CHAPTER 1 Becoming Human

Global Storylines

I. Communities, from long ago to today, produce creation narratives in order to make sense of how humans came into being.
II. Hominid development across millions of years results in modern humans (*Homo sapiens*) and the traits that make us "human."
III. During the period from 300,000 to 12,000 years ago, humans live as hunter-gatherers and achieve major breakthroughs in language and art.
IV. Global revolution in domesticating crops and animals leads to settled agricultural-based communities, while other communities develop pastoral ways of life.

Core Objectives

1. DESCRIBE various creation narratives traced in this chapter, including the narrative of human evolution, and EXPLAIN why they differ.
2. TRACE the major developments in hominid evolution that resulted in the traits that make *Homo sapiens* "human."
3. DESCRIBE human ways of life and cultural developments from 300,000 to 12,000 years ago.
4. COMPARE the ways communities around the world shifted to settled agriculture and ANALYZE the significance this shift had for social organization.

MULTIPLE CHOICE

1. Which of the following discoveries supports the assertion that the spread of *Homo sapiens* from Africa is more complicated and occurred longer ago than previously believed?
   a. Biblical calculations were redone, producing a much later date for the creation of humans.
   b. Ancient Asian sources demonstrated a million-year time frame for the creation of the world.
   c. *Homo sapiens* fossils found in Morocco were dated as early as 315,000 years ago.
   d. The earliest fossils of *Homo sapiens* were found in East Africa.

   ANS: C DIF: Difficult REF: p. 3 OBJ: 1
   TOP: I MSC: Analyzing

2. The most significant way in which modern science challenged Asian creation narratives was that none of the Asian creation narratives recognized:
   a. the existence of multiple planetary systems.
   b. million-year time frames.
   c. that planets were first joined together and would rejoin at the end of time.
   d. that humans descended from apes and originated in Africa.

   ANS: D DIF: Difficult REF: p. 5 OBJ: 1
   TOP: I MSC: Analyzing

3. What was Charles Darwin's revolutionary insight?
   a. All life evolved over a long period from simple forms of matter.
   b. Humans evolved in several different places on Earth.
   c. Traditional creation narratives all produce a similar date for the origins of the universe.
   d. Modern humans appeared all at once thousands of years ago.

   ANS: A DIF: Moderate REF: p. 6 OBJ: 1
   TOP: I MSC: Understanding

4. How do modern scientific understandings about the origin of the universe compare with traditional creation narratives?

a. Modern science indicates that the origin of the universe was much longer ago than do traditional creation narratives.
b. Modern science indicates that humans first appeared suddenly, as do traditional creation narratives.
c. Neither modern science nor traditional creation narratives has an answer for how the universe began.
d. Creation narratives and modern science indicate that divine beings had a role in creating all life.

ANS: A DIF: Moderate REF: p. 7 OBJ: 1
TOP: I MSC: Analyzing

5. Which of the following studies requires knowledge from many different fields of science, such as astrophysics, geology, biology, and others?
a. Yoruba narratives.
b. Big History
c. Potassium-argon method
d. Buddhist cosmology

ANS: B DIF: Easy REF: p. 8 OBJ: 1
TOP: I MSC: Remembering

6. What was the adaptive advantage of bipedalism for early hominids?
a. The ability to see farther than other mammals
b. The ability to climb trees
c. The ability to outrun predators
d. The ability to migrate away from hostile environments

ANS: D DIF: Moderate REF: p. 10 OBJ: 2
TOP: II MSC: Analyzing

7. What advantage did larger brains give to early hominids?
a. The ability to walk upright with the head as a balancing point
b. The ability of children to be self-sufficient at a young age
c. The ability to learn, remember, and pass on information to the next generation
d. The ability to identify friends from foes

ANS: C DIF: Easy REF: p. 14 OBJ: 2
TOP: II MSC: Applying

8. What evidence did scientists use to decide that hominids were more diverse than had been suggested by the early australopithecine finds such as Lucy?
a. Fossil finds in East and South Africa showed that several different kinds of early hominids were living in isolated societies and evolving separately.
b. Fossil finds in southern Africa indicated that some groups of hominids had begun to use fire.
c. Fossil finds indicated that some groups of hominids prior to australopithecines made bone tools.
d. Some fossils indicated that different hominids were evolving in Southwest Asia, and had remarkably modern teeth and hands.

