Chapter 1: The Origins of Civilization

Introduction

What is “civilization”? In English, the word encompasses a wide variety of meanings, often implying a culture possessing some combination of learning, refinement, and political identity. As described in the introductory chapter, it is also a “loaded” term, replete with an implied division between civilization and its opposite, barbarism, with “civilized” people often eager to describe people who are of a different culture as being “uncivilized” in so many words. Fortunately, more practical and value-neutral definitions of the term also exist. Civilization as a historical phenomenon speaks to certain foundational technologies, most significantly agriculture, combined with a high degree of social specialization, technological progress (albeit of a very slow kind in the case of the pre-modern world), and cultural sophistication as expressed in art, learning, and spirituality.

In turn, the study of civilization has been the traditional focus of history, as an academic discipline, since the late nineteenth century. As academic fields became specialized over the course of the 1800s CE, history identified itself as the study of the past based on written artifacts. A sister field, archeology, developed as the study of the past based on non-written artifacts (such as the remains of bodies in grave sites, surviving buildings, and tools). Thus, for practical reasons, the subject of “history” as a field of study begins with the invention of writing, something that began with the earliest civilization itself, that of the Fertile Crescent (described below). That being noted, history and archeology remain closely intertwined, especially since so few written records remain from the remote past that most historians of the ancient world also perform archeological research, and all archeologists are also at least conversant with the relevant histories of their areas of study.

Hominids

Human beings are members of a species of hominid, which is the same biological classification that includes the advanced apes like chimpanzees. The earliest hominid ancestor of humankind was called *Australopithecus*: a biological species of African hominid (note: hominid is the biological "family" that encompasses great apes – Australopithecus, as well as Homo Sapiens, are examples of biological "species" within that family) that evolved about 3.9 million years ago. Australopithecus was similar to present-day chimpanzees, loping across the ground on all fours rather than standing upright, with brains about one-third the size of the modern human brain. They were the first to develop tool-making technology, chipping obsidian (volcanic glass) to make knives. From Australopithecus, various other hominid species evolved, building on the genetic advantages of having a large brain and being able to craft simple tools.

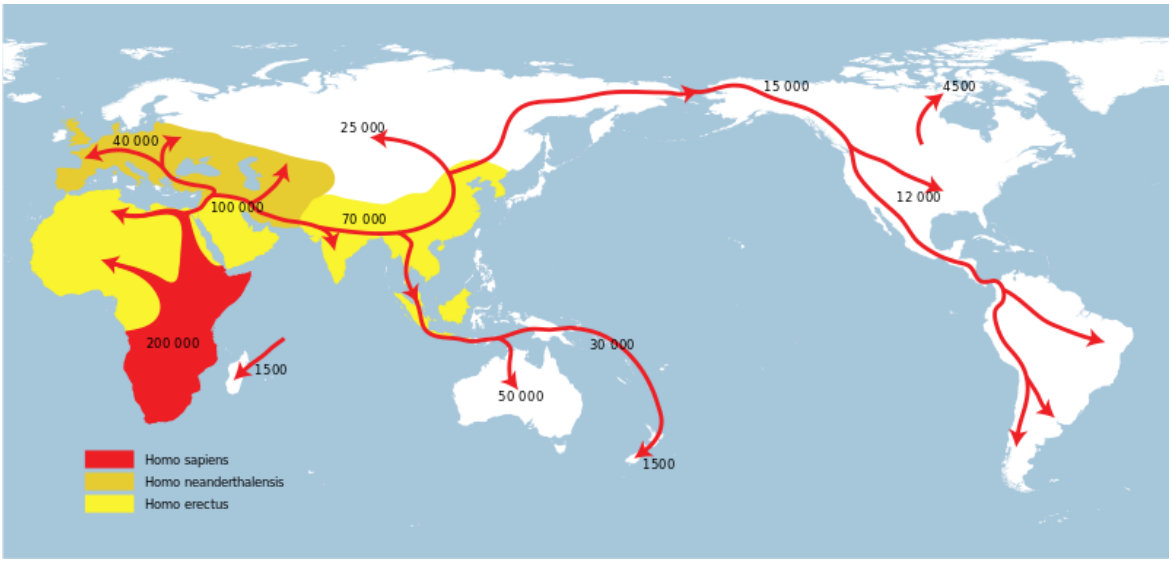
One noteworthy descendent of Australopithecus was *Homo Erectus*, which gets its name from the fact that it was the first hominid to walk upright. It also benefited from a brain three-fourths the size of the modern human equivalent. Homo Erectus developed more advanced stone tool-making than had Australopithecus, and survived until about 200,000 years ago, by which time the earliest *Homo Sapiens* – humans – had long since evolved alongside them.

