

Agriculture involved long hours of hard physical labor—clearing land, preparing fields, planting seeds, pulling weeds, and harvesting crops. Indeed, agriculture probably required more work than paleolithic foraging: anthropologists calculate that modern hunting and gathering peoples spend about four hours per day in providing themselves with food and other necessities, devoting the remainder of their time to rest, leisure, and social activities. Yet over time agriculture made possible the production of abundant food supplies. Eventually agriculture spread widely, influencing the lives and experience of almost all humans.

## Thinking about ENCOUNTERS

### Migrations and the Early Spread of Agriculture

Ever since *Homo erectus* left Africa almost two million years ago and established communities in the Eurasian continent, humans have been migratory creatures, quick to search for opportunities in lands beyond the horizon. Whenever humans moved to new lands, they carried their technologies with them and introduced new ways of exploiting natural resources. In what ways did early human migrations help explain the early spread of agriculture?



### Early Agricultural Society

In the wake of agriculture came a series of social and cultural changes that transformed human history. Perhaps the most important change associated with early agriculture was a population explosion. Spread thinly across the earth in paleolithic times, the human species multiplied prodigiously after agriculture increased the supply of food. Historians estimate that before agriculture, about 10,000 B.C.E., the earth's human population was four million. By 5000 B.C.E., when agriculture had appeared in a few world regions, human population had risen to about five million. Estimates for later dates demonstrate eloquently the speed with which, thanks to agriculture, human numbers increased:

Year	Human Population
3000 B.C.E.	14 million
2000 B.C.E.	27 million
1000 B.C.E.	50 million
500 B.C.E.	100 million

**Emergence of Villages and Towns** Their agricultural economy and rapidly increasing numbers encouraged neolithic peoples to adopt new forms of social organization. Because they devoted their time to cultivation rather than foraging, neolithic peoples did not continue the migratory life of their paleolithic predecessors but, rather, settled near their fields in permanent villages. One of the earliest known neolithic villages was Jericho, site of a freshwater oasis north of the Dead Sea in present-day Israel, which came into existence before 8000 B.C.E. Even in its early days, Jericho may have had two thousand residents—a vast crowd compared with a paleolithic hunting band. The residents farmed mostly wheat and barley with the aid of water from the oasis. During the earliest days of the settlement, they kept no domesticated animals, but they added meat to their diet by hunting local game animals. They also engaged in a limited amount of trade, particularly in salt and obsidian, a hard, volcanic glass

from which ancient peoples fashioned knives and blades. About 7000 B.C.E., the residents surrounded their circular mud huts with a formidable wall and moat—a sure sign that the wealth concentrated at Jericho had begun to attract the interest of human predators.

**Specialization of Labor** The concentration of large numbers of people in villages encouraged specialization of labor. Most people in neolithic villages cultivated crops or kept animals. Many also continued to hunt and forage for wild plants. But a surplus of food enabled some individuals to concentrate their time and talents on enterprises that had nothing to do with the production of food. The rapid development of specialized labor is apparent from excavations carried out at one of the best-known neolithic settlements, **Çatal Hüyük**. Located in south-central Anatolia (modern-day Turkey), Çatal Hüyük was occupied continuously from 7250 to 5400 B.C.E., when residents abandoned the site. Originally a small and undistinguished neolithic village, Çatal Hüyük grew into a bustling town, accommodating about five thousand inhabitants. Archaeologists have uncovered evidence that residents manufactured pots, baskets, textiles, leather, stone and metal tools, wood carvings, carpets, beads, and jewelry among other products. Çatal Hüyük became a prominent village partly because of its close proximity to large obsidian deposits. The village probably was a center of production and trade in obsidian tools: archaeologists have discovered obsidian that originated near Çatal Hüyük at sites throughout much of the eastern Mediterranean region.

Three early craft industries—pottery, metallurgy, and textile production—illustrate the potential of specialized labor in neolithic times. Neolithic craftsmen were not always the original inventors of the technologies behind those industries: the

**Çatal Hüyük** (chat-l hoo-yook)



**Pottery** The earliest of the three craft industries to emerge was pottery. Paleolithic hunters and gatherers had no use for pots. They did not store food for long periods of time, and in any case lugging heavy clay pots around as they moved from one site to another would have been inconvenient. A food-producing society, however, needs containers to store surplus foods. By about 7000 B.C.E., neolithic villagers in several parts of the world had discovered processes that transformed malleable clay into fire-hardened, water-proof pottery capable of storing dry or liquid products. Soon thereafter, neolithic craftsmen discovered that they could etch designs into their clay that fire would harden into permanent decorations and furthermore that they could color their products with glazes. As a result, pottery became a medium of artistic expression as well as a source of practical utensils.

**Metalworking** Metallurgy soon joined pottery as a neolithic industry. The earliest metal that humans worked with systematically was copper. In many regions of the world, copper occurs naturally in relatively pure and easily malleable form. By hammering the cold metal, it was possible to turn it into jewelry and simple tools. By 6000 B.C.E., though, neolithic villagers had discovered that they could use heat to extract copper from its ores and that when heated to high temperatures, copper became much more workable. By 5000 B.C.E., they had raised temperatures in their furnaces high enough to melt copper and pour it into molds. With the technology of smelting and casting copper, neolithic communities were able to make not only jewelry and decorative items but also tools such as knives, axes, hoes, and weapons. Moreover, copper metallurgy served as a technological foundation on which later neolithic craftsmen developed expertise in the working of gold, bronze, iron, and other metals.

PACIFIC  
OCEAN

Mesoamerica  
Food crops: maize  
peppers, squashes

### MAP 1.2

#### Origins and early spread

After 9000 B.C.E. peoples independently began to cultivate animals that were native to their territories and eventually also

6000 B.C.E. As animals, neolithic  
tive breeding. ]  
animals that pro  
then developed  
and weaving t  
was probably t  
and weave fat  
small children