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The Neolithic Revolution:

The First Farmers and Shepherds

A Unit of Study for Grades 5–8

Linda Symcox

National Center for History in the Schools
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Acknowledgments

At the time this unit was developed the author, Linda Symcox, was also the Project Director of the National Center for History in the Schools (NCHS). She is now a professor in the School of Education at California State University, Long Beach. Amanda Podany served as the Supervising Historian.

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Ross Dunn, Professor of History at San Diego State University and Associate Director of NCHS, edited this second printing of the unit. Marian McKenna Olivas prepared the revised layout and illustrative additions.

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Introduction

Approach and Rationale

The Neolithic Revolution: The First Farmers and Shepherds is one of over sixty teaching units published by the National Center for History for the Schools that are the fruits of collaborations between history professors and experienced teachers of World History. They represent specific issues and "dramatic episodes" in history from which you and your students can delve into the deeper meanings of these selected landmark events and explore their wider context in the great historical narrative. By studying crucial turning points in history the student becomes aware that choices had to be made by real human beings, that those decisions were the result of specific factors, and that they set in motion a series of historical consequences. We have selected issues and dramatic episodes that bring alive that decision-making process. We hope that through this approach, your students will realize that history is an ongoing, open-ended process, and that the decisions they make today create the conditions of tomorrow's history.

Our teaching units are based on primary sources, taken from government documents, artifacts, magazines, newspapers, films, private correspondence, literature, contemporary photographs, and paintings from the period under study. What we hope you achieve using primary source documents in these lessons is to have your students connect more intimately with the past. In this way we hope to recreate for your students a sense of "being there," a sense of seeing history through the eyes of the very people who were making decisions. This will help your students develop historical empathy, to realize that history is not an impersonal process divorced from real people like themselves. At the same time, by analyzing primary sources, students will actually practice the historian's craft, discovering for themselves how to analyze evidence, establish a valid interpretation and construct a coherent narrative in which all the relevant factors play a part.

Content and Organization

Within this unit, you will find: Teaching Background Materials, including Unit Overview, Unit Context, Correlation to the National Standards for History, Unit Objectives, Introduction to *The Neolithic Revolution: The First Farmers and Shepherds*; A Dramatic Moment; and Lesson Plans with Student Resources This unit, as we have said above, focuses on certain issues and key moments in time and should be used as a supplement to your

customary course materials. Although these lessons are recommended for grades 6–8, they can be adapted for other grade levels. The teacher background section should provide you with a good overview of the entire unit and with the historical information and context necessary to link the specific dramatic moment to the larger historical narrative. You may consult it for your own use, and you may choose to share it with students if they are of a sufficient grade level to understand the materials.

The Lesson Plans include a variety of ideas and approaches for the teacher which can be elaborated upon or cut as you see the need. These lesson plans contain student resources which accompany each lesson. The resources consist of primary source documents, any handouts or student background materials, and a bibliography.

In our series of teaching units, each collection can be taught in several ways. You can teach all of the lessons offered on any given topic, or you can select and adapt the ones that best support your particular course needs. We have not attempted to be comprehensive or prescriptive in our offerings, but rather to give you an array of enticing possibilities for in-depth study, at varying grade levels. We hope that you will find the lesson plans exciting and stimulating for your classes. We also hope that your students will never again see history as a boring sweep of facts and meaningless dates but rather as an endless treasure of real life stories and an exercise in analysis and reconstruction.

Teacher Background Materials

I. Unit Overview

Sometime between 12,000 and 10,000 B. C. small bands of hunter-gatherers roamed the earth as they had done for 500,000 years. But things began to change about this time. Thus we call the period from 10,000 to 3,500 B.C. the New Stone Age, or the Neolithic period. This fascinating era is characterized by the development of farming (the domestication of plants and animals), and the resultant move into hamlets and villages. It has been called a great leap forward in the history of humankind.

This unit will investigate the profound changes brought about by the domestication of plants and animals. **Lesson One** will place the Neolithic period in its geological time-frame and explain the discoveries made by archaeologists, which are our main source of information for this period. **Lesson Two** will describe the shift from hunting and gathering to herding and farming. **Lesson Three** will discuss the archaeological sties of Beidha and Çatal Hüyük as examples of permanent villages and houses. **Lesson Four** will cover developments in both decorative and religious arts. It is essential that students of world history understand that the Neolithic Revolution was the necessary foundation for the great civilizations that followed. It was one of the most important single innovations in the evolution of human society before the Industrial Revolution. As a result of the coming of agriculture, humans controlled and regulated their food supply rather than depending on foraging and hunting in the wild. Without this essential shift to plant cultivation and stockraising, total world populations might have remained less than 10 million. Because domestication permitted an assured food

II. Unit Context

This Neolithic unit should follow a larger study on the origins of humankind. It fits chronologically between the Old Stone Age and the Bronze Age. It precedes and lays the essential foundation for a study of the rise of later civilizations in Mesopotamia, Egypt, and the Indus Valley. Thematically the unit should be seen as a profound leap for humanity, leading to the production of food surpluses, which permitted denser population, cities, and more attention to creativity and innovation.

Farming may have emerged first in Southwest Asia, that is, the region that today we call the Middle East. Any discussion of the Neolithic Revolution, however, must recognize that farming may have developed independently in as many as seven or eight different parts of the world. Factors in Eastern Asia led to the domestication of millet, rice, and yams, and in Central and South America to the domestication of beans, squash, gourds, potatoes, and corn. It is important to realize that the genius of humankind at adaptation was not unique to the Ancient Near East. In these other areas the same consequences followed: division of labor, specialization, technological and artistic advances, city development, and large-scale political organization.

