

Unit I- Farming and Emergence of Complex Societies, c. 10,000 BCE-1000 BCE

Overview

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 hunt or collect all their food in the wild. The emergence of farming and the far-reaching social and cultural changes that came with it sets this period apart from previous periods in history.

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 being conscious that humans were "inventing agriculture." And 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 hominin and human tool-making went on for about two million years. Farming settlements, however, appeared on all the major landmasses except Australia within a mere 8,000 years. Foraging societies may have retreated gradually, but today, just 12,000 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 resources they can use, 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, what we call **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 our discussion of we introduced the concept of **extensification**, the idea that in Paleolithic times humans 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 however, a process of **intensification** got under way. This meant that by producing resources from domesticated plants and animals, humans could settle and thrive on a given land area in much greater numbers and density than ever before.

The consequences of intensification were astonishing. In the 9,000 years of 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.

Humans and the Environment-

Scholars generally agree that foragers of the Paleolithic enjoyed, at least much of the time, sufficient food supplies, adequate shelter, and shorter daily working hours than most adults do today. Humans did not, therefore, consciously take up crop growing and animal raising because they thought they would have a more secure and satisfying life. In other words, humans seem to have been "pushed" into agriculture rather than "pulled" into it. When some communities in certain places made the transition to farming, they did it incrementally over centuries or even millennia, and they had no clear vision that they were dropping one whole way of life for another. If we can speak of an "agricultural revolution," we would also have to say that humans backed slowly into it even if, on the scale of 200,000 years, the change was rapid.

1. The Great Thaw- The coming of agrarian societies was almost certainly connected to the waning of the Pleistocene, or Ice Age, the period beginning at about 15,000 BP when glaciers shrank and both sea levels and global temperatures rose. In several parts of the Northern Hemisphere rainfall increased significantly. This period of 5,000 to 7,000 years was the prelude to the Holocene, the climatic epoch that

spans most of the last 10,000 years. Rising seas drowned low-lying coastal shelves as well as land bridges that had previously connected regions separated by water today. Land bridges now under water included spans between Siberia and Alaska, Australia and Papua New Guinea, and Britain and continental Europe.

One consequence of this "great thaw" was the dividing of the world into three distinct zones, whose human populations, as well as other land-bound animals and plants, had very limited contact with one another. These zones were 1) Afroeurasia and adjacent islands, that is Africa, Asia, and Europe combined; 2) the Americas; and 3) Australia. From about 4000 BCE, the Pacific Ocean basin and its island populations began to emerge as a fourth distinct zone. Though humans rarely had contact between one zone and another (until 1500 CE or later), within each of the zones they interacted more or less intensively, depending on patterns of geography, climate, and changing historical circumstances.

A second consequence of the great thaw was that across much of the Northern Hemisphere, warmer, rainier, ice-free conditions permitted forests, meadowlands, and small animal populations to flourish. The natural bounty was so great in some localities that human bands began to settle in one place all or part of the year to forage and hunt. That is, they became [sedentary](#), settled in hamlets or villages rather than moving from camp to camp. For example, in the relatively well-watered part of Southwest Asia we call the [Fertile Crescent](#), groups began sometime between 10,000 and 13,000 BP to found tiny settlements in order to collect plentiful stands of wild grain and other edible plants and animals.

2. The Dawn of Domestication-In time, these groups took up the habit of protecting their wild grain fields against weeds, drought, and birds. Eventually they started broadcasting edible plant seeds onto new ground to increase the yield. Finally, they began selecting and planting seeds from individual plants that seemed most desirable for their size, taste, and nutrition. In other words, humans learned how to control and manipulate the reproduction of plants that were bigger, tastier, more nutritious, and easier to grow, harvest, store, and cook than were wild food plants. Systematic domestication was under way!

