to occur in modern civilizations than in prehistoric times?
(Epidemics are prevalent in modern civilizations because populations are larger and there is interaction amongst more people who produce more waste.)

3) How are teeth important in examining the nutrition of an ancient people?
(Teeth can show if a person has undergone any great stress in his life, such as famine. Dental disease reflects malnutrition, poor hygiene, and other indications of lifestyle.)

4) How does the history of the bubonic plague in France prove the author's point that plagues happen more commonly in larger population centers?
(The plague in France was more concentrated in the cities and along the coast, while the sparsely populated interior was hardly affected.)

5) Which modern diseases discussed in this essay are lacking in prehistoric societies?
(Diseases, such as influenza, which are transmitted by air or touch, diseases, such as cholera, which are spread by waste, and epidemics, such as measles, which require a certain number of people, are all rare in the hunter-gatherer populations, because the societies were small and not sedentary.)

Glossary of Terms

The terms below are an alphabetized compilation of the separate chapter glossaries in this *Instructors Guide*. Following each definition, the chapter or chapters in which the term appears is given in parentheses.

Accelerator Mass Spectrometry (AMS): a process that uses radiocarbon dating to precisely date archaeological evidence and that can be applied to small amounts of organic material. (Chapter 11, 13)
Agriculture: a subsistence strategy involving intensive farming of permanent fields using such means as the plow, fertilizer, or irrigation. (13)
Alcalde: the mayor of an Andean community. (25)
Ante-Mortem Record: a record taken before death. (10)
Applied Linguistics: the application of studies of linguistics to real life problems. (33)
Archaeology: the subfield of anthropology that studies human behavior, adaptation, and culture history through systematic examination of cultural and material remains. (15)
Archive: a collection containing records, documents, or other materials of historical or anthropological interest. (28)
Atlantis: a mythical island that supposedly was sunk beneath the sea. (17)
Australopithecine: bipedal, partially arboreal apelike individual who weighed 60-80 lbs and stood between 3.5 and 5 feet tall; their brain was one-third the size of a modern human's. (2, 3, 4)
Ayllu: a native Andean community with membership based on kin ties and/or shared ownership of land. (25)
Bering Strait: a narrow stretch of water separating Alaska from Siberia and connecting the Arctic Ocean with the Bering Sea; the site of a hypothesized land bridge. (17, 22)
Bias: a strong belief or point of view that does not allow one's mind to respond impartially to contradictory objective information. (17)
Bipedalism: the ability to walk on two feet. (4)
Bonobo: a pygmy chimpanzee once thought to merely be a smaller version of the common chimpanzee, but now shows even greater potential for language learning. (1)
Brazier: a shallow pit for holding burning coals. (19)
Byzantium: an ancient city on the site of present-day Istanbul, Turkey. (29)
Castes: categories in the Spanish classification system which denoted people of mixed Indian, European, and African genetic heritage. (26)
Chenopod: a food plant harvested by eastern Native Americans whose seeds show evidence of domestication. (21)
Chimpanzee: an ape species that is partially arboreal and highly intelligent, displaying tool-using behavior and some language skills. (1)
Chronic Disease: a disease or ailment of long duration and frequent occurrence. (8)
Clovis: a prehistoric human culture widespread throughout North America from about 12,000 to 9,000 B.C., distinguished by the use of sharp fluted projectile points. (18)
Coalition: a temporary alliance of distinct parties. (2)