ANS: A DIF: Difficult REF: p. 14 OBJ: 2
TOP: II MSC: Applying

9. What is the characteristic that sets *Homo habilis* apart from prior hominids?

a. Development of simple language
b. Using tools to create tools
c. Creating simple musical instruments
d. Bipedalism

ANS: B DIF: Moderate REF: p. 15 OBJ: 2
TOP: II MSC: Applying

10. Which of the following describes an effect of the mastery of fire for *Homo erectus*?
a. Fire created a focus for new religious ideas, leading to new cultural development.
b. Fire helped hominids to expand their diets, leading to still larger brain size.
c. Fire provided a gathering point for small communities, leading to more complex social structures.
d. Fire permitted the creation of bronze tools, allowing the hunting of large animals.

ANS: B DIF: Moderate REF: p. 16 OBJ: 2
TOP: II MSC: Analyzing

11. Which of the following best describes *Homo erectus'* children?
a. They had larger brain capacity than earlier hominids because their mothers had wider pelvises.
b. They were largely ignored by other clan members until they could contribute to clan survival.
c. They could not feed or care for themselves for many years, requiring prolonged maternal care.
d. They were closely guarded by their mothers, who feared attacks from other females in the clan.

ANS: C DIF: Difficult REF: p. 16 OBJ: 2
TOP: II MSC: Applying

12. What was the most important consequence of the large-scale ecological changes in Africa several hundred thousand years ago?
a. Australopithecines survived by building structures to store water.
b. Retreating ice sheets created the savannas, which favored *Homo habilis*.
c. Neanderthals and Cro-Magnons fought a war over resources, which led to the extinction of Neanderthals.
d. Larger-brained, quicker, more adaptable *Homo sapiens* survived and spread out of Africa.

ANS: D DIF: Difficult REF: p. 18 OBJ: 3
TOP: III MSC: Analyzing

13. For *Homo sapiens*, which of the following was an effect of the development of complex language?
a. They were able to defeat wandering bands of australopithecines.
b. They were able to coordinate hunting efforts for the first time.
c. They were no longer able to communicate with other hominids.
d. They were able to create culture and pass it to future generations.

ANS: D DIF: Difficult REF: p. 22 OBJ: 2
TOP: II MSC: Analyzing

14. Which of the following best explains the relative lack of communication between the people of the Americas and Afro-Eurasia after about 6,000 BCE?
a. A new Ice Age created massive impassable glaciers separating the Americas from Afro-

Eurasia.
b. Melting glaciers covered the land bridge between East Asia and the Americas with water, physically separating the continents.
c. The peoples of these two regions pursued fundamentally different strategies for finding food, so they had little desire for communication.
d. The peoples of Afro-Eurasia refused to adapt to changing environments.

ANS: B DIF: Moderate REF: p. 22 OBJ: 4
TOP: IV MSC: Analyzing

15. What was a change to human language when humans spread out of Africa?
a. It expanded into nineteen separate language families.
b. It was unchanged, as the vocal chords of humans were unchanged.
c. The number of phonemes became more limited.
d. It differed only marginally from the language systems of other primates.

ANS: A DIF: Easy REF: p. 23 OBJ: 3
TOP: III MSC: Remembering

16. What can scientists infer about *Homo sapiens* hunter-gatherers by studying contemporary hunter-gatherer societies such as the San and !Kung?
a. They spent nearly every hour of the day foraging for food.
b. They formed small bands that were relatively egalitarian.
c. They avoided social behaviors such as friendly competitions.
d. Since most of the food was obtained by hunting, the role of women was limited to childbearing.