Homo Sapiens emerged in a form biologically identical to present-day humankind by about 300,000 years ago (fossil evidence frequently revises that number - the oldest known specimen was discovered in Morocco in 2017). Armed with their unparalleled craniums, Homo Sapiens created sophisticated bone and stone implements, including weapons and tools, and also mastered the use of fire. They were thus able to hunt and protect themselves from animals that had far better natural weapons, and (through cooking) eat meat that would have been indigestible raw. Likewise, animal skins served as clothes and shelter, allowing them to exist in climates that they could not have settled otherwise.

Homo Sapiens was split between two distinct types, physically different but able to interbreed, Neanderthals and Homo Sapiens Sapiens (the latter term means "the wisest man" in Greek). Neanderthals enjoyed a long period of existence between about 200,000 and 40,000 years ago, spreading from Africa to the Middle East and Europe. They were physically larger and stronger than Homo Sapiens Sapiens and were able to survive in colder conditions, which was a key asset during the long ice age that began around 100,000 years ago. Neanderthals congregated in small groups, apparently interacting only to exchange breeding partners

(naturally, we have no idea how these exchanges were negotiated - the evidence of their lifestyle is drawn from fossils and archeology).

Homo Sapiens Sapiens were weaker and less able to deal with harsh conditions than Neanderthals, staying confined to Africa for thousands of years after Neanderthals had spread to other regions. They did enjoy some key advantages, however, having longer limbs and congregating in much larger groups of up to 100 individuals. As conditions warmed by about 50,000 years ago they spread to the Middle East and Europe and started both interbreeding with and - probably - slowly killing off the Neanderthals, who vanished by about 40,000 years ago. By that time, Homo Sapiens Sapiens was already in the process of spreading all over the world.



Of the advanced hominids, only homo sapiens spread around the entire globe.

That massive global emigration was complete by about 40,000 years ago (with the exception of the Americas, which took until about 12,000 years ago). During an ice age, humans traveled overland on the Bering Land Bridge, a chunk of land that used to connect eastern Russia to Alaska, and arrived in the Americas. Later, very enterprising ancient humans built seagoing canoes and settled in many of the Pacific Islands. Thus, well before ancient humans had developed the essential technologies that are normally connotated with civilization, they had already accomplished transcontinental and transoceanic voyages and adapted to almost every climate on the planet.

Likewise, the absence of advanced technologies was not an impediment to the attempt to understand the world. One astonishing outgrowth of Homo Sapiens' brain power was the

creation of both art and spirituality. Early Homo Sapiens painted on the walls of caves, most famously in what is today southern France, and at some point they also began the practice of burying the dead in prepared grave sites, indicating that they believed that the spirit somehow survived physical death. Artifacts that have survived from prehistory clearly indicate that Homo Sapiens was not only creating physical tools to prosper, but creating art and belief systems in an attempt to make sense of the world at a higher level than mere survival.

Part of the Lascaux cave paintings in southern France.

Civilization and Agriculture

Thus, human beings have existed all over the world for many thousands of years. Human *civilization*, however, has not. The word civilization is tied to the Greek word for city, along with words like “civil” and “civic.” The key element of the definition is the idea that a large number of people come together in a group that is *too* large to consist only of an extended family group. Once that occurred, historically, other discoveries and developments, from writing to mathematics to organized religion, followed.

