

Unit 1: Technological and Environmental Transformations, to c. 600 BCE¹

Reading: Stearns, Chapter 1

Key Concept 1.1 Big Geography and the Peopling of the Earth

The term “Big Geography” draws attention to the global nature of world history.

Throughout the Paleolithic period, humans migrated from Africa to Eurasia, Australia, and the Americas. Early humans were mobile and creative in adapting to different geographical settings from savannah to desert to Ice Age tundra. By analogy with modern hunter/forager societies, anthropologists infer that these bands were relatively egalitarian. Humans also developed varied and sophisticated technologies.

1. *What is the evidence that explains the earliest history of humans and the planet?*
2. *How is this evidence interpreted?*

I. Archeological evidence indicates that during the Paleolithic Era, hunting-foraging bands of humans gradually migrated from their origin in East Africa to Eurasia, Australia and the Americas, adapting their technology and cultures to new climate regions.

A. Humans used fire in new ways: to aid hunting and foraging, to protect against predators and to adapt to cold environments.

B. Humans developed a wider range of tools specially adapted to different environments from tropics to tundra.

C. Economic structures focused on small kinship groups of hunting/ foraging bands that could make what they needed to survive. However, not all groups were self-sufficient; they exchanged people, ideas and goods.

1. *Where did humans first appear on Earth, and what were the characteristics of their society, technology, economy, and culture?*
2. *Describe earliest humans' technology & tools*
3. *How did the earliest humans' society help them procure enough supplies to survive?*

Key Concept 1.2 The Neolithic Revolution and Early Agricultural Societies

In response to warming climates at the end of the last Ice Age from about 10,000 years ago, some groups adapted to the environment in new ways while others remained hunter/foragers. Settled agriculture appeared in several different parts of the world. The switch to agriculture created a more reliable, but not necessarily more diversified, food supply. Agriculturalists also had a massive impact on the environment, through intensive

¹ With enormous thanks to Bill Strickland and taken, in part, from the College Board's Course materials.

cultivation of selected plants to the exclusion of others, through the construction of irrigation systems and through the use of domesticated animals for food and for labor. Populations increased; family groups gave way to village and later urban life with all its complexity. Patriarchy and forced labor systems developed giving elite men concentrated power over most of the other people in their societies.

Pastoralism emerged in parts of Africa and Eurasia. Pastoral peoples domesticated animals and led their herds around grazing ranges. Like agriculturalists, pastoralists tended to be more socially stratified than were hunter-foragers. Because pastoralists were mobile, they rarely accumulated large amounts of material possessions, which would have been a hindrance when changing grazing areas. Pastoralists' mobility allowed them to become an important conduit for technological change as they interacted with settled populations.

1. *What were the long-term demographic, social, political, and economic effects of the Neolithic Revolution?*
2. *How did pastoral societies resemble or differ from early agricultural societies?*

I. Beginning about 10,000 years ago, the Neolithic Revolution led to the development of new and more complex economic and social systems.

A. Possibly as a response to climatic change, permanent agricultural villages emerged first in the lands of the eastern Mediterranean. Agriculture emerged at different times in Mesopotamia, the Nile River valley and sub-Saharan Africa, the Indus River valley, the Yellow River or Huang He valley, Papua-New Guinea, Mesoamerica and the Andes.

B. Pastoralism developed at various sites in the grasslands of Afro-Eurasia.

C. Different crops or animals were domesticated in the various core regions, depending on available local flora and fauna.

D. Agricultural communities had to work cooperatively to clear land and to create the water control systems needed for crop production.

E. These agricultural practices drastically impacted environmental diversity. Pastoralists also affected the environment by grazing large numbers of animals on fragile grasslands, leading to erosion when over-grazed.

II. Agriculture and pastoralism began to transform human societies.

A. Pastoralism and agriculture led to more reliable and abundant food supplies, which increased population.

B. Surpluses of food and other goods led to specialization of labor, including new classes of artisans and warriors, and the development of elites.

C. Technological innovations led to improvements in agricultural production, trade, and transportation:

- pottery, • plows, • woven textiles, • metallurgy, • wheels and wheeled vehicles.

D. In both pastoralist and agrarian societies, elite groups accumulated wealth, creating more hierarchical social structures and promoting patriarchal forms of social organization.