III. Correlation to National History Standards

The Neolithic Revolution: The First Farmers and Shepherds provides teaching materials that address *National Standards for History, Basic Edition* (National Center for History in the Schools, 1996), **Era 1**, "The Beginnings of Human Society." Lessons specifically support **Standard 2**, "The process that led to the emergence of agricultural societies around the world." Students are to be able to explain how and why humans established settled communities and experimented with agriculture (**Standard 2A**) and how agricultural societies developed around the world (**Standard 2B**).

The unit likewise integrates a number of specific Historical Thinking Standards including: establish temporal order in constructing historical narratives (**Standard 1, Chronological Thinking**); draw upon visual sources and data in historical maps (Standard 2, Historical Comprehension); hold interpretations of history as tentative and evaluate major debates among historians (**Standard 3, Historical Analysis and Interpretation**); and, interrogate historical data (**Standard 4, Historical Research**).

IV. Unit Objectives

1. To be able to define and describe the Neolithic period in world history.

2. To discover how and why we are dependent upon archaeological evidence for information about the ways in which prehistoric humans lived.

3. To learn how to work with and interpret renderings of archaeological evidence as historical sources.

4. To explain how relatively "recent" the Neolithic Revolution is in geological time.

5. To distinguish between humans as hunters and gatherers and humans as domesticators of plants and animals (food producers).

6. To become aware of the profound changes in society brought about by the domestication of plants and animals and the development of agriculture.

7. To identify and describe some of these changes as they affected art, religion, domestic architecture, and the growth of villages.

8. To identify the Neolithic period as a major turning point in human history.

V. Lessons

Lesson One: Geological Time and Archaeology

Lesson Two: The Domestication of Plants and Animals

Lesson Three: Houses and Villages

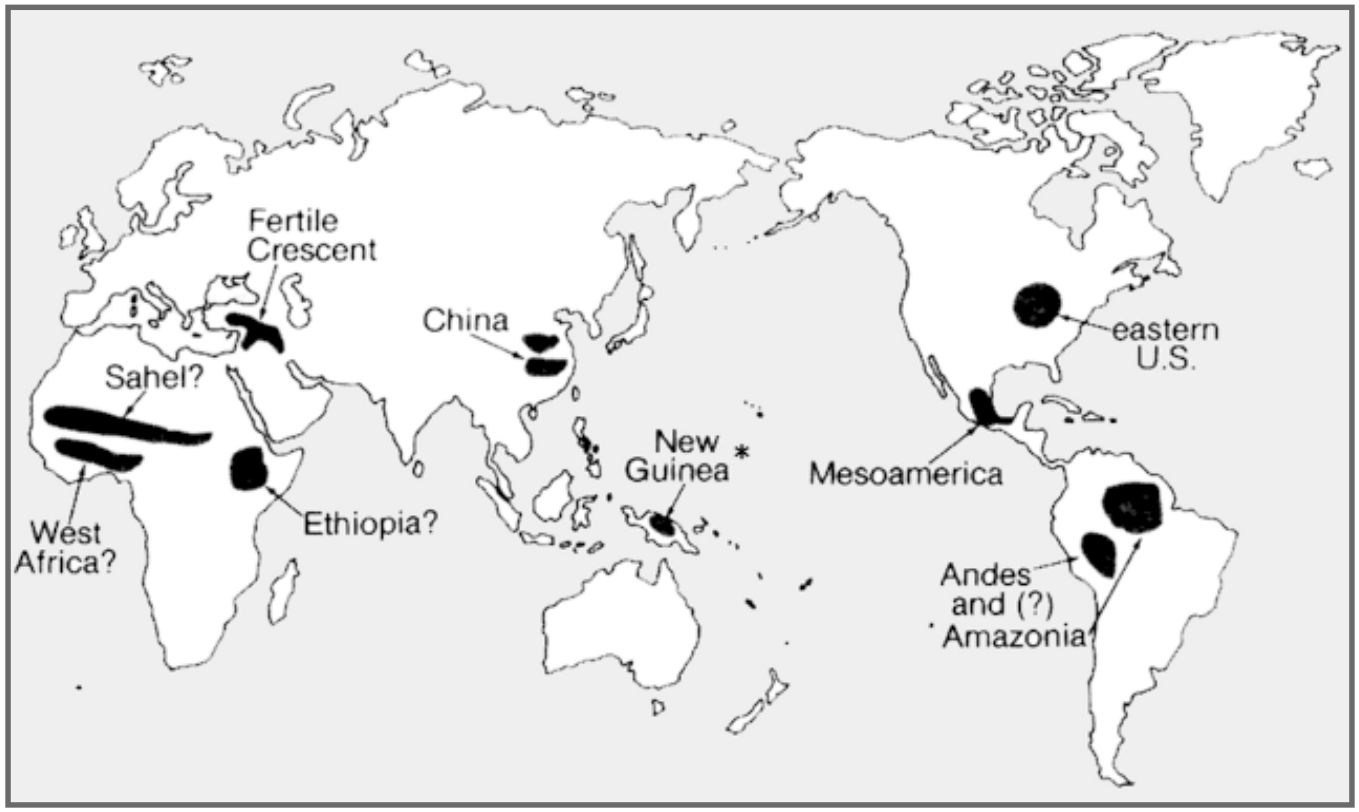
Lesson Four: Art: Decorative and Religious

VI. Introduction to *The Neolithic Revolution: The First Farmers and Shepherds*

The units of time into which historians divide up the past are always, to some extent, arbitrary. We talk about the "Middle Ages," the "Classical Era," or the "Early Modern" period, none of which would have been identifiable as such by people living through them. The terms provide a convenient system within which to organize our understanding of the past. In the same manner, archaeologists and ancient historians have divided the early history of humankind into ages: the Stone Age, Bronze Age, and Iron Age. When the terms were originally defined, historians equated the beginning of each with the introduction of a new type of technology in the manufacture of tools and weapons. With advances in the sophistication of archaeological techniques, scholars have since realized that the definitions of the "ages" are too simplistic. The system continues to be used, but with the recognition, for example, that most of the earliest "bronzes" were not bronze at all but copper or other copper alloys. Also, the introduction of iron did not immediately cause sweeping changes in society because manufacturing processes were initially faulty and early iron was weak and no match for bronze. The Stone Age, meanwhile, has been subdivided into two major parts, the Paleolithic ("Old Stone Age") and Neolithic ("New Stone Age"), in recognition of the great changes that took place in the last few millennia of the period. The Neolithic is the name given to the time when humankind first settled in villages, herded and domesticated animals, and farmed the land.