Cohort Analysis: the idea, developed by sociologist Karl Mannheim, that people who are born within a particular time span often have shared experiences that significantly distinguish them from other groups in their society. (27)
Colonization: the extension of control over a new territory and its inhabitants, usually accompanied by establishing settlements of emigrants there. (26)
Colony: a body of people settled in a new territory, foreign and often distant, retaining ties with their motherland or parent state. (16)
Conquistador: "conqueror," any one of the leaders in the sixteenth century Spanish conquest of Central and South America, including Mexico and Peru. (9)
Cranial Capacity: the size of the cavity within the skull which reflects the size of the brain. (3)
Cro Magnon: an early *Homo sapiens* (the species and subspecies to which modern humans belong) who lived about 40,000 years ago. (5)
Cultural Patrimony: communally owned cultural property that has an on-going historical, traditional, or cultural importance central to a Native American group. (34)
Cultural Relativism: the belief that cultural traits are best understood within the context of the cultural system of which they are a part, and that they should not be judged by external or absolute standards. (24)
Degenerative Disease: a disease characterized by progressive deterioration of tissue, such as diabetes. (8)
Demography: the statistical study of characteristics of human populations, and how these characteristics relate to social and economic conditions. (7)
Diaspora: the settling of a scattered people, often in widely dispersed settlements. (23)
Discrimination: differential treatment of a person or people on the basis of race, religion, gender, or culture. (6)
Diversity: the condition of having differences or containing an assortment of different types. (6)
Divination: the art or act of foretelling future events or revealing occult knowledge by means of augury or an alleged supernatural agency. (23)
DNA: a nucleic acid that carries the genetic information in the cell and is capable of self-replication and synthesis of RNA. (5, 7, 12)
Draconian: exceedingly harsh, very severe. (30)
Drive: an urgent, basic, or instinctive need. (2)
Egalitarian Relativism: the belief that all human beings are moral agents with equal potential for making ethical judgments. (24)
Emigration: leaving one's natural home. (36)
Endemic Disease: a disease native to or confined to a particular locality or region. (8)
Entomology: the study of insects. (19)
Epidemic Disease: a disease affecting many people within a community, area, or region at one time, such as typhoid fever. (8)
Epigraphy: the study of inscriptions. (20)
Epistemology: the branch of philosophy that studies the nature of knowledge, its presuppositions and foundations, and its extent and validity. (34)
Eskimo: a people inhabiting the Arctic (North Canada, Greenland, Alaska or East Siberia); the Algonquians of the American Northwest called them Eskimos ("eaters of raw flesh") while they call themselves the Inuit ("the people"). (18, 22)

Ethnic Cleansing: the systematic elimination of an ethnic group from a region or society, as by deportation, forced emigration, or genocide. (30)
Ethnicity: an affiliation resulting from racial or cultural ties. (12)
Ethnographer: an anthropologist who spends prolonged periods living with a specific people to write detailed descriptions or ethnographies of that culture. (15)
Ethnography: the study of a single culture in all its various aspects. (6)
Ethnohistory: the use of historical information to study cultural development. (20, 27)
Ethnology: the study that analyzes and compares human cultures in aspects such as social structure, language, religion, and technology; cultural anthropology. (35)
Female Genital Circumcision: the removal of all or part of the clitoris and/or labia. (24)
Feminization: **Feminization**: the development of female characteristics; female dominance of an issue, profession, or idea. (36)
Flute: a long, usually rounded groove incised as a decorative motif on the shaft of a projectile point. (18)
Folk History: the analysis of the stories people tell about their past. (27)
Folklore: traditional customs, beliefs, dances, songs, tales, or sayings preserved orally and among a people or group. (35)
Folktale: a story or legend forming part of an oral tradition. (31)
Forensic: relating to the use of science or technology in the investigation and establishment of facts or evidence in a court of law. (10)
Funerary Object: an item believed to have been intentionally placed with an individual at the time of burial as part of a death rite or cultural ceremony. (34)
Fy-gene: a gene which protects against vivax malaria. (12)
Gender: a social classification based on cultural concepts about the sexes; male and female. (6)
Gene: a hereditary unit consisting of a sequence of DNA on a chromosome that influences a particular characteristic in an organism; genes undergo mutation when their DNA sequence changes. (11)
Genealogy: a history of the descendants of a person, the study of family relationships and lineages. (35)
Genetic Drift: random fluctuations in the frequency of the appearance of a gene in a small isolated population, owing to chance rather than natural selection. (11)
Gente de Razón: the term used to collectively refer to people of mixed genetic heritage who were able to speak Spanish. (26)
Haplogroup: Sequences of DNA which share a common set of mutations. (12)
Harm: death, pain, disability, or a loss of freedom and pleasure resulting from an act of one human being upon another. (24)
Highlands: elevated or mountainous land. (20)
Homo erectus: extinct species of primitive hominid with upright stature and a relatively large brain compared to australopithecines. (3, 4)
***Homo habilis*:** an extinct species of humans which existed between 1.5 and 2.3 million years ago. (4)
Homo sapiens: the only surviving hominid; species to which modern humans belong; bipedal primate having language and ability to make and use complex tools; brain approximately 1400 cc. (3, 4)