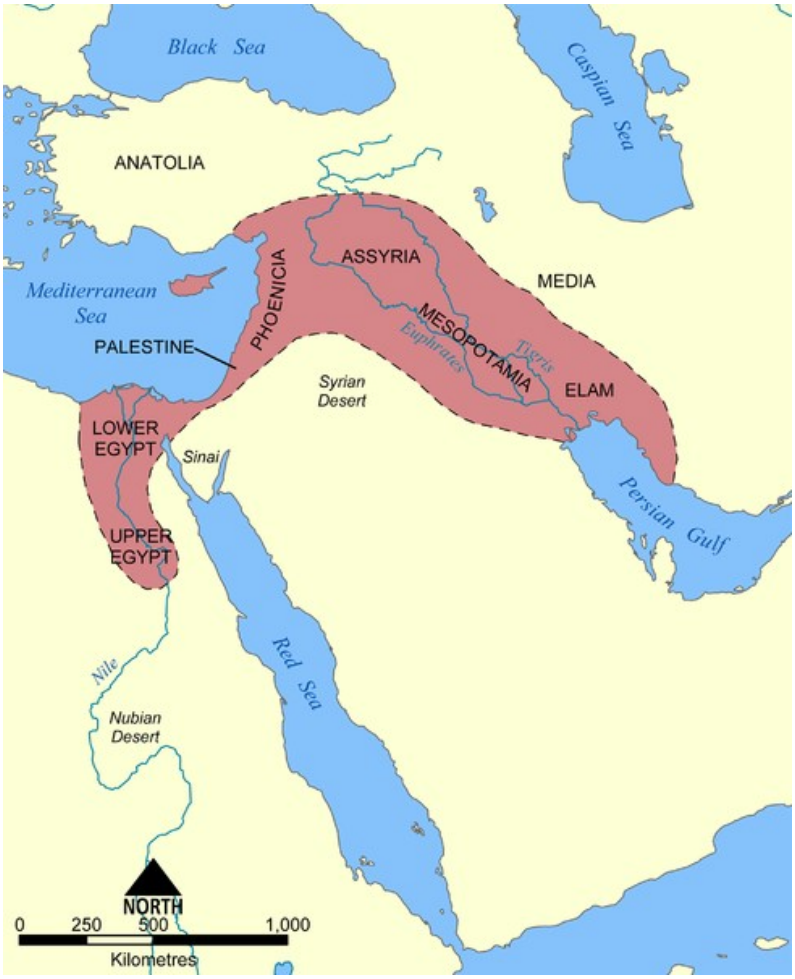
Up until that point in history, however, cities had not been possible because there was never enough food to sustain a large group that stayed in a single place for long. Ancient humans were hunter-gatherers. They followed herds of animals on the hunt and they gathered edible plants as well. This way of life fundamentally *worked* for hundreds of thousands of years - it was the basis of life for the very people who populated the world as described above. The problem with the hunter-gatherer lifestyle, however, is that it is extremely precarious: there is never a significant surplus of caloric energy, that is, of food, and thus population levels among hunting-gathering people were generally static. There just was not enough food to sustain significant population growth.

Starting around 10,000 BCE, humans in a handful of regions around the world discovered agriculture, that is, the deliberate cultivation of edible plants. People discovered that certain seeds could be planted and crops could be reliably grown. Sometimes after that, people in the same regions began to domesticate animals, keeping herds of cattle, pigs, sheep, and goats in controlled conditions, defending them from predators, and eating them and using their hides. It is impossible to overstate how important these changes were. Even fairly primitive agriculture can produce fifty times more caloric energy than hunting and gathering does. The very basis of human life is how much energy we can derive from food; with agriculture and animal domestication, it was possible for families to grow much larger and overall population levels to rise dramatically.