ANS: B DIF: Difficult REF: p. 24 OBJ: 3
TOP: III MSC: Applying

17. Around 12,000 years ago, what was the main effect of population pressure and changing climate conditions on modern humans?
a. Humans migrated out of Africa to Eurasia.
b. Humans discovered fire.
c. Humans created music and art.
d. Humans learned to domesticate plants and animals.

ANS: D DIF: Difficult REF: p. 27 OBJ: 4
TOP: IV MSC: Analyzing

18. What was a major consequence of the agricultural revolution?
a. A large increase in human population
b. The extinction of hunter-gatherer societies
c. A wider variety of foods for humans
d. Greater diversity of plants and animals

ANS: A DIF: Moderate REF: p. 27 OBJ: 4
TOP: IV MSC: Analyzing

19. Where were sheep, goats, pigs, and cattle first domesticated?
a. North Africa
b. The Yellow River valley
c. Southwest Asia
d. The Nile Valley

ANS: C DIF: Easy REF: p. 28 OBJ: 4

TOP: IV MSC: Understanding

20. Which of the following resulted from the domestication of animals?
    a. Farming was more difficult, since food had to be grown not only for humans but also for their animals.
    b. Humans gave up hunting to obtain protein.
    c. Some communities developed pastoralism to provide sufficient food supplies for their growing herds.
    d. Relationships between pastoralists and agriculturalists worsened, as they competed for the same land.

    ANS: C DIF: Difficult REF: p. 28 OBJ: 4
    TOP: IV MSC: Analyzing

21. Which of the following is true of nomadic pastoralists?
    a. They were more numerous than agriculturalists because their diets consisted of more protein.
    b. They tended to have little influence on world history because their migratory lives left little time for artistic or intellectual expression.
    c. They were less sophisticated culturally than their agriculturalist neighbors because they did not build social networks and religious structures.
    d. They domesticated horses, which gave them decisive advantages in transportation and warfare.

    ANS: D DIF: Moderate REF: p. 29 OBJ: 4
    TOP: IV MSC: Understanding

22. What is the primary reason nomadic pastoralism instead of transhumant pastoralism flourished in the northern area of Afro-Eurasia?
    a. Nomadic pastoralists could trade with more settled agricultural villages in northern China.
    b. The superior military techniques of nomadic pastoralists could keep transhumant pastoralists out of their territory.
    c. The steppes were unable to support large agricultural settlements, but could support large herds of grazing animals.
    d. The superior numbers and military strength of settled agriculturalists forced the nomadic pastoralists northward.

    ANS: C DIF: Difficult REF: p. 29 OBJ: 4
    TOP: IV MSC: Analyzing

23. Why were pastoralists important to settled agriculturalists?
    a. They transmitted ideas, products, and people across long distances, linking villages with a wider world.
    b. They left important records that influenced agricultural innovation.
    c. They had so little interaction with villages that farmers came to think of them as powerful mythological beings.
    d. They served as a buffer between agricultural communities and outside enemies.

    ANS: A DIF: Difficult REF: p. 29 OBJ: 4
    TOP: IV MSC: Applying

24. Where is the region known as the Fertile Crescent?
    a. The Andes Mountains, in which tool fabrication first appeared
    b. The region of Southwest Asia with rich soils and regular rainfall in which the agricultural revolution first appeared

c. The regions of southern France and northern Spain, where many cave paintings have been discovered
d. The region of Southeast Asia, where scholars found evidence of rice cultivation

ANS: B DIF: Easy REF: p. 32 OBJ: 4
TOP: IV MSC: Remembering

25. Which of the following were first domesticated in the Fertile Crescent?
a. Rice and millet
b. Millet and sorghum
c. Maize and beans
d. Wild barley and wheat

ANS: D DIF: Easy REF: pp. 32-33 OBJ: 4
TOP: IV MSC: Remembering

26. Of the six large mammals used for meat, milk, labor, and protein, which was first domesticated outside Southwest Asia?
a. Sheep
b. Pigs
c. Horses
d. Cattle