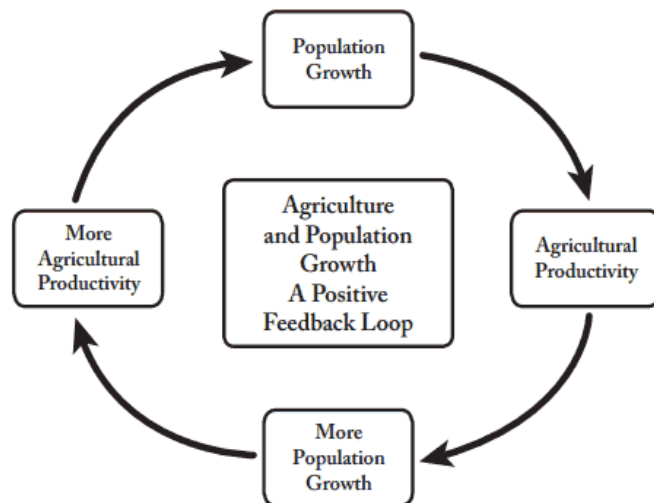
In the Fertile Crescent, key domesticates included the ancestors of wheat, barley, rye, and several other edible plants. Selecting and breeding particular animal species—sheep, goats, cattle, pigs—that were good to eat and easy to manage occurred in a similar way. In effect, humans started grooming the natural environment to reduce the organisms they did not want (weeds, predatory wolves) and to increase the number of organisms they did want (grains, legumes, wool-bearing sheep, hunting dogs).

3. Co-Dependency- Eventually, plant-growing and animal-raising communities became "co-dependent" with their domesticates. That is, humans came to rely on these genetically altered species to survive. In turn, domesticated plants and animals were so changed that they would thrive only if humans took care of them. For example, the maize, or corn, that we see in fields today can no longer reproduce without human help.

The great advantage of co-dependency was that a community could rely fairly predictably on a given area of land to produce sufficient, even surplus, yields of hardy, tasty food. Populations of both humans and their domesticates tended to grow accordingly. On the darker side, co-dependency was a kind of trap: a farming community, which had to huddle together in a crowded village and labor long hours in the fields, could not go back to a foraging way of life even if it wanted to. And, as we will see, a lot of new problems appeared as humans began to live together in denser communities, from new types of diseases to the buildup of village waste and rubbish.

4. Environmental Intervention-The Fertile Crescent was an early incubator of agriculture, but it was by no means the only one. Between 12,000 and 3000 BCE, similar processes involving a great variety of domesticates occurred in several different parts of the world. The intensification in population densities and economic productivity that farming permitted also spurred humans to intervene in the natural and physical environment as never before. As farmers cleared more land, planted more crops, and pastured more animals, they enhanced their species' biological success.

That is, there occurred a positive feedback cycle of ever-increasing population and productivity that looked something like this:



Beginning about 6000 BCE, intensification in particular parts of the world moved to a level that required radical innovations in the way humans lived and worked.

5. *Crowded Cities*- First in the Tigris-Euphrates and Nile River valleys, then the Indus valley, and later in China's Huang River (Huang He) valley and a few other regions, societies emerged that were far larger and denser than the farming communities of the Neolithic period. We refer to these big concentrations of people as [complex societies](#), or, more traditionally, as [civilizations](#).

Their most conspicuous characteristic was cities. Early cities were centers of power, manufacturing, and creativity. Building and preserving them, however, required drastic alterations of the local environment to produce sufficient food, building materials, and sources of energy. The price of this intervention was high. Dense urban societies were extremely vulnerable to changes in weather, climate, disease conditions, wood supplies, and trade links to distant regions. After the appearance of complex societies, humans stepped up their efforts to manipulate and control their physical and natural environment. This had great benefits but also produced a negative feedback cycle.

- Deforestation and consequent erosion threatened periodic food shortages and social conflict.
- Habitation in densely packed villages and cities brought humans in closer contact with disease-carrying animals, resulting in greater vulnerability to epidemic infections.
- In the cases of some complex societies, ecological problems stimulated social and economic innovations to improve conditions or stave off disaster. In some other cases, however, these problems led eventually to economic, demographic, or political collapse.

Humans and Other Humans

The intensification of population and production that came with obliged humans to experiment with new forms of social organization. The customs and rules that governed social relationships in a foraging band of twenty-five or thirty people were no longer adequate.