Hopewell: an ancient society dating from around 250 B.C. until A.D. 200 characterized by large geometric earthworks, conical burial grounds, and elaborate mortuary decorations. (21)
Huacas: platforms built for religious ceremonies and burial of the dead. (9)
Huaqueros: professional grave robbers. (9)
Human Rights: universal rights to which one is entitled simply by virtue of being human. (24)
Humanitarian: one who is devoted to the promotion of human welfare and the advancement of social reforms. (30)
Hunting and Gathering: a subsistence strategy involving the foraging of wild plants and animals. (14, 15)
Identity: the set of behavioral or personal characteristics by which an individual is recognizable as a member of a group. (26)
Infectious Disease: a disease caused by the entrance, growth, and multiplication of bacteria, protozoa, fungi, or analogous organisms in the body. (8)
Instinct: an inherent aptitude or impulse. (2)
Inuit: the term preferred by native speakers to describe the Eskimo people. (22)
Keloid: bump or wheal produced by intentional insertion of clay, ash, or other materials into a cut. (32)
Language: the use of words to convey ideas and feelings to others with a clear form of grammar and syntax. (1)
Lexigraphy: the use of symbols or characters to represent words. (1)
Life Expectancy: the number of years a person in a specific population is expected to live; roughly the average age of death for a population (14).
Lineal Descendant: a descendant who can trace a genealogical relationship through an unbroken line of descent. (35)
Linguist: a professional who studies human speech and language in their various aspects. (28)
Linguistics: the study of the nature, structure, and variation of language, including phonetics, phonology, morphology, syntax, semantics, sociolinguistics, and pragmatics. (31, 33)
Literacy: the ability to read and write. (31)
Lowlands: land of a lower elevation than that around it. (20)
Maize: Native American corn. (21)
Makeup: paint, powder, or dye used to enhance or transform one's appearance. (32)
Malacology: the study of mollusks. (19)
Mamakuna: mothers or matrons in the Sonqo society. (25)
Manioc: a plant, also called cassava, whose starchy roots are eaten as a staple food only after leaching and drying to remove cyanide. (9)
Maroons: black freedom fighters who successfully escaped enslavement and formed their own autonomous communities. (23)
Maya: Mesoamerican Indian people inhabiting southeast Mexico, Guatemala, and Belize, whose civilization reached its height around A.D. 300-900. (31)
Mesoamerica: area reaching from Mexico to Honduras and El Salvador in northern Central America. (20)
MIA: a soldier or civilian who is listed as missing in action.
(10)
Migration: movement of a group from one locality or place to another. (11, 30)

Mitochondria: organelles in the cytoplasm of nearly all cells, containing genetic material and many enzymes important for cell metabolism. (5)
Mormon: a member of a religion created by Joseph Smith in 1830 that believes that American Indians are in fact the Lost Tribe of Israel. (17)
Moundbuilders: the builders of colossal earthworks in North America; originally, some believed that the Moundbuilders were a now extinct race, rather than Native Americans. (17)
Narrative Testimony: courtroom evidence in which the witness is permitted to respond at length with considerable freedom. (33)
Neanderthal: an extinct human species living during the late Pleistocene Epoch throughout most of Europe and Asia; associated with Middle Paleolithic tools. (5)
Neolithic Revolution: the rise of the domestication of plants and animals. (13)
Norm: a standard or principle serving to define common and acceptable behavior. (36)
Norse: a term referring to the medieval Nordic people who were predominantly Christian after A.D. 1000. (16)
Nutrition: the balance of vitamins, fats, minerals and protein. (14)
Oral History: information about past events obtained in interviews with persons having firsthand knowledge, or history passed down from generation to generation. (31)
Ottoman Empire: a vast Turkish sultanate of southwest Asia, northeast Africa, and southeast Europe. (29)
Paleoanthropology: a branch of anthropology dealing with fossil man. (7)
Paleopathology: a branch of pathology concerned with diseases of ancient times using evidence from fossil remains. (7)
Palynology: the study of pollen and spores. (19)
Participant Observation: a methodology used in the study of cultural anthropology in which the researcher spends a prolonged period of time participating with and observing subjects in their natural setting. (28)
Pastoral Society: a society which subsists by herding animals. (13)
Pathogen: a specific cause of disease, for example, a microorganism. (8)
PCR: polymerase chain reaction, a test-tube cloning technique which produces many more copies of the original DNA than molecular cloning, and in which there is less damage to the original strand of DNA. (7)
Peat: a mass of partially carbonized vegetable tissue formed by decomposition in water. (19)
Piercing: the insertion of an object through the skin in a way that permits healing around the opening, most commonly in the soft tissues of the face; the making of an opening in order to wear an object. (32)
Porcelain: a hard, white, translucent ceramic made by firing a pure clay and then glazing it with variously colored fusible materials; china. (29)
POW: a soldier or civilian who is a prisoner of war. (10)
Powwow: a council or meeting of Native Americans, often involving the performance of rituals. (27)
Psycholinguistics: the study of the structure and use of language, how it is learned, produced, and understood. (33)
Qhapac: the Andean word, translated as “noble’ or “mighty,” used to denote that a man is influential. (25)