The reasons for the dramatic changes in the ancient economy are intriguing but elusive. Why did our ancestors, who for thousands of years had survived on food that they could hunt or forage, choose to take the risky step of settling in one place and trusting their survival to the vagaries of the weather and its effects on their crops? Archaeologists and anthropologists have shown that early farming involved much more labor and much more risk than did hunting and gathering; a crisis must therefore have forced men and women to give up their traditional way of life and resort to agriculture. Archaeologists have put forward many suggestions as to the nature of this crisis (such as climatic change or population pressure) and the sequence of events that followed: whether settled communities preceded farming or vice versa, whether herding preceded or succeeded the growing of crops, and whether the earliest farming took place in the "nuclear zone"—the area blessed with plenty of rainfall, fertile soil, and abundant wild life—or outside it.

None of the theories has yet found general acceptance, and in the following unit we have not emphasized the question of why agriculture developed. The nature of the crisis and the sequence of events giving rise to village life are less important than the fact of village life in the Neolithic Age and its significance for the rest of humankind's history.



Origins of Food Production

Darkened areas indicate independent rise of food production. Some sites (marked?) may have been influenced by food production in another area. New Guinea (marked*) is thought to have independently produced food, but the exact crop produced there is unknown.

Map adapted from Jared Diamond, *Diamonds, Guns, Germs, and Steel: The Fates of Human Societies* (New York: W. W. Norton, 1997), p. 99.

Dramatic Moment

For most of the time since the ancestors of modern humans diverged from the ancestors of modern humans diverged from the ancestors of the living great apes, around 7 million years ago, all humans on Earth fed themselves exclusively by hunting wild animals and gathering wild plants. It was only within the last 11,000 years that some peoples turned to what is termed food production: that is, domesticating wild animals and plants and eating the resulting livestock and crops. Today, most people on Earth consume food that they produced themselves or that someone else produced for them. At current rates of change, within the next decade or so the few remaining bands of hunter-gatherers will abandon their ways, disintegrate, or die out, thereby ending our millions of years of commitment to the hunter-gatherer lifestyle.

Scientists used to quote a phrase of Thomas Hobbes in order to characterize the lifestyle of hunter-gatherers as "nasty, brutish, and short." They seemed to have to work hard, to be driven by the daily quest for food, often to be close to starvation, to lack such elementary material comforts as soft beds and adequate clothing, and to die young.

In reality, only for today's affluent First World citizens, who don't actually do the work of raising food themselves, does food production (by remote agribusinesses) mean less physical work, more comfort, freedom from starvation, and a longer expected lifetime. Most peasant farmers and herders, who constitute the great majority of the world's actual food producers, aren't necessarily better off than hunter-gatherers. Time budget studies show that they may spend more rather than fewer hours per day at work than hunter-gatherers do. Archaeologists have demonstrated that the first farmers in many areas were smaller and less well nourished, suffered more from serious diseases, and died on the average at a younger age than the hunter-gatherers they replaced. If those first farmers could have foreseen the consequences of adopting food production, the might not have opted to do so. Why, unable to foresee the result, did they nevertheless make that choice?

Source: Jared Diamond, *Diamonds, Guns, Germs, and Steel: The Fates of Human Societies* (New York: W. W. Norton, 1997), pp. 86, 104–105.

LESSON ONE
GEOLOGICAL TIME AND ARCHAEOLOGY

A. Objectives

- To place the Neolithic Revolution in a geological time-frame.
- To define the concept of the Old Stone Age.
- To describe hunting and gathering as a way of life.
- To describe archaeology's role in unlocking human history.
- To master the vocabulary necessary for comprehension of this period.

B. Lesson Activities (two days)

1. Read the Dramatic Moment to students. Discuss the meaning and the questions it raises.

2. Walk around the perimeter of the classroom and draw an imaginary line that begins around 2,000,000 years ago when early humankind became toolmakers. Show students that the long period of hunting and gathering in prehistory would take up almost the entire timeline. Put a marker on the "timeline" indicating where the period 8,000 B.C. would appear. (It would appear about two feet from the corner of the room where the timeline began.) Show students where Columbus would appear. (A couple of inches from the end of the timeline.)

3. Now read students the passage in **Teacher Resource One**, describing the immensity of early human history compared with the period since farming began.

4 . Distribute **Student Resource One** for this lesson, describing the Stone Age and archaeology. Have the students read and discuss the material. Follow up with "Uncovering Each Strata of Prehistory" (**Student Resource Two**).

5. Have students begin a notebook or journal for the unit. Include the following:

   a. An archaeological timeline

   b. Vocabulary definitions

   c. A chart contrasting the lifestyle of a hunter-gatherer with their own. For example: feast or famine, shelter, clothes, privacy, entertainment, etc. (This can be homework.)

C. Extended Activities

1. Draw a timeline representing the student's life (11–14 years). Now, on the opposite side of the timelines, draw the geological timeline.

2. Illustrate the archaeological renderings of early ways of life. Begin planning a mural with the Old Stone Age at the beginning. Students can depict caves, cave paintings, hunting and gathering, camp fires, etc.