The permanent farming settlements that multiplied in Afroeurasia in the early millennia of the era numbered as few as several dozen people to as many as 10,000. These communities had to work together in more complicated ways and on a larger scale than was the case in foraging bands. Even so, social relations may not have changed greatly from foraging days. Men and women probably continued to treat each other fairly equally. No one had a full-time job other than farming. Some individuals no doubt became leaders because they were strong or intelligent. No individual or group, however, had formal power to lord over the rest.

1. Early Complex Societies- Only after about 4000 BCE did truly staggering changes occur in social customs and institutions. The complex societies that arose in the Tigris-Euphrates, Nile, and Indus valleys, and somewhat later in other regions, were cauldrons of intensification. That is, people lived and worked together in much larger, denser communities than had ever existed. These societies shared a number of fundamental characteristics, which we generally associate with civilizations:

- Cities arose, the early ones varying somewhat in their forms and functions. By 2250 BCE, there were about eight cities in the world that had 30,000 or more inhabitants. By 1200 BCE, there were about sixteen cities that big.
 - Some people took up full-time specialized occupations and professions (artisans, merchants, soldiers, priests, and so on) rather than spending most of their time collecting, producing, or processing food.
 - A hierarchy of social classes appeared in which some men and women—the elite class—had more wealth, power, and privilege than did others. Also, men became dominant over women in political and social life, leading to [patriarchy](#).
 - The state, that is, a centralized system of government and command, was invented. This meant that a minority group—kings, queens, high officials, priests, generals—exercised control over the labor and social behavior of everyone else.
 - Complex exchanges of food and other products took place within the complex society, and lines of trade connected the society to neighbors near and far.
 - Technological innovations multiplied, and each new useful invention tended to suggest several others.
 - Monumental building took place—city walls, temples, palaces, public plazas, and tombs of rulers.
 - A system of writing, or at least a complex method of record-keeping, came into use.
 - Spiritual belief systems, public laws, and artistic expressions all became richer and more complex.
 - Creative individuals collaborated with the ruling class to lay the foundations of astronomy, mathematics, and chemistry, as well as civil engineering and architecture.
- A society did not have to exhibit every one of these characteristics to qualify as a civilization. The checklist is less important than the fact that all these social, cultural, economic, and political elements interacted dynamically with one another. The synergism among them made the society complex, that is, made it recognizable as a civilization

2. Animal-Herding Societies- From about the fourth millennium BCE, Afroeurasia saw the development of a new type of society and economy in parts of the [Great Arid Zone](#). This is the belt of dry and semi-arid land that extends across Afroeurasia from the Sahara Desert in the west to Manchuria in northern China. Here, communities began to organize themselves around a specialized way of life based on herding domesticated animals, whether sheep, cattle, horses, or camels. Known as [pastoral nomadism](#), this economic system permitted humans to adapt in larger numbers than ever before to climates where intensive farming was not possible. Pastoral nomads lived mainly on the products of their livestock—meat, milk, blood, hides, hair, wool, and bone. They often grazed and migrated over extensive areas, and they planted crops either not at all or as a minor, supplemental activity.

By the third millennium BCE, animal-breeding societies were appearing in a number of regions, notably along the margins of the Great Arid Zone. These communities found they could adapt to dry conditions because sheep, cattle, and a few other domesticates could thrive on wild grasses and shrubs. These animals converted vegetable matter that humans could not digest into meat, milk, and blood, which they could. That is, humans became experts at transforming the natural flora of arid lands into an animal diet high in protein and fat.

Pastoral communities usually followed regular migratory routes from pasture to pasture as the seasons changed. When families were on the move, they lived in hide tents or other movable dwellings, and their belongings had to be limited to what they could carry along. This does not mean that they wished to cut themselves off from farming societies or cities. Rather, pastoralists eagerly purchased farm produce or manufactures in exchange for their hides, wool, dairy products, and sometimes their services as soldiers

and bodyguards. The ecological borders between pastoral societies and town-building populations were usually scenes of lively trade.

Because pastoral societies were mobile, not permanently settled, they expressed social relationships not so much in terms of where people lived but rather in terms of kinship, that is, who was related by "blood" to whom—closely, distantly, or not at all. They typically had a tribal organization, though this has nothing to do with how "advanced" or "primitive" they were. Rather, we define a tribe as a group whose members claim to be descended from a common ancestor. Usually, a tribe is typically the largest group in a region claiming shared descent. Tribes may also be divided into smaller groups of people who see themselves as relatively more closely related, from clans to lineages to nuclear families.