One of the noteworthy aspects of this transition is that hunting-gathering people actually had much more leisure time than farmers did (and were also healthier and longer-lived). Archaeologists and anthropologists have determined that hunting-gathering people generally only “worked” for a few of hours a day, and spent the rest of their time in leisure activities. Meanwhile, farmers have always worked incredibly hard for very long hours; in many places in the ancient world, there were groups of people who remained hunter-gatherers despite knowing about agriculture, and it is quite possible they did that because they saw no particular advantage in adopting agriculture. There were also many areas that practiced both – right up until the modern era, many farmers also foraged in areas of semi-wilderness near their farms.

Agriculture was developed in a few different places completely independently. According to archeological evidence, agriculture did not start in one place and then spread; it started in a few distinct areas and then spread from those areas, sometimes meeting in the middle. For example, agriculture developed independently in China by 5000 BCE, and of course agriculture in the Americas (starting in western South America) had nothing to do with its earlier invention in the Fertile Crescent.

The most important regions for the development of Western Civilization were Mesopotamia and Egypt, because it was from those regions that the different technologies, empires, and ideas that came together in Western Civilization were forged. Thus, it is important to emphasize that the original heartland of Western Civilization was not in Greece or anywhere else in Europe; it was in the Middle East and North Africa. Many of the different elements of Western Civilization, things like scientific inquiry, the religions of the book (Judaism, Christianity, and Islam), engineering, and mathematics, were originally conceived in Mesopotamia and Egypt.



The earliest sites of agriculture emerged in the Fertile Crescent, the region encompassing Egypt along the Nile river, the Near East, and Mesopotamia

Early agriculture, the kind of agriculture that made later advances in civilization possible, consisted of people simply planting seeds by hand or with shovels and picks. There were some

important technological discoveries that took place over time that allowed much greater crop yields, however. They included:

1. Crop rotation, which people discovered sometime around 8000 BCE. Crop rotation is the process of planting a different kind of crop in a field each year, then "rotating" to the next field in the next year. Every few years, a field is allowed to "lie fallow," meaning nothing is planted and animals can graze on it. This process serves to return nutrients to the soil that would otherwise be leached out by successive years of planting, and it greatly increases yields overall.
2. The metal plow, which people invented around 5000 BCE. Plows are hugely important; they opened up areas to cultivation that would be too rocky or the soil too hard to support crops normally.
3. Irrigation, which happened in an organized fashion sometime around the same time in Mesopotamia.

The early civilization of Mesopotamia consisted of fairly small farming communities. A common theory is that they may have originally came together in order to coordinate the need for irrigation systems; the Tigris and Euphrates rivers are notorious for flooding unpredictably, so it took a lot of human effort to create the dikes and canals necessary to divert floodwaters and irrigate the farmlands near the rivers. Recent archaeological evidence suggests other motives, however, including the need for protection from rival groups and access to natural resources that were concentrated in a specific area.

Of the areas in which agriculture developed, The Fertile Crescent enjoyed significant advantages. Many nutritious staple crops like wheat and barley grew naturally in the region. Several of the key animal species that were first domesticated by humans were also native to the region, including goats, sheep, and cows. The region was also much more temperate and fertile than it is today, and the transition from hunting and gathering to large-scale farming was possible in Mesopotamia in a way that it was not in most other regions of the ancient world.

The food surplus that agriculture made possible in the Fertile Crescent eventually led to the emergence of the first large settlements. Some of the earliest that were large enough to quality as towns or even small cities were Jericho in Palestine, which existed by about 8000 BCE, and Catal Huyuk in Turkey, which existed by about 7500 BCE. There were certainly many others in the Fertile Crescent, but due to their antiquity the remains of only a few - Jericho and Catal Huyuk most importantly - have survived to be studied by archaeologists.

From their remains it becomes possible to piece together certain facts about ancient societies on the cusp of civilization. First, it is clear that the earliest settlements (already) had

significant social divisions. Hunter-gatherer societies have very few social divisions; there may be chiefs and shamans, but all members of the group are roughly equal in social power. One of the traits of civilization is the increasing complexity of social divisions, and with them, of social hierarchy. In Catal Huyuk, tombs have revealed that some people were buried with jewelry and wealth, while others were buried with practically nothing. It is very clear that even at such an ancient time, there were already major divisions between rich and poor.