D. Sample Questions for Discussion of Background Materials

1. Describe the homes and lifestyle of hunter-gatherers.

2. Did men and women perform different economic tasks? Why do you think they did?

3. What advantages did humans have over animals?

4. What tools did men and women make?

5. Why is the period from 2,000,000 B.C. to 10,000 B.C. referred to as the Old Stone Age?

6. Why didn't settled communities develop during the Old Stone Age?

7. What religious beliefs might they have had?

8. Describe the role of archaeology in learning about early history.

9. Look at the three pictures of cave paintings. What do they tell us?

E. Vocabulary

archaeology
B.C.
excavation
hunter-gatherer
nomadic
Stone Age
stratum (strata)

F. Evaluating The Lesson

1. Informal evaluation of discussion.

2. Evaluation of journal and notebooks.

"Think about the 5,000,000 years that man has been roaming the earth! They represent, according to our current knowledge, the immensity of human evolution. If one were to place into the convenient framework of one whole year the five billion years that represent all the stages on earth, including the formation of the earth, our ancestors of five million years ago would not appear until the thirty-first of December, that is, the last day of our landmark year, and then only at 10:00 A.M. Man would discover fire at about 10:00 P.M. that day, and it would not be until 11:54 P.M. that he would learn to hunt bears! During the last minute of the year, he would develop a marvelous skill in animal painting. At the same moment he would become a shepherd and a farmer."

Background Materials
Geological Time and Archaeology

For over 90 percent of the time humans have been on earth as toolmakers they have survived by hunting and fishing, with women gathering wild fruits, nuts and insects. Humans did not learn even the simplest farming techniques until about 12,000 years ago.

How did humanity survive for 200,000 years when animals were faster, stronger, and had better teeth? Humans' advantage was their greater intelligence. They could work together and, from 100-200,000 years ago, talk to one another. Hunters could tell friends where they had found a good place for hunting, and they could even plan ahead to combine their efforts for a big kill. Men could teach their sons their skills, and women could teach their daughters.

Early humans also learned how to make tools of stone (see **Illustration 1A**). That is why the period from 2,000,000 to 10,000 B.C. is called the Old Stone Age.

People living a hunting and gathering life, as they did before 10,000 B.C., had few material possessions or permanent homes. This is because families were mobile. They would move on to a new home according to the availability of and animals in a given area. They did not live year after year in large settled communities.

During the past 100,000 years or so, these Old Stone Age people carefully buried their dead, along with tools and ornaments. This suggests to us that people believed in some sort of afterlife and were religious.

Old Stone Age cave painters were probably the first great artists in history (see **Illustration 1B**). As you can see, most of these beautiful paintings are of animal hunts. The people who did them may have believed these paintings had magical powers and gave the hunter a better chance of success in a real hunt.

Beyond this information, we do not know the life-story of a single Old Stone Age person. People could not yet write to leave us detailed records. And what we do know comes mostly from archaeology. Archaeology is the study of the past through digging up places where people used to live and examining the objects they made.

Until 50 years ago, archaeologists depended on finding objects made of lasting materials, for example stone buildings, broken pieces of pottery, or fossils. Since then, they have discovered how to identify the shape left behind in the hardened soil of wooden or clay buildings, the fibers of nets, or even footprints, even though the objects or people have long since disappeared.

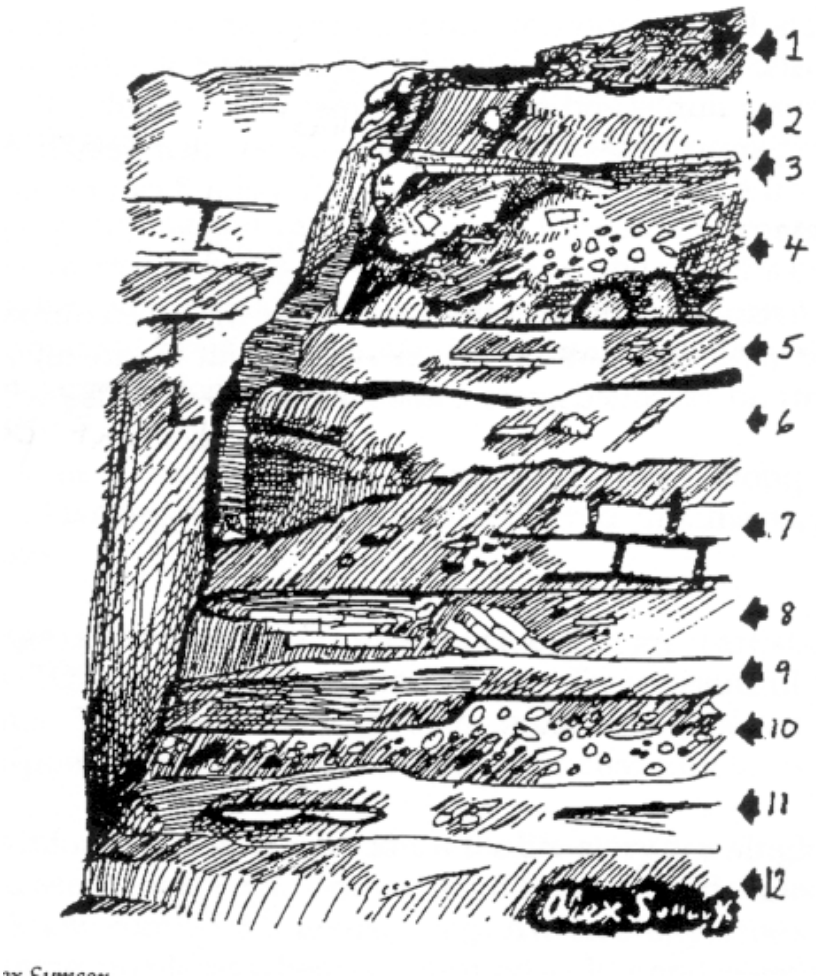
Soil layers stack up and bury old cultures. Each layer, or stratum, represents a historical period. For example, the City of London has 14 feet of previous habitation, and Jericho's 26 layers can be traced for 10,000 years of settlement.