In the latter part of we see emerging an important long-term and recurring pattern in history: encounters involving both peaceful exchanges and violent clashes between agrarian peoples and pastoral nomads of Inner Eurasia, the Sahara Desert, and other sectors of the Great Arid Zone. An early example is the far-reaching social and political change that occurred in the second and first millennia BCE when several different pastoral peoples of Inner Eurasia pressed into the agrarian, urbanized regions of Southwest Asia, India, and Europe, sometimes moving in peacefully, sometimes raiding, sometimes conquering.

Also, the mobility of pastoral societies and their vital interests in trade meant that they served to link different agrarian societies with one another and to encourage growth of long networks of commercial and cultural exchange. The best known of these networks is the Inner Eurasian silk roads, the series of trade routes that pastoral peoples dominated and that moved goods and ideas between China in the east and India, Southwest Asia, and the Mediterranean region to the west.

Humans and Ideas

It was during this time that Homo sapiens evolved its capacity for language. This wondrous skill meant that humans could engage in [collective learning](#), not only sharing information and ideas from one community to another, sometimes across great distances, but also passing an ever-increasing stockpile of beliefs from one generation to the next.

Previous to 10,000 BCE, the world's population started growing at a faster rate than ever before. The size and density of communities expanded, and networks of communication by land and sea became more extensive and sophisticated. Along with these developments came, as we might well expect, an intensification in the flow of information and a general speed-up in the accumulation of knowledge of all kinds.

One example is religious knowledge. In the early millennia of this period, certain ideas, practices, and artistic expressions centered on the worship of female deities spread widely along routes of trade and migration to embrace a large part of western Eurasia. Another example is the idea and technology of writing, which emerged first, as far as we know, in either Egypt or Mesopotamia and spread widely from there to the eastern Mediterranean and India. A third example is the horse-drawn chariot, which may have first appeared in the Inner Eurasian steppes and within less than a thousand years spread all across Eurasia from western Europe to China.

1. Complex Societies As Centers of Innovation- Since we are focusing here on large-scale changes in world history, we cannot discuss in detail the numerous scientific, technological, and cultural innovations that complex societies achieved in in Afroeurasia and, from the second millennium BCE, in Mesoamerica (Mexico and Central America) and South

To take just one early example, the city-dwellers of Sumer in southern Mesopotamia, which is as far as we know the earliest urban civilization, made fundamental scientific and technical breakthroughs in the fourth and third millennia BCE. Sometime before 3000 BCE, Sumerian scribes worked out a system of numerical notation in the writing script they used, called cuneiform. For computation they devised both base-ten (decimal) and base-sixty systems. The base-sixty method has endured in the ways we keep time and reckon the circumference of a circle—60 seconds to the minute, 60 minutes to the hour, and 360 degrees in the circumference of a circle. Sumerians used a combination of base-ten and base-sixty mathematics, together with a growing understanding of geometry, for everyday government and commerce, as well as to survey

land, chart the stars, design buildings, and build irrigation works. Other technical innovations included the seed drill, the vaulted arch, refinements in bronze metallurgy, and, most ingenious of all, the wheel. This concept was probably first applied to pottery making, later to transport and plowing.

2. *Different Cultural Styles*- Within complex societies, such as those that emerged in the great river valleys, the interchange of information and ideas tended to be so intense that each society developed a distinct cultural style. We can discern these distinctive styles today in the surviving remnants of buildings, art objects, written texts, tools, and other material remains.

We should, however, keep two ideas in mind. One is that all complex societies were invariably changing, rather than possessing timeless, static cultural traits. The style of a civilization changed from one generation to the next because cultural expressions and values were invariably bound up with the natural environment, economic life, and politics, which were continuously changing as well. The second point is that early civilizations were not culturally self-contained. All of them developed and changed as they did partly because of their connections to other societies near and far, connections that played themselves out in trade, migration, war, and cultural exchange.