1. *How did the Neolithic Rev. affect human societies economically & socially?*
2. *Where and Why did the Neolithic Revolution first transform human populations? (Plural answer)*
3. *Why did pastoralism persist even after the Neolithic Revolution?*
4. *What various crops & animals were developed or domesticated during the Neolithic Revolution?*

5. *What labor adjustments did humans make in order to facilitate the Neolithic Revolution?*
6. *What were the environmental effects of the Neolithic Revolution?*
7. *What were the social effects of the increased food supply caused by increase of agriculture?*
8. *What technological innovations are associated with the growth of agriculture?*

Key Concept 1.3 The Development and Interactions of Early Agricultural, Pastoral, and Urban Societies

From about 5,000 years ago, urban societies developed, laying the foundations for the first civilizations. The term civilization is normally used to designate large societies with cities and powerful states. While there were many differences between civilizations, they also shared important features. They all produced agricultural surpluses that permitted significant specialization of labor. All civilizations contained cities and generated complex institutions, such as political bureaucracies, including armies and religious hierarchies. They also featured clearly stratified social hierarchies and organized long-distance trading relationships. Economic exchanges intensified within and between civilizations, as well as with nomadic pastoralists.

As populations grew, competition for surplus resources, especially food, led to greater social stratification, specialization of labor, increased trade, more complex systems of government and religion, and the development of record keeping. As civilizations expanded, they had to balance their need for more resources with environmental constraints such as the danger of undermining soil fertility. Finally, the accumulation of wealth in settled communities spurred warfare between communities and/or with pastoralists; this violence drove the development of new technologies of war and urban defense.

I. Core and foundational civilizations developed in a variety of geographical and environmental settings where agriculture flourished.

- A. Mesopotamia in the Tigris and Euphrates River valleys
- B. Egypt in the Nile River valley
- C. Mohenjo-Daro and Harappa in the Indus River valley
- D. The Shang in the Yellow River or Huang He valley
- E. The Olmecs in Mesoamerica

II. The first states emerged within core civilizations.

- A. States were powerful new systems of rule that mobilized surplus labor and resources over large areas. Early states were often led by a ruler whose source of power was believed to be divine or had divine support, and/or who was supported by the military.
- B. As states grew and competed for land and resources, the more favorably situated had greater access to resources—including the Hittites' access to iron, produced more surplus food and experienced growing populations. These states were able to undertake territorial expansion and conquer surrounding states.
- C. Early regions of state expansion or empire building were Mesopotamia, Babylonia, and the Nile Valley.

D. Pastoralists were often the developers and disseminators of new weapons (such as compound bows or iron weapons) and modes of transportation (such as chariots or horseback riding) that transformed warfare in agrarian civilizations.

1. *What is a 'civilization,' and what are the defining characteristics of a civilization?*
2. *How did civilizations develop and grow more complex before 600 BCE?*
3. *What were the effects of this increasing complexity?*
4. *Where did the earliest civilizations develop, and why did they develop in those locations?*
5. *What is a "state?" Who ruled the early states, and which segments of society usually supported the ruler?*
6. *Why were some early states able to expand and conquering neighboring states?*

III. Culture played a significant role in unifying states through law, language, literature, religion, myths and monumental art.

A. Early civilizations developed monumental architecture and urban planning. (such as ziggurats, pyramids, temples, defensive walls, streets and roads or sewage and water systems)

B. Elites, both political and religious, promoted arts and artisanship. (such as sculpture, painting, wall decorations or elaborate weaving)

C. Systems of record keeping (such as cuneiform, hieroglyphs, pictographs, alphabets) arose independently in all early civilizations and subsequently were diffused.

D. States developed legal codes, including the Code of Hammurabi, which reflected existing hierarchies and facilitated the rule of governments over people.

E. New religious beliefs developed in this period continued to have strong influences in later periods, including the Vedic religion, Hebrew monotheism and Zoroastrianism.

F. Trade expanded throughout this period, with civilizations exchanging goods, cultural ideas and technology. Trade expanded from local to regional and trans-regional, including between Egypt and Nubia, Mesopotamia and the Indus valley.

G. Social and gender hierarchies intensified as states expanded and cities multiplied.

1. *Give four examples of early empires in the Nile & Tigris/Euphrates River Valleys.*
2. *How did culture play a role in unifying populations?*
3. *What architectural forms did early civilizations produce?*
4. *Which social strata encouraged the development of art in ancient civilizations?*
5. *What forms of writing developed in ancient civilizations?*

Identifications

Hunting and gathering: means of obtaining subsistence by humans before the mastery of sedentary agriculture; normally typical of tribal social organization.