Scientific methods have been developed for dating the objects found in these layers. Carbon-14, a technique which measures the radioactivity found in organic materials, lets us know how long ago the plant or creature was alive. By measuring the disappearance of radioactivity, we can make this estimation. We can also analyze paintings and pottery for clues into a culture. We can analyze the bones of early humanity's ancestors and the bones of their pets and of animals who lived near them. Even the seeds they left behind can reveal a lot about early humans.

All of these archaeological discoveries have vastly increased our knowledge of early history, but we are always forced to make intelligent and reasoned guesses about these distant periods because we lack written records.

Uncovering Each Stratum of Pre-history

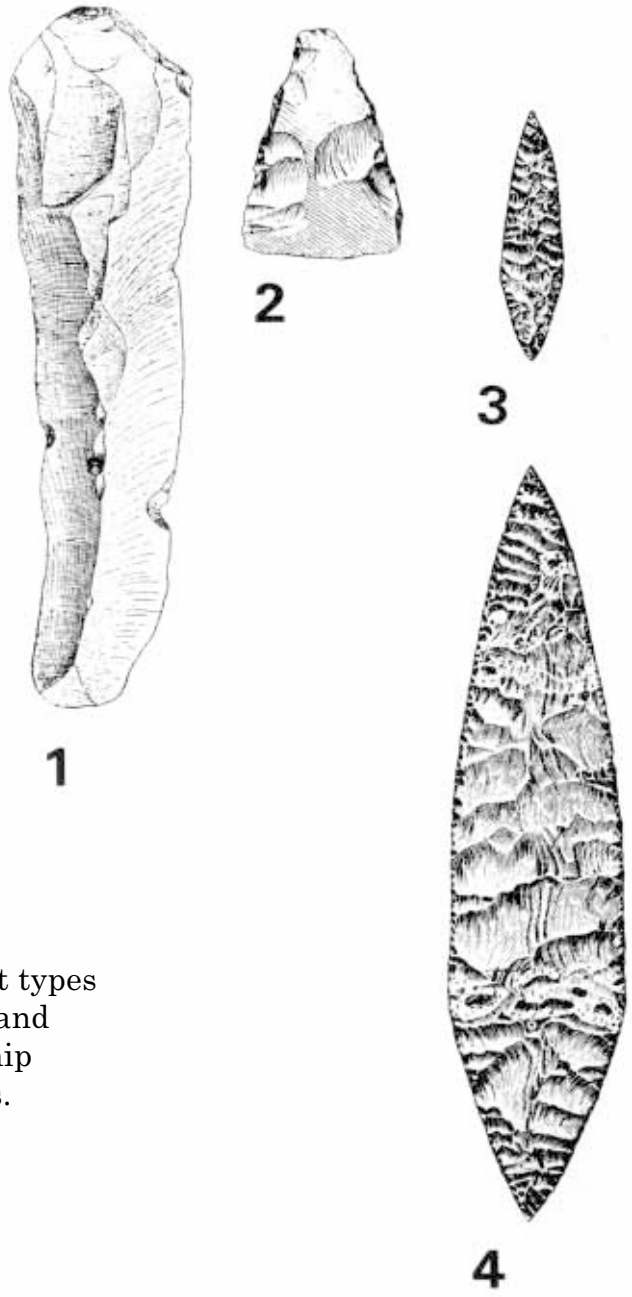
The picture below represents 12 layers of an archaeological site. The archaeologist must determine where each layer of structures, representing a period of history, begins and ends, and then mark off these levels. This is a very difficult task in Mesopotamia since the basic building material, mud brick, is so similar to the earth in which it is buried. After a level is defined, excavators try to determine its age by studying the evidence in it. A piece of pottery or a special tool known to be from a given period can be very helpful in identifying the time period of a given layer. Once one object has been dated, archaeologists can assume that most other objects at the at the same level were made at the same time.



Illustrated by Alex Symcox

Stone Age Tools

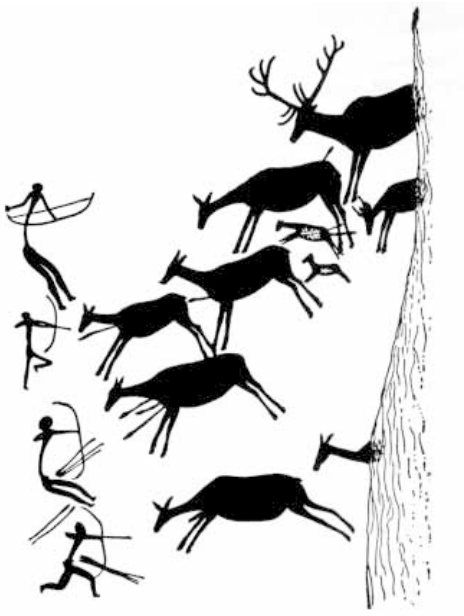
1. Knife blade
2. Chisel blade
3. Arrowhead
4. Javelin head



These tools show how different types of tools could be made of flint and also how styles of craftsmanship changed during the stone ages.

Stone Age Wall Paintings

A picture of a man dressed up like an animal.



A rendering of a cave painting of an animal hunt.

In this late prehistoric cave drawing from Spain, a man (or woman) is on a rope ladder, gathering honeycomb from a hole in a rock while the bees buzz about. Another figure below, not shown here, holds the ropes. Did they need to be able to talk to each other?

Source:
Top: These illustrations were reprinted as published in *The Coming of Civilization*, by Trevor Cairns, copyright 1986, with the kind permission of the copyright owner, Cambridge University Press, New York.
Bottom: Illustrated by Carole Collier Frick.

