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Introduction

About 10,000 BCE (12,000 BP), some human communities began to move in a new direction. For the first time, they began to produce food in a systematic way rather than by hunting or gathering all their food in the wild. The emergence of farming and the far-reaching social and cultural changes that came with it sets Big Era Three apart from previous eras.

From one perspective, the advent of farming was a slow, fragmented process. It happened independently in several different parts of the world at different times. It occurred as a result of people making thousands of minute decisions about food production without anyone deliberately setting out to "invent agriculture." Even though some people started farming, others continued for thousands of years to live entirely on wild resources, or to combine crop growing with hunting and gathering.

From another perspective, we might argue that agriculture took the world by storm. The Paleolithic era of hominid and human tool-making went on for more than two million years. Farming settlements, however, appeared on all the major landmasses except Australia within a mere eight thousand years. Foraging societies may have retreated gradually, but today, just twelve thousand years after the first signs of agriculture, they have all but disappeared.

We may define farming as a set of interrelated activities that increase the production of those resources that humans can use, such as cattle, grain, or flax, and reduce the production of things humans cannot use, such as weeds or pests. In order to increase the production of useful resources, farmers systematically manipulate their environment, removing those species they do not want and creating conditions that allow the species they favor to flourish. Thus, we plow and water the land so that our crops can thrive, and we provide food and protection to the animals we need. This is why the emergence of societies based on agriculture, called agrarian societies, involved a complex interplay of plants, animals, topography, climate, and weather with human tools, techniques, social habits, and cultural understandings.

The fundamental technological element of this interplay was domestication, the ability to alter the genetic makeup of plants and animals to make them more useful to humans. Scholars have traditionally labeled the early millennia of agriculture the Neolithic Era (meaning "new

stone age"), because humans developed a more varied and sophisticated kit of stone tools in connection with the emergence of farming.

Systematic food production contributed hugely to the amazing biological success of Homo sapiens. In Paleolithic times, human populations underwent extensification, whereby they multiplied and flourished by spreading thinly across the major landmasses of the world (excepting Antarctica) and by adapting to a wide range of environments, from equatorial forests to Arctic tundra. In Big Era Three, however, a process of "intensification" got under way. This meant that by producing their own resources with the help of domesticated plants and animals, humans could settle and thrive on a single land area in much greater numbers and density than ever before.

The consequences of intensification were astonishing. In the 9,000 years of Big Era Three, world population rose from about 6 million to about 120 million, a change involving a much faster rate of increase than in the previous eras. Such growth, in turn, required unprecedented experiments in human organization and ways of thinking.

By Anne Chapman

Getting a Grip on the Food Supply

Domestication and Its Results

WHY STUDY FOOD SUPPLY?

Without the shift from hunting/gathering to farming/herding, the development of the complex societies that gave rise to our current way of life would not have been possible. This chapter deals with the origins of agriculture, which first took place in Southwest Asia starting about 11,000 years ago. It also considers the results of the shift from collecting to producing food, which paved the way for the complex societies that first arose in the world about 5,000 years ago. This chapter alerts students to the historical processes that led to farming and herding, one of the key turning points in human history. Note that the dates cited in this chapter are approximate and provisional, subject to change as new research emerges.

OBJECTIVES

Upon completing this chapter, students will be able to:

1. Explain how the shift to domestication first came about
2. Compare the life ways of Paleolithic hunter-gatherer communities (about 23,000 years ago) both with those of hunter-gatherers who relied significantly on wild grain (about 10,000 years ago) and with those of farmers (about 9,000 years ago)

3. Assess the advantages and disadvantages of the shift from a hunting/gathering to a farming/herding way of life
4. Articulate a concept of "progress" based on evidence

TIME AND MATERIALS

This chapter is versatile. Each of the two lessons may stand on its own, taking one or two 45-minute class periods each. Time taken will vary, depending on how long is spent on the introductory activities, lesson activities, discussion, assessment, and homework. No materials are needed other than copies of the student handouts, and for some activities, pencil and paper.

HISTORICAL CONTEXT

The domestication of plants and animals meant a revolutionary increase in human control over food supplies. In the process of domestication, humans deliberately cultivated and raised selected plants and animals in places they chose, regulating their growth and reproduction. This resulted in a five- to ten-fold increase in the number of people that a given unit of land could feed. Even greater increases came later. However, hunting remained for a long time an important food source in farming communities.