Civilization: societies with reliance on sedentary agriculture, ability to produce food surpluses, and existence of non-farming elites, along with merchant and manufacturing groups.

Paleolithic: the Old Stone Age ending in 12,000 b.c.e.; typified by use of evolving stone tools and hunting and gathering for subsistence. Spread of Neanderthals and, later, homo sapiens sapiens.

Neolithic: the New Stone Age between 8000 and 5000 b.c.e.; period in which adaptation of sedentary agriculture occurred; domestication of plants and animals accomplished.

Nomads: cattle- and sheep-herding societies normally found on the fringes of civilized societies; commonly referred to as “barbarian” by civilized societies.

Culture: combinations of ideas, objects, and patterns of behavior that result from human social interaction.

Agrarian revolution: occurred between 8000 and 5000 b.c.e.; transition from hunting and gathering to sedentary agriculture.

Pastoralism: a nomadic agricultural lifestyle based on herding domesticated animals; tended to produce independent people capable of challenging sedentary agricultural societies.

Çatal Hüyük: early urban culture based on sedentary agriculture; located in modern southern Turkey; larger in population than Jericho, had greater degree of social stratification.

Bronze Age: from 4000 to 3000 b.c.e.; increased use of plow, metalworking; development of wheeled vehicles, writing.

Mesopotamia: literally “between the rivers”; the civilizations that arose in the alluvial plain of the Tigris-Euphrates river valleys.

Potter’s wheel: a technological advance in pottery making; invented circa 6000 b.c.e.; encouraged faster and higher-quality ceramic pottery products.

Sumerians: people who migrated into Mesopotamia circa 4000 b.c.e.; created the first civilization within the region; organized area into city-states.

Cuneiform: a form of writing developed by the Sumerians using a wedge-shaped stylus and clay tablets.

City-state: a form of political organization typical of Mesopotamian civilization; consisted of agricultural hinterlands ruled by an urban-based king.

Ziggurats: massive towers usually associated with Mesopotamian temple connections.

Babylonian Empire: unified all of Mesopotamia circa 1800 b.c.e.; collapsed due to foreign invasion circa 1600 b.c.e.

Hammurabi: the most important Babylonian ruler; responsible for a proto-codification of the law.

Pharaoh: the term used to denote the kings of ancient Egypt; the term, “great house” refers to the palace of the pharaohs.

Pyramids: monumental architecture typical of Old Kingdom Egypt; used as burial sites for pharaohs. Compare with Ziggurats

Hieroglyphs: form of writing developed in ancient Egypt; more pictorial than Mesopotamian cuneiform.

Kush: African state that developed along the upper (south) reaches of the Nile circa 1000 b.c.e.; conquered Egypt and ruled it for several centuries.

Monotheism: the exclusive worship of one god; introduced by Jews into Middle Eastern civilization.

Phoenicians: seafaring civilization located on the shores of the eastern Mediterranean; established colonies throughout the Mediterranean. Also known for first alphabet

Harappa and Mohenjo Daro: major urban complexes of Harappan civilization along the Indus River Valley; laid out on planned grid pattern.

Aryans (Indo-Aryans): Indo-European nomadic, warlike, pastoralists who replaced Harappan civilization either through integration or conquest (dispute)

Huanghe (Yellow) River Basin: site of the development of sedentary agriculture in China.

Shang: 1st Chinese dynasty arose in Huanghe River Basin.

Oracles: shamans or priests in Chinese society who foretold the future through interpreting animal bones (**Oracle bones**) cracked by heat; inscriptions on bones led to Chinese writing.

Ideographic writing: pictograph characters grouped together to create new concepts; typical of Chinese writing.

Zhou: originally a vassal family of the Shang; possibly Turkic-speaking in origin; overthrew Shang and established 2nd Chinese dynasty (1122–256 b.c.e.)

Mandate of Heaven: the divine source of political legitimacy in China; established under Zhou to justify overthrow of Shang.

Feudalism: social organization created by exchanging grants of land (fiefs) in return for formal oaths of allegiance and promises of loyal service; typical of Zhou dynasty.

Warring States period: time of warfare between regional lords following the decline of the Zhou dynasty in the 8th century b.c.e.