Lesson Two
The Domestication of Plants and Animals

A. Objectives

- To define and describe the Neolithic Revolution.
- To analyze archaeological sources (e.g. cave paintings and sketches of corn) and draw conclusions about the domestication of plants and animals.
- To define and explain the domestication of plants and animals.
- To distinguish between humans as between hunter-gatherers and as farmers and shepherds.
- To suggest causes for the Neolithic Revolution.
- To identify the "fertile crescent" and the mountains and valleys surrounding that area.

B. Lesson Activities (one day)

1. Distribute **Illustration 2A**.
2. Have students compare the cave painting of the hunt (**Illustration 1B)** with the cave painting of herding (**Illustration 2A**). Do not tell them the difference; elicit the observation from the students.
3. Hold a discussion on the shift from hunting to herding. Have students speculate on the advantages of herding rather than hunting. For example, could people rely on hunting as a constant and reliable source of food?
4. Now have students read "The Domestication of Plants and Animals" (**Student Resource Two**).
5. Have them look at **Illustration 2B**. Ask students to observe the differences between wheat sample (a) and wheat sample (b). Hold a discussion referring to sample questions.

6. Have students form cooperative learning groups of 4 to 5 people Label half the groups as hunter-gatherers and the other half as farmers. Have each group make up a list of why their way of life is preferable. (5 or 10 minutes.)

7. Make two columns on the blackboard, one for the hunter-gatherers and one for the farmers. Have a speaker from each group report on the group's findings. List these under the appropriate column. Discuss.

8. Have students define the vocabulary words in their notebooks. (This could be homework.)

9. Have students draw in the "Fertile Crescent" on **Map A**, and also have them identify the mountains and valleys in this region.

C. Extended Activities

1. Plan the next stage of the mural (huts, plants, cave paintings, herding, fields).

2. Render sketches of the cave art in a notebook.

3. Do some research to discover what criteria archaeologists and anthropologists use to classify a culture as belonging to the Stone Age. Learn the names, dates, and locations of other recognized Stone Age cultures.

D. Sample Questions for Discussion of Background Materials

1. What can you infer by comparing the cave paintings of the last lesson with the cave painting of this lesson?

2. What can you infer by comparing the two stalks of wheat?

3. What are the advantages of plant and animal domestication over hunting and gathering?

4. Why do you think world population began to increase at this particular point in history?

E. Vocabulary

cultivation
domestication
draft animal
explosion
farming
herding
hypothesis
Neolithic Revolution
New Stone Age
Old Stone Age
plow
population

F. Evaluating The Lesson

1. Informal evaluation of discussions analyzing cave paintings.

2. Informal evaluation of discussion of farming and herding. Cooperative groups.

3. Evaluation of journal and notebooks.

4. Evaluation of map activities.

The Domestication of Plants and Animals

Between 10,000 and 8,000 B.C. people began to farm. This change from hunting and gathering to farming and herding is called the New Stone Age or the Neolithic Revolution. People still used tools made of stones, but the change to farming and herding was the great change in the history of humanity. As you will see in this unit, nearly every aspect of human life would change from this point on.

But why, you may ask, did people in some places begin to farm when their ancestors had survived by hunting and gathering for over hundreds of thousands of years? There are several hypotheses which attempt to answer that question because no one knows for sure. One hypothesis is that changes in climate caused the Neolithic Revolution. With the end of the last Ice Age around 10,000 B.C., drier conditions forced people to seek out areas which were well-watered. In the Ancient Near East these well-watered areas were near to just the right wild plants and wild animals for planting and herding. Not all plants and animals in the wild state are suitable for planting and herding. Thus these ideal conditions—people living in warm, well-watered areas along with plants and animals suitable for planting and herding—led, them to experiment with growing their own crops and herding animals.

Another hypothesis is that people switched from hunting and gathering to agriculture as a result of a dramatic increase in the population. Now the population far exceeded the food resources available to hunters and gatherers, and it was necessary to find other ways to assure a greater food supply.

We do know that one of the first places on earth where farming began was in the Ancient Near East, about 10,000 B.C. The first cultivated foods were cereals (wheat, barley, and beans). These plants lent themselves to planting and were first cultivated in lightly wooded, hilly areas. Early hill farmers stored water or diverted streams when rainfall was insufficient. Later as the climate became drier, men moved down towards the river valleys which had been soaked in the overflow of the rivers and were covered with mud and silt. Humans now had to replace their digging sticks, which were suited to drier lands but which were useless when used in these muddy areas.

What were the advantages to cultivating plants? Look at **Illustration 2B**. You will observe on the cultivated stock of wheat that the ear is larger and it holds more seeds than the wild plant. Now people could select only the best

and biggest seeds for planting, reproducing a much higher quality of food grains than the random plantings of mother nature. People now became producers of crops rather than mere gatherers. They would stop wandering and looking for plants, preferring to till a field, build permanent and more comfortable homes, and live in villages. They were no longer mobile.

Archaeologists speculate about the origins of herding or shepherding. One idea is that once people settled down with their fields nearby, it was logical to put up a pen and to keep animals nearby as well. Another idea is that hunters had always followed particular herds of wild animals. Perhaps they gradually guided animals to better pastures. In the process, some animals became tame. People would breed the best animals just as they would select the best seeds. Now they could settle down with their grain fields and their tame animals.

The first animals to be domesticated (tended by humans) in the Near East were the goat and sheep. Cattle, pigs, horses, and donkeys came later. The reasons for taking up herding varied. Animals are a source of dairy products. They can be an alternative to human- power: they can pull plows and till the soil. They are a source of transporting goods and people, thus making trade with other areas easier. Animal wastes make good fertilizer. But most of all, domesticated animals provide a reliable and constant source of food. The hunter must always be subject to the uncertainties of the hunt. He will at times feast and at other times starve. But the shepherd will always have ready food.

Now that some people could produce regularly more food than they needed, population increased dramatically. This allowed others to build houses, make furniture and pottery, or manage village affairs. For hundreds and thousands of years people had mostly fitted into the world as they had found it and tried their best to live on wild animals and plants. Now people realized that they could change their surroundings to suit their needs.