That wealth was based on access to natural resources. Catal Huyuk was built on a site that had a large deposit of obsidian (also called volcanic glass). Obsidian could be chipped to create extremely sharp tools and weapons. Tools made from Catal Huyuk's obsidian have been discovered by archaeologists hundreds of miles from Catal Huyuk itself; thus, it is clear that Catal Huyuk was already part of long-distance trade networks, trading obsidian for other goods with other towns and villages. In essence, Catal Huyuk's trade in obsidian proves that specialized manufacturing (in this case, of obsidian tools) and trade networks have been around since the dawn of civilization itself.

In turn, the social divisions revealed in Catal Huyuk's graves reveal another key aspect of civilization: specialization. Social divisions themselves are only possible when there is a food surplus. If everyone has to work all the time to get enough food, there is little time left over for anyone to specialize in other activities. The reason that hunter-gatherer societies produce little in the way of scholarship or technology is that they do not have the resources for people to specialize in those areas. When agriculture made a food surplus possible for the first time in history, however, not everyone had to work on getting enough food, and soon, certain people managed to lay claim to new areas of expertise. Even in a settlement as ancient as Catal Huyuk, there were craftsmen, builders, and perhaps most interestingly, priests. In the ruins of the settlement archaeologists have found dozens of shrines to ancient gods and evidence of there being a priesthood.

The existence of a priesthood and organized worship in Catal Huyuk is striking, because it means that people were trying in a systematic way to understand how the world worked. In turn, priests were probably the world's first intellectuals, people who use their minds for a living. Priests probably directed the efforts to build irrigation systems and made the decisions about building and rebuilding the town since they had a monopoly on explaining the larger forces at work in human life. Especially in a period like the ancient past when natural forces – forces like floods and disease - were vastly more powerful than the ability of humans to control them, priests were the only people who could offer an explanation.

Not just in Mesopotamia, but all around the ancient world, there is significant evidence of religious belief systems centered on two major themes: fertility and death. One example of this are the “Venus figurines” depicting pregnant women with exaggerated physical features. Similar figures can be seen from all over the ancient Middle East and Europe, demonstrating that ancient peoples hoped to shape the forces that were most important to them. Early religions hoped to ensure fertility and stave off the many natural disasters that ancient peoples had no control over.

An example of a “Venus figurine” excavated at Catal Huyuk.

The earliest surviving work of literature in the world, the Mesopotamian story known as The Epic of Gilgamesh, was obsessed with the theme of human mortality. Ancient peoples already sensed that human beings were in the process of accomplishing things that had never been accomplished before, namely the construction of large settlements, the creation of new

technologies, and the invention of organized religions, and yet they also sensed that the human experience could be fraught with misery, despair, and what seemed like totally unfair and arbitrary disasters. And, as the Epic of Gilgamesh demonstrates, ancient peoples were well aware that no matter how great the accomplishments of a person during life, that person would inevitably die. That concern – the challenge of making sense of human existence in the face of death – is sometimes referred to by philosophers "the human condition," and it is one that ancient peoples grappled with in their religious systems.

Conclusion

Agriculture created the essential condition for civilization itself by providing the food surplus needed for large populations. Within those populations, some individuals could specialize in tasks besides the cultivation of food, which in turn led to the possibility of technological advances and ideological changes. Those possibilities first came to fruition in ancient Mesopotamia, the subject of the next chapter.

For better or for worse, once groups of people had "taken the plunge" and started growing their own food, there was no going back. Population levels were quickly established in civilized groups that were unsustainable without agriculture, so even if early farmers wanted to go back to the "old ways," they did not have that option. Instead, their societies became larger, more complex, and more unequal as time went on.

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Venus figurine - Nevit Dilmen