

# PART 1 – *Human Origins and Human Cultures*

## 1 THE DRY BONES SPEAK

5 million B.C.E. — 10,000 B.C.E.

### WHAT IS PALEOANTHROPOLOGY AND WHY IS IT IMPORTANT?

#### COMMENTARY

Part One – *Human Origins and Human Cultures* – comprises just one chapter, which seeks to apply the text’s key questions (“What do we know?” and “How do we know it?”) to human **pre-history**, that is, to a time for which there are no written records. According to author Howard Spodek, Chapter 1 addresses “some of the biggest questions of all: Where did humans come from? How did we begin our collective life on earth? To what degree are we similar to other living species, and to what degree are we unique?” In attempting to answer these questions, Spodek not only reviews the current state of scientific knowledge regarding the evolution of our own species (*Homo sapiens sapiens*) and the means by which **paleoanthropologists** have uncovered and verified this record, but also uses that account to draw the distinction between **myths** – popular beliefs about the past for which there is no proof – and **history** (from the Greek word for “research” or “inquiry”) – which is based on rigorous examination, re-examination and interpretation of factual evidence.

The latter issue is addressed in the first section of the chapter, which compares the creation myths of three civilizations (Akkad, early India and the Hebrews) with the scientific explanation of human evolution by means of **natural selection**. Myths, by their very nature, are unprovable, since they recount events which occurred beyond the realm of human experience or understanding. Moreover, they also are meant to serve a **teleological** purpose: that is, they seek not only to explain what happened, but why; and to provide sanctions for a people’s social order and serve as guidelines for human behavior. History – or in this case the scientific study of human pre-history – ideally has no such teleological goals, not even the discrediting or “debunking” of myths, whose historical, religious and social value is recognized by anthropologists and historians alike. It strives for an understanding of the past based primarily on the available evidence. Such an understanding can never be entirely unbiased or value-free, because our interpretations of that evidence – and even the questions we ask – are intimately connected with the experiences of the present. For that reason – and because we are always discovering new evidence, which in turn leads to new questions – there will always be differing interpretations of historical data. But the study of history still must remain grounded in the evidence.

Next, the chapter traces the gradual piecing together of records of human evolution and the quest for the “missing link” between ourselves and our primate ancestors, beginning in 1856, with the unearthing in Germany of the skeleton of a relatively close human cousin, **Neanderthal**, and culminating (for the time being) with the discovery in east Africa of the 4.4 million year-old *Ardipithecus ramidus*, the earliest known **hominid**, or proto-human. Based on close examination of the fossil and genetic (**DNA**) evidence, most paleoanthropologists now agree that hominids first evolved in Africa more than 4 million years ago, but beyond that consensus, Spodek points out, “the study of early hominids and their evolution into *Homo sapiens sapiens* is filled with questions.” (22) Among those that the chapter goes on to explore are: Did *Homo sapiens* evolve only in Africa and then migrate to other continents, or did humans evolve separately from intermediate species outside of Africa? What was the nature of group existence of early hominids: were they monogamous; was the nuclear family the basic social unit; were they primarily hunters or scavenger-gatherers? How were gender roles determined within the group? What enabled *Homo sapiens sapiens* to survive, while other evolutionary lines died out? When and how did the genus *Homo* develop the capacity of speech?

The answers to those questions ultimately address the third and last of Spodek’s “big questions” – how are we similar to, and different from, other species or, more succinctly, “What makes us human?” With this question, we pass from the study of human biological evolution to that of anthropology for, as the text points out, humans have not changed anatomically in the last quarter-million years. What makes us “human” is above all, our **culture**, that is the way we *Homo sapiens sapiens* have adapted to and shaped our environment.

## CHAPTER OUTLINE

- A. Human Origins in Myth and History
  - 1. Early Myths
    - a. Akkad
    - b. India
    - c. West Asia
  - 2. The function of creation myths
- B. Evolutionary Explanations of Human Origins
  - 1. 18<sup>th</sup> century explanations
  - 2. Charles Darwin and “Natural Selection”
- C. The Evolutionary Record: How Do We Know?
  - 1. The Archaeological Record
    - a. Neanderthals
    - b. *Homo erectus*
    - c. *Australopithecus africanus*
    - d. *Homo habilis*
    - e. *Australopithecus afarensis* (“Lucy”)
    - f. *Ardipithecus ramidus*
    - g. *Homo sapiens*
  - 2. SPOTLIGHT: Reconstructing Neanderthals
  - 3. FOCUS: Louis and Mary Leakey
- D. Putting It All Together – a Summary of Hominid Evolution
  - 1. What Do We Know?
  - 2. African Origin
    - a. “Multi-regionalist” or “candelabra” theories
    - b. “Out-of-Africa” or “Noah’s Ark” theories
- E. Reading the Genetic Record: the Dominant Current View of the Evolutionary Process
- F. Cultural Change and Biological Change
  - 1. FOCUS: Gender Issues and Cultural Evolution
- G. Key Questions Remaining
- H. The Theory of Scientific Revolution
- I. Humans Create Culture
- J. How Did We Survive? How Do We Know?
  - 1. Dating archaeological finds
  - 2. Global migration
  - 3. Increased population and new settlements
  - 4. Changes in the tool kit
    - a. Stone tools
    - b. FOCUS: Women’s Tools, Women’s Work
  - 5. Cave Art and Portable Art
  - 6. Language and Communication
  - 7. Agriculture: from Hunter-Gatherer to Farmer

## IDENTIFICATION TERMS

For each term, students should be able to provide an identification or definition, an approximate date, a geographical location (if relevant) and – most important – a concise explanation of its significance in the context of the chapter. Terms that appear in the *Study Guide* are listed in **bold** font in the first column.

<i>On the Origin of Species</i>	paleoanthropology	<i>Enuma Elish</i>
<i>Homo habilis</i>	archaeology	<i>Rigveda</i>
<b>Great Rift Valley</b>	Vishnu	myths
<b>“Lucy”</b>	<i>Homo habilis</i>	Neanderthals
<b>radiocarbon (Carbon 14) dating</b>	Louis and Mary Leakey	Java Man
<b>land bridges</b>	Donald Johanson	Peking (Beijing) Man
<b>exogamous marriage</b>	Charles Darwin	“Candelabra” theory
<b>“Venus objects”</b>	<i>The Descent of Man</i>	“Noah’s Ark” theory
<i>Homo sapiens sapiens</i>	Olduvai Gorge	gender
<b>hominids</b>	DNA	“Saharan Pump”

## LEARNING OBJECTIVES

After students have read and studied Chapter 1, they should be able to:

1. Explain the distinguishing physical characteristics of *Ardipithecus ramidus*, *Homo habilis*, *Homo erectus* and *Homo sapiens sapiens*.
2. Explain and compare the three competing interpretations of how *Homo sapiens sapiens* was able to survive and eventually displace other hominids.
3. Explain the basic workings of the evolutionary process of natural selection, according to Charles Darwin.
4. Explain the functions of creation myths and be able to compare and contrast myths with scientific theories.
5. Compare the “Candelabra” and “Noah’s Ark” theories regarding the evolution of *Homo sapiens* and discuss the possible implications of each theory?
6. Define “culture” and explain how the development of tools influenced the culture of early humans.
7. Locate on a world map the sites where the remains of various hominid species and early humans have been found.

## SUGGESTIONS FOR LECTURE TOPICS

1. Compare the nature and function of creation myths with that of scientific theory, discussing Darwin’s natural selection as an example of theory.
2. Explain the concept of “revolution,” using “Scientific Revolutions” and the “Agricultural Revolution” as examples.
3. Discuss the role of environment (climate, shifts in climate and human migration) in promoting evolutionary changes in hominids and early humans.

## TOPICS FOR ESSAYS OR CLASS DISCUSSIONS

1. Group activity: Using specific examples from illustrations in the text, discuss the various interpretations and explanations of the possible functions and purposes of art in prehistoric cultures.
2. According to anthropologists Elizabeth Wayland Barber and Sally Slocum, on what basis were gender roles determined in hunter-gatherer societies? What may have been some of the consequences of this role determination for the study of anthropology and history?
3. Using evidence available to you from your reading of the text, as well photographs of relevant archeological sources, discuss the several controversies and questions surrounding “Neanderthal Man.”

4. Using examples from the *Enuma Elish*, the *Rigveda*, and the *Bible*, explain the functions of creation myths in early societies. Cite specific passages or elements of the respective myths to illustrate your points.
5. Based on information and visual evidence from the text, what makes humans “human” and distinguishes us from other primates, such as apes or early hominids?
6. Debate: Which is a more reliable explanation of human origins, *Genesis* or Darwin? What are the major differences between the two? How can the problems with Darwin’s theory be explained? Do they make “Natural Selection” an untenable explanation for the origin of species, including humans?
7. Current events & issues: In 1999, the Kansas Board of Education directed that evolution could only be taught in high school science classes if the *Genesis* story of creation was also taught. Do you agree with this decision? Why or why not? Should other creation stories also be taught, in addition to the Hebrew creation story? Why or why not?

## TEXT RESOURCES (Spodek, 2<sup>nd</sup> ed.)

Timetables, charts and graphs:	Early Humans and Their Ancestors	(p. 5)
	Landmarks in Early Life	(p. 12)
	Dominant Current View of the Evolutionary Process	(p. 19)
	“Candelabra” and “Noah’s Ark” models	(p. 18)
	Key Stages in Human Development	(p. 21)
	The Earliest Tool Kits	(p. 29)
Large photographs or illustrations:	“Lucy” skeleton	(p. 16)
	Skull reconstructions of some human ancestors	(p. 20)
	Tools and artifacts from western Europe	(p. 30)
	Chauvet Cave (France)	(p. 33)
Maps:	Human ancestors	(p. 9)
	Early humans in the Ice Age	(p. 26)
	The colonization of the Pacific	(p. 27)
SPOTLIGHT:	Reconstructing Neanderthals	(pp. 10-11)
PROFILE:	Louis and Mary Leakey	(p. 14)
FOCUS:	Gender Issues and Cultural Evolution	(p. 22)
	Women’s Tools, Women’s Work	(p. 31)

## ADDITIONAL PRIMARY SOURCES (*Documents Set & www.prenhall.com/Spodek*)

- 1-1 “Nihongi” – the ancient Japanese perspective on the world’s creation
  - 1-2 “Theogeny” of Hesiod: the ancient Greek creation myth in poetic form
  - 1-3 The myth of the Incas: a case of double creation?
  - 1-4 The seven days and the Garden: the Judaic account of creation [from the book of *Genesis*]
  - 1-5 A controversial theorist takes his ideas to their ultimate conclusion [Charles Darwin, from *The Descent of Man*]
  - 1-6 The lingering debate: how, and from whence, did human beings populate the globe? [from Stringer & Gamble, *In Search of Neanderthals*]
- www Creation by committee: the Fang Nation’s Account

## **AUDIO-VISUAL RESOURCES (videos, DVD's, CD-ROM and web-sites)**

***Enter Evolution: History and Theory:*** <http://ucmp.berkeley.edu/history/evolution.html> [web-site]

This site includes a discussion of the history or evolutionary thought; historical essays; biographies of many important figures in the history of evolution, and other features.

***First Contact: Bob Connolly and Robin Anderson, 1984.*** [video; 54 minutes, B&W]

Recovered film footage and commentary of the first contact between Australian prospectors and Stone Age peoples of Papua New Guinea in 1930. A 1984 Academy Award nominee for Best Documentary Film.

***In Search of Human Origins: NOVA, WGBH Boston, 1994.*** [3 VHS videos; 60 min. each, color]

Anthropologist David Johanson studies the evolutionary path from apes to humans. Part I examines Johanson's "Lucy" discovery; Part II discusses *Homo habilis* and *Homo erectus*; and Part III examines Neanderthals and early humans.

***Mysteries of Mankind: National Geographic Society, 1988.*** [video; 60 minutes, color]

In this segment of the Emmy-winning series, scientists analyze fossil remains and utilize modern technologies to unravel the mysteries of human origins.

***Paleolithic Cave Paintings in France:*** <http://www.culture.fr/culture/gvpda-en.htm> [web-site]

Information in both French and English on the prehistoric cave art of southern France (Lascaux, Chauvet, etc.) The site includes high quality images of the Paleolithic artwork.

***Prehistoric Web Index:*** <http://easyweb.easynet.co.uk/~aburnham/database/index.htm> [web-site]

A comprehensive index to prehistoric sites in Europe.

***Flint and Stone: Real Life in Prehistory:*** <http://www.ncl.ac.uk/~nantiq/> [web-site]

Information and photographs of prehistoric sites in Britain and western Europe and interpretations of the daily life of the Paleolithic peoples.