Because these changes in the way people lived were so monumental, the period between 10,000 and 3,500 B.C. is called the **Neolithic Revolution**. But don't forget that these changes were gradual and took thousands of years to evolve. People at the time would not have even noticed the changes. But also remember, that without the domestication of plants and animals, we would right now still be living in the Old Stone Age.

Cave Painting

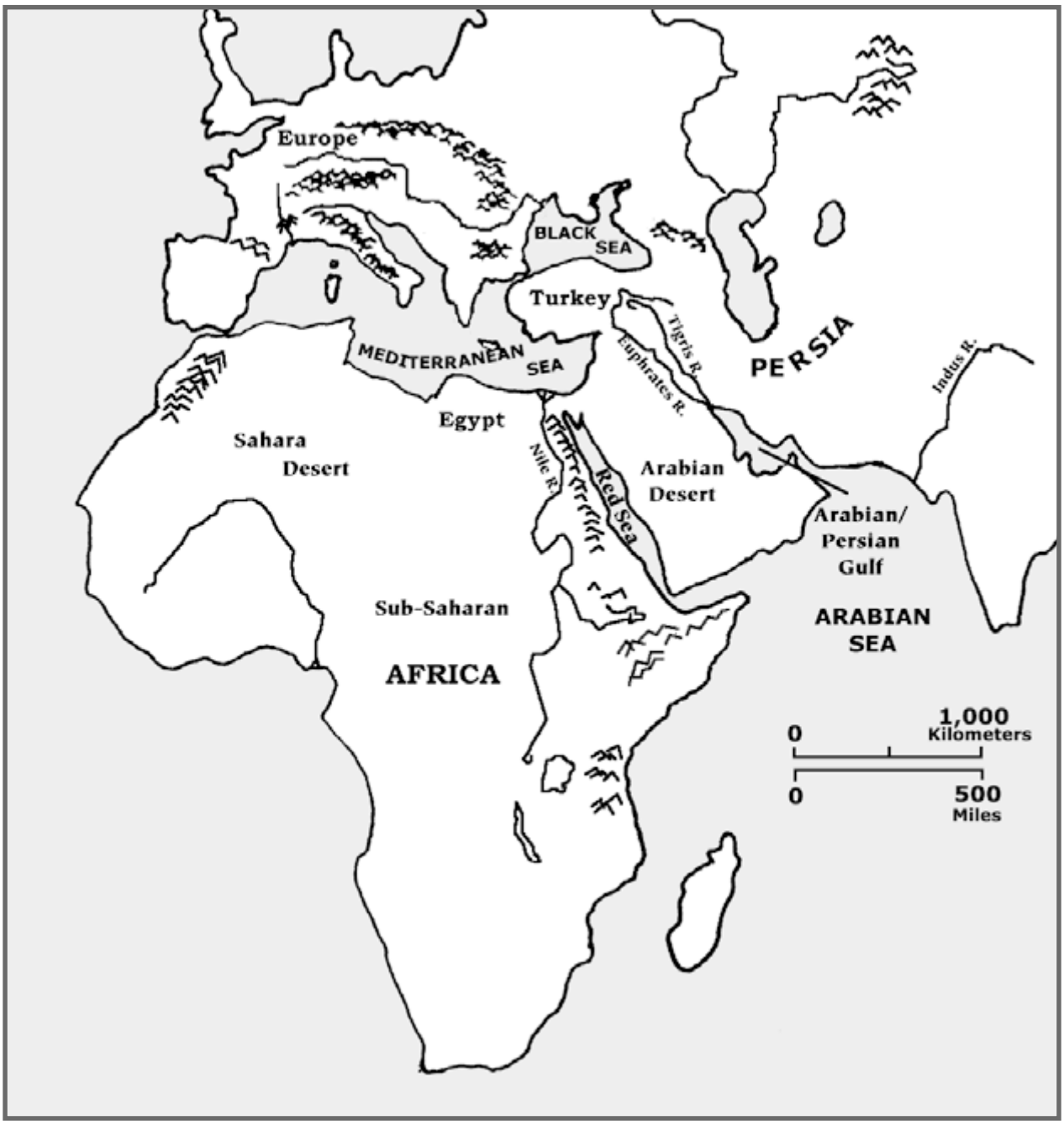
Source: This illustration was reprinted as published in *The Neolithic Revolution*, by D.M. Knox, copyright 1980, with the kind permission of the copyright owner, Greenhaven Press, St. Paul, MN.