Historians do not fully understand the reasons why shifts to farming took place in Southwest Asia and other regions at the particular times they did, especially considering that anatomically modern Homo sapiens had been successfully gathering and hunting for more than 200,000 years. Several factors certainly played a part:

- First, Southwest Asia had an unusually large number of species of large-seeded grasses compared to other world regions: 32 of them compared to 5 in Central America, which had the next highest number. Two kinds of wild wheat and barley, among other grasses, grew in the area where farming began, as well as the wild ancestors of lentils, peas, chickpeas, and flax. Women and men domesticated all these between about 11,000 and 9,500 years ago.
- Second, four of the most promising wild mammal candidates for domestication—sheep, goats, cattle, and pigs—were all found wild in Southwest Asia. It is the only place in the world where their range and that of the wild wheat and barley species overlapped.
- Third, a climate change may in some areas have reduced the availability of the wild grasses, leading people to experiment to try to increase the productivity of a resource they had come to rely on.

Population among farmers rose. Permanent settlements multiplied and grew in size. Surpluses could be consistently produced and then stored in containers or on the hoof. Important here was the invention of pottery about 7,000 years ago in which food could be both stored, cooked, and transported. Some individuals and families began to accumulate more surplus wealth than others, which led to inequalities of power, influence, and well-being. Leadership under

these new conditions required different skills and justifications than in small hunting-gathering communities. The need grew for conflict resolution, for symbolic ways to unify larger populations, and for defense of stored surpluses against rivals and outsiders. Production of surplus crops and herds made it possible for a community to support people who did not grow food themselves but had specialized jobs as artisans, priests, soldiers, and political chiefs. Because farming peoples lived in larger, denser communities than did hunter-gatherers, infectious diseases appeared and spread more easily, partly as a result of close contact between humans and infected domestic animals.

THREE ESSENTIAL QUESTIONS

Humans and the Environment

"The invention of farming had such a negative impact on the natural environment that humans should never have done it. They would have been better off remaining hunters and gatherers." Debate this statement.

Humans and Other Humans

How do you think social and economic relations between adult men and women in early farming villages and in hunting-gathering bands might have differed? Why do you think changes took place? How do you think gender relations in early farming villages and in urban societies today might generally differ? Why?

Humans and Ideas

What inferences might we make about religious beliefs and practices of people in the Neolithic Era from archaeological evidence? Can we possibly know anything about what people *believed* in the absence of written documents? What might you infer about peoples' religious beliefs or practices by simply examining the exterior of a church, a mosque, or a synagogue?

KEY THEMES

This chapter addresses the following historical themes:

Key Theme 1: Population Patterns

Key Theme 6: Spiritual Life and Moral Codes

Key Theme 7: Science, Technology, and the Environment

CORRELATIONS TO NATIONAL HISTORY STANDARDS

National Standards for World History

The Beginnings of Human Society. Standard 2A: The student understands how and why humans established settled communities and experimented with agriculture; Standard 2B: The student understands how agricultural societies developed around the world.

INSTRUCTIONAL RESOURCES

Bellwood, Peter. *First Farmers: The Origins of Agricultural Societies*. Malden, MA: Blackwell, 2005.

Bulliet, Richard W. *Hunters, Herders, and Hamburgers: The Past and Future of Human-Animal Relationships*. New York: Columbia University Press, 2005.

Christian, David. *Maps of Time: An Introduction to Big History*. Berkeley: University of California Press, 2004.

Diamond, Jared. *Guns, Germs, and Steel*. New York: W. W. Norton, 1997.

Heatherington, Renée. *Living in a Dangerous Climate: Climate Change and Human Evolution*. New York: Cambridge University Press, 2012.

Kuijt, Ian, ed. *Life in Neolithic Farming Communities*. New York: Kluwer Academic/Plenum Publishers, 2000.

Mellaart, James, Udo Hirsch, and Belkis Balpinar. *The Goddess from Anatolia*. 4 vols. Milan, Italy: Eskenazi, 1989.

Mithen, Steven. *After the Ice: A Global Human History, 20,000-5000 BC*. Cambridge, MA: Harvard University Press, 2003.

Price, Douglas T., and Anne Birgitte Gebauer, eds. *Last Hunters-First Farmers*. Santa Fe, NM: School of American Research Press, 1995.

Ristvet, Lauren. *In the Beginning: World History from Human Evolution to the First States*. Boston: McGraw-Hill, 2007.

Ruddiman, William F. *Plows, Plagues, and Petroleum: How Humans Took Control of Climate*. Princeton: Princeton University Press, 2005.

Tattersall, Ian. *The World from Beginnings to 4000 BCE*. Oxford: Oxford University Press, 2008.

Wade, Nicholas. *Before the Dawn: Recovering the Lost History of Our Ancestors*. New York: Penguin Press, 2006.

Wenke, Robert J. *Patterns in Prehistory*. 4th ed. Oxford: Oxford University Press, 1996.