Race: historically, an interbreeding, usually geographically isolated population of organisms differing from other populations of the same species in the frequency of hereditary traits. (11, 12)
Radiology: the branch of medicine that deals with the use of radioactive substances in diagnosis and treatment of disease. (10)
Ralámuli: the modern name for the Tarahumaras, which was changed due to its association with Spanish colonization. (26)
Refugee: as defined by the United Nations, an individual who is outside his or her own country and is unable to return as a result of a well-founded fear of persecution on grounds of race, religion, nationality, political opinion, or membership of a social group. (30)
Repatriation: legislatively mandated return of human remains and specific categories of cultural items housed in museums and other institutions to culturally affiliated Native American groups. (34, 35)
Repository: a place where things can be deposited for safekeeping. (28)
Reproductive Isolation: the situation in which individuals cannot find mates outside the group that is essentially like themselves. (11)
Reservation: a tract of public land set aside by the U.S. government for some special use; for example, Indian reservations set aside to be used by Indians. (27)
Ritual: a detailed spiritual procedure faithfully followed. (23)

Roman Empire: an empire that succeeded the Roman Republic and lasted until 476; at its greatest extent, it encompassed territories stretching from Britain and Germany to North Africa and the Persian Gulf. (29)

Sacred Object: specific ceremonial artifacts needed by traditional Native American leaders for the practice of traditional religion. (34)
Saga: a prose narrative sometimes of legendary content but typically dealing with prominent figures and events of the heroic age in Norway and Iceland especially as recorded in Icelandic manuscripts of the late twelfth and early thirteenth centuries. (16)
Salience: a physical prominence, striking point, or feature. (36)
Scanning Electron Microscope (SEM): a microscope that has the ability to magnify small objects many thousands times greater than conventional microscopes. (21)
Scarification: the cutting of the skin and the subsequent controlling of healing so as to give the skin texture; cicatrisation. (32)
Serf-like Relationship: a term denoting a subservient status and a certain level of dependency for some foods and other essentials. (15)
Silk: a valuable lustrous fiber produced from the cocoons of certain insect larvae. (29)
Skeletal Pathology: the study of structural changes in a skeleton caused by disease. (14)
Skraeling: a semihuman creature with one leg and a screeching voice; a term the Vikings used to describe Arctic people they came into contact with. (22)
Slavery: the state of one being bound in servitude as the property of a slaveholder or household. (23)
Society: a socially bounded group of people who interact in basic economic and political institutions together. (13)
Sociobiology: E.O. Wilson's theory that asserted that organisms live in order to reproduce and that an organism will cooperate with others only if they share common genes, as in kin selection, or if the others might offer aid to the organism at some later date, as in reciprocal altruism. (2)

Sociolinguistics: the study of the structure and use of language as it relates to a social setting. (33)
Solutrean: relating to the Old World Upper Paleolithic culture, discovered in France, that succeeded the Aurignacian and was characterized by unique stone implements and stylized symbolic forms of art. (18)
Stereotype: a mental impression representing an oversimplified opinion, attitude, or judgment. (6)
Stock-Farming: a form of agriculture that includes the tending of cattle, sheep, goats, and pigs. (16)
Syllabary: a writing system whose characters represent syllables. (28)
Symbiosis: a mutually beneficial relationship between two or more groups of people. (15)
Taphonomy: the study of the conditions and processes by which bones and artifacts decay and become fossilized in the wild. (3, 18)
Tattoo: the insertion of pigment through the skin. (32)
Theory of Mind: the ability to grasp that people may see and think about the world differently. (1)
U-Shaped Mortality Curve: a curve which indicates that the probability of death is at its highest in the first year of life, then decreases drastically in childhood and adolescence, and rises again sharply in the adult years. (9)
Uniformitarian Reasoning: the idea that natural processes must operate in the past in the same way that they operate in the present. (14)
Uranium: a heavy silvery-white metallic element, radioactive and toxic, easily oxidized, and having 14 known isotopes. Uranium occurs in several minerals from which it is extracted and processed for use in research, nuclear fuels, and nuclear weapons. (5)
Urbanization: the state of gaining the characteristics of a city or urban area. (36)
Vector: an agent capable of transmitting a pathogen from one organism to another either mechanically as a carrier or biologically by playing a specific role in the life cycle of the pathogen, such as the relationship between mosquitoes and the malaria parasite. (8)
Viking: seafaring members of the Nordic people; the name "Viking" was given to them because they sailed from "viks" (a bay or harbor); they were said to go "a-viking" and thus the name developed and is often used to characterizes Nordic people from A.D. 793 until 1066. (16, 22)
Wira: the Andean word used to denote a woman as influential, usually translated as "fat" or "substantial." (25)