Wheat Samples

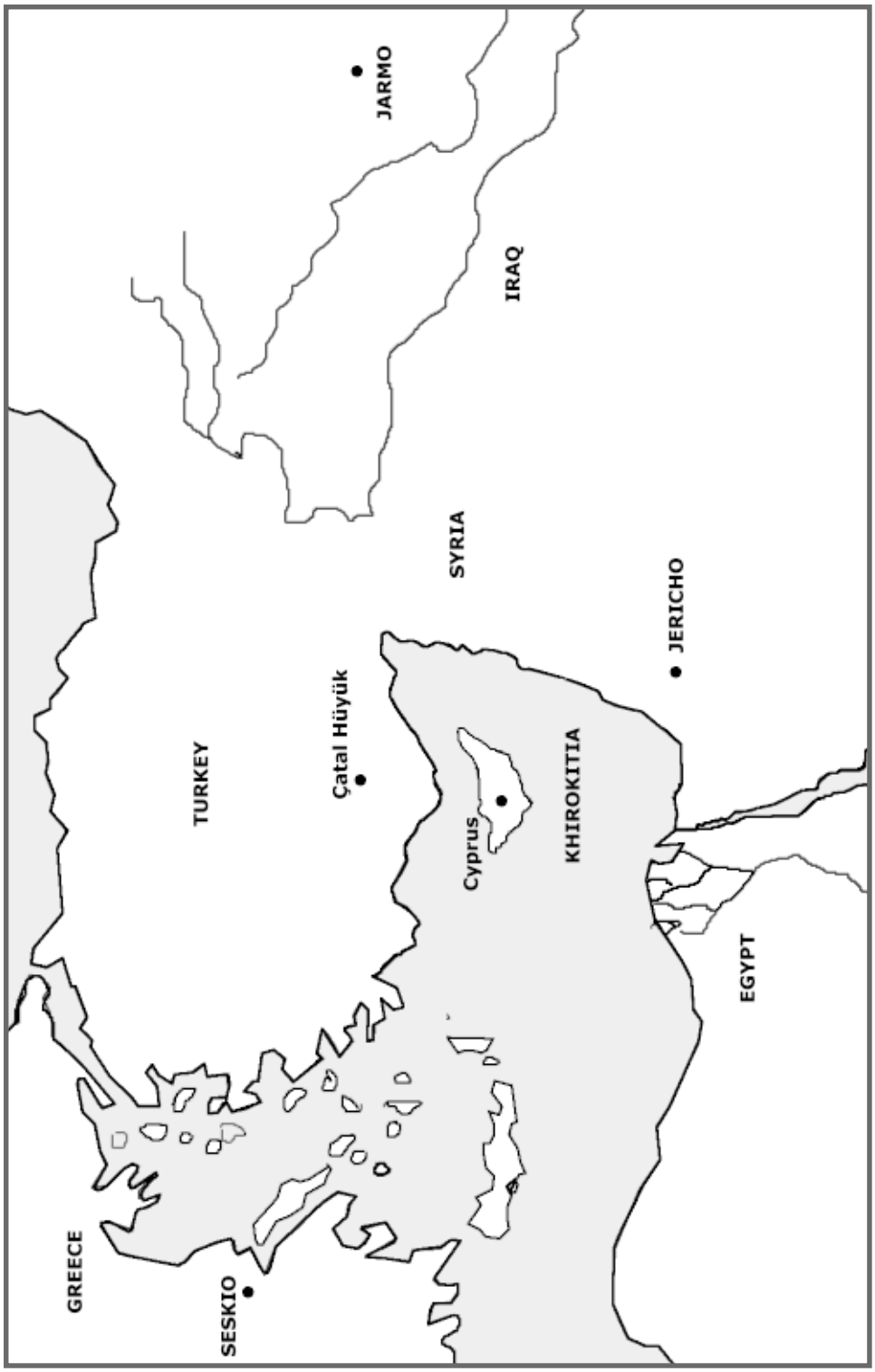
(a) Wheat cultivated by the early farmers. It had more ears.

(b) Wild wheat, the ancestor of cultivated wheat.

The Ancient World



Archaeological Sites



Lesson Three
Houses and Villages

A. Objectives

- To identify the permanent settlement of large villages as a major consequence of the domestication of plants and animals.
- To observe that the Neolithic people built permanent houses which were more sophisticated than before.
- To identify changes in the structure, building materials, design, and function of homes.
- To speculate on changes in lifestyle brought about by permanent settlement.
- To analyze renderings of archaeological digs in order to form these conclusions.
- To identify Çatal Hüyük and Beidha as important sites in the Near East where extensive Neolithic discoveries have been made.
- To locate the following sites on a map: Çatal Hüyük, Beidha, Jarmo, Jericho, as well as the modern day countries where these sites are located.

B. Lesson Activities (two days)

1. Have students continue their map work (see **Map B**, **Lesson Two**), identifying the sites of Çatal Hüyük, Beidha, Jarmo, and Jericho as well as the modern day countries where these places are located.

2. Distribute drawings from the excavations at Beidha and Çatal Hüyük (**Illustrations 3A**, **3B**, **3C**, and **3D**). Have students form cooperative learning groups or pair off in twos in order to describe pictures of the houses and villages of the Neolithic period. (15 minutes)

3. Brainstorm and write descriptions on the blackboard. For example, some structures are round, others rectilinear, some have small

connecting rooms, large central rooms, ladders, bricks, flat roofs, connected houses, etc.

4. Now share with students **Student Resource Three** which includes student background material as well as descriptions of the sites at Beidha and Çatal Hüyük. There is also a quotation from Diana Kirkbride, the original archaeologist who uncovered Beidha, describing what she saw in one of the houses.

5. Add further information to the list. Hold a discussion on the lifestyle of people in these early villages and speculate on the level of organization required, etc. (see sample questions for discussion.)

6. Have students enter in their journal or notebooks drawings of round and rectangular houses, along with drawings of the insides of houses with tools, furniture, etc., as revealed by archaeology. (This could be homework.)

7. Have students define vocabulary words in their notebooks.

C. Extended Activities

1. Continue work on mural. Add houses and village scenes.

2. Have students construct a diorama in clay or milk cartons rendering the community of Çatal Hüyük.

3. Draw a cutaway picture of a Neolithic village.

4. Compare a house from Çatal Hüyük or Beidha with the structure you live in. How do they differ? How are they similar?

D. Sample Questions For Background Materials

1. What do you see changing as you uncover the different layers of habitation at Beidha? (level 6 and level 2.)

2. What are some of the major trends in the development of domestic architecture from the first Neolithic settlements to later ones?

3. What can you infer from these buildings about the lifestyle of the villagers?

4. What level of social organization do you think was required to build and maintain these villages? What group planning would have been necessary?

5. In Çatal Hüyük., do you notice any homes that are grander than others? What does this imply about social classes and wealth in that society?

6. Speculate about the absence of doors at Çatal Hüyük.

7. What does the presence of obsidian hundreds of kilometers from where it is mined suggest?

8. Is there any clear-cut evidence from these sites that people now specialized in various trades? If so, what is