ANS: C DIF: Moderate REF: p. 33 OBJ: 4
TOP: IV MSC: Understanding

27. Which crops formed the basis of village agriculture in China?
a. Millet and sorghum
b. Maize and potatoes
c. Rice and millet
d. Wheat and rice

ANS: C DIF: Moderate REF: p. 33 OBJ: 4
TOP: IV MSC: Understanding

28. What ecological change contributed to the development of agriculture in Japan?
a. The cooling climate froze out the fishing societies spread out along the coasts and rivers.
b. Rising sea levels created islands and limited the range of large game animals, leading to their extinction.
c. Sinking sea levels meant that there was more land available for settled agriculture.
d. A land bridge from the Korean Peninsula allowed the migration of agriculturalists to Japan.

ANS: B DIF: Difficult REF: p. 33 OBJ: 4
TOP: IV MSC: Analyzing

29. What led to the rise of the first major city-states in Southwest Asia?
a. The need to defend against foreign invaders by banding together
b. The local availability of large domesticable animals and a variety of cereal grains
c. The presence of active religious pilgrimage sites for ceremonies and rituals
d. The presence of lush forests with many navigable rivers

ANS: B DIF: Moderate REF: p. 35 OBJ: 4
TOP: IV MSC: Analyzing

30. What led to the diffusion of agricultural techniques from the Sahel region to other parts of Africa around 2000 BCE?
    a. The climate became warmer and the desert expanded.
    b. The climate cooled and the region no longer supported crops.
    c. Population pressure caused the people of the Sahel to migrate to new places.
    d. Invaders from Egypt forced the Sahelians to move.

    ANS: A DIF: Moderate REF: p. 35 OBJ: 4
    TOP: IV MSC: Analyzing

31. Around 8000 BCE, people in the Sahel region of Africa:
    a. lived exclusively as hunter-gatherers.
    b. developed agriculture, with sorghum as the principal food crop.
    c. established the use of camels to convey goods across hot, arid territories.
    d. borrowed the idea of settled agriculture from Southwest Asia via the Nile River valley.

    ANS: B DIF: Moderate REF: p. 35 OBJ: 4
    TOP: IV MSC: Understanding

32. Which of the following was a consequence of the arrival of *Homo sapiens* in the Americas?
    a. Humans adapted to different ecological niches and created new subsistence strategies.
    b. Humans experienced rapid population growth as they abandoned hunting and gathering in favor of settled agriculture.
    c. Humans developed extensive traditions of watercraft on the coast of Peru to promote trade along the coast.
    d. Humans wiped out the large Ice Age Mammals.

    ANS: A DIF: Moderate REF: p. 35 OBJ: 4
    TOP: IV MSC: Understanding

33. Which of the following is an accurate comparison between people in the Americas and those in Afro-Eurasia?
    a. Populations in the Americas were more widely scattered and isolated from each other.
    b. People in the Americas were unable to adapt to local ecozones.
    c. People in the Americas did not develop refined agricultural techniques.
    d. Populations in the Americas did not create villages and settled life.

    ANS: A DIF: Moderate REF: p. 38 OBJ: 4
    TOP: IV MSC: Analyzing

34. Which of the following were first domesticated in the Americas?
    a. Wheat, barley, and horses
    b. Rice, millet, and chickens
    c. Sorghum, bananas, and cattle
    d. Maize, potatoes, and guinea pigs

    ANS: D DIF: Moderate REF: p. 38 OBJ: 4
    TOP: IV MSC: Understanding

35. Which of the following accurately describes an effect of the dissemination of agricultural crops and techniques from Southwest Asia to Europe?
    a. The first European domesticated crops included Southwest Asian crops—wheat and barley.
    b. The first European domesticated crops included Southwest Asian crops—maize and potatoes.

c. The similarities in the climates made adaptation of Southwest Asian crops relatively easy throughout Europe.
d. Long periods of time were required to adapt Southwest Asian crops to southern European climates.

ANS: A DIF: Difficult REF: p. 40 OBJ: 4
TOP: IV MSC: Applying

36. Which of the following is a consequence of the first agricultural revolution?
a. Religious art works
b. Egalitarian gender roles
c. Social stratification
d. Maritime trade

ANS: C DIF: Moderate REF: p. 41 OBJ: 4
TOP: IV MSC: Analyzing

TRUE/FALSE

1. Recent fossil discoveries in Chad corroborated the dating for bipedalism based on discoveries such as the fossil called Lucy.

ANS: F DIF: Moderate REF: p. 14 OBJ: 2
TOP: II MSC: Understanding

2. The pace of change toward agricultural production in the Americas was more gradual than in Afro-Eurasia because the centers of agricultural activity were more narrowly adapted to the local ecology and were geographically isolated from each other.

ANS: T DIF: Difficult REF: p. 38 OBJ: 4
TOP: IV MSC: Analyzing

3. Because of the colder climates and dense forests of central Europe, sheep and goats became the major herd animals.

ANS: F DIF: Moderate REF: p. 40 OBJ: 4
TOP: IV MSC: Applying

4. Fossil evidence of damage to vertebrae and osteoarthritis in the toes suggest that women were responsible for agricultural drudge labor such as bending and kneeling in the fields.

ANS: T DIF: Moderate REF: p. 42 OBJ: 4
TOP: IV MSC: Analyzing

5. As agricultural and pastoral societies became larger and more stratified, the rough gender egalitarianism of hunting and gathering societies eroded.

ANS: T DIF: Moderate REF: p. 42 OBJ: 4
TOP: IV MSC: Applying

ESSAY

1. Describe the new methods and insights since the nineteenth century that have changed our view of how humans developed.

   ANS:
   A good answer will reference the way the work of nineteenth-century geologists and Charles Darwin combined to push human origins much further back in time. Darwin also posited the role of natural selection as fundamental to understanding evolution—both for humans as well as "lesser" animals. Darwin opened the door for later biologists and fossil hunters (such as Dart and the Leakeys) to search for human origins in earlier primate species. Scientists came to believe that hominids in Africa divided into three groups: the ancestors of modern apes, chimpanzees, and humans. Finding and studying fossil remains have allowed scientists to point to certain traits that led to the development of *Homo sapiens*—bipedalism, control of fire, making tools, a large brain that allowed greater cognitive skills, and a consciousness of self. Gradually, fossils are being found that help fill in the gaps in understanding human origins.

   DIF: Moderate OBJ: 2 TOP: II MSC: Applying

2. Analyze the role of adaptation to climate changes in hominid development.

   ANS:
   A good answer will begin with understanding the effects of glacial and interglacial periods on the environment. In East Africa as savannas spread, the hominids that developed bipedalism prospered because they were able to obtain more food, avoid predators, throw missiles, and carry their young if they needed to relocate. Over the next 3 million years, brain capacity doubled. By the time of *Homo habilis*, toolmaking emerged as an effect of hominid bipedalism, brain size, and dexterity. One million years ago, *Homo erectus* was one of the few surviving hominid species because it was able to cope with environmental change through family dynamics, use of fire, and true upright bipedalism, which allowed it to travel long distances to seek better environmental conditions—*H. erectus* even migrated out of Africa and was able to adapt to differing environmental conditions in Asia. Later, *Homo sapiens* was even more dexterous and agile, and had better cognitive skills, which allowed it to adapt to an even wider range of environmental conditions, including the Siberian steppes and the Americas. Some scientists think that environmental changes between 9000 and 2000 BCE led *H. sapiens* to adapt by domesticating plants and animals. From this point on, it can be argued, humans had a larger impact on the environment than the environment had on humans.

   DIF: Difficult OBJ: 2 TOP: II MSC: Analyzing

3. Explain the origins of pastoralism and agricultural societies and analyze the relationship between them.

   ANS:
   A good response will be aware that scholars speculate that pastoralism and agriculture arose in response to climate changes and the pressure of growing hunter-gatherer populations. Many areas had reached the limit of the natural food supply, but the domestication of plants and animals increased the carrying capacity of the earth.

Hunter-gatherers fine-tuned food collection techniques until they gradually began sowing seeds and caring for them. Later, some humans abandoned their migratory lifestyle and settled down in agricultural villages, where they applied human labor and new technology. The domestication of plants also encouraged the domestication of animals, which provided labor, clothing, and a secure protein source. In transhumant pastoralism, animals were herded in marginal grasslands around the agricultural centers. Herders often maintained homes in the village, while moving their animals from pasture to pasture seasonally. Transhumant pastoralists exchanged products from their herd with farmers. Nomadic pastoralists used horses to allow them to graze large herds over great distances on land that would not support successful agriculture (such as the steppes). They often interacted with their more settled counterparts as conquerors, traders, and/or transmitters of ideas, products, and peoples. With the domestication of plants and animals, humans refashioned nature to suit their needs for the first time.

DIF: Moderate OBJ: 4 TOP: IV MSC: Analyzing

4. Analyze how the change from hunter-gatherer societies to agriculturalist societies affected gender relations.

ANS:
A good response will note that the agricultural villages that emerged as humans abandoned their hunting and gathering lifestyle represented a significant change in social organization. In smaller, hunting and gathering groups, men and women both contributed in order to guarantee the survival of the clan. Men usually hunted while women gathered and raised the children. But despite this gendered difference in the kind of work done, both were essential to the success of the group. The advent of agriculture eventually led to food surpluses that allowed some members of the community to specialize (skilled crafts, rulers, religious leaders, etc.) which in turn led to social stratification as some people accumulated more wealth, land, prestige, and power than others.

As human society became more complex, the relative gender egalitarianism of hunter-gatherers gave way as social stratification increasingly placed men in positions of power over women. Women increasingly took on the most repetitive tasks of agricultural production. The places where the agricultural revolution was most widespread and where populations were most dense were also the places with the greatest social and gender differences and inequalities.

DIF: Moderate OBJ: 4 TOP: IV MSC: Analyzing

5. Explain the extent to which the development of settled agriculture relied upon innovation or diffusion in Africa, the Americas, and Europe.

ANS:
A good response will understand that all agriculture is based on the specific environment and ecology of a local region. In the Americas, because of the relative isolation of geographic regions conducive to agriculture, innovation occurred slowly and there was little transference of techniques or crops between regions. For much of the Americas, hunting and gathering (and fishing) continued to be the main source of food for human populations. In Mesoamerica, the first evidence of plant domestication occurred in what is now central Mexico, with a precursor of modern maize. Over thousands of years, people manipulated different strains of plants that produced spikes of seeds to develop much larger cobs filled with kernels. Combined with squash and beans, Mesoamericans could raise crops sufficient to switch to village agriculture. However, the relative isolation of the region did not mean that the innovation is the northern hemisphere could spread easily to the south. The crops developed in Mesoamerica could not thrive in the colder, harsher conditions of the Andes highlands, where tubers such as potatoes became the basis of settled agricultural life.

Agriculture in Africa involved both innovation and diffusion. The first settled agriculture most likely began in the Sahel region, were hunters and gathers and herders seem to have developed agriculture without outside influences. Sorghum was the main grain crop in villages dotting the foothills. As the climate became warmer and drier, the Sahara Desert expanded, and the inhabitants dispersed to different parts of Africa, taking their herding and agricultural skills with them. In their new environments, farmers cultivated crops that were more adapted to regional conditions, such as the yam in West Africa and ensete (a plant similar to bananas) in the Ethiopian highlands.

In Europe, in contrast, agriculture spread almost entirely by diffusion. Cultivation of wheat and barley spread rapidly to mainland Greece and the Balkans (and later to Italy and Sicily) from islands in the Aegean Sea and Turkey. The climates were similar and maritime trade was regular, so the spread was fairly rapid. However, further north in the Rhine River Valley, overland routes made diffusion slower, and new plants and animals had to be found that could flourish in the colder, forested lands. Crops had to be planted in spring and harvested in the fall, the reverse of the practice in Southwest Asia.

DIF: Difficult OBJ: 4 TOP: IV MSC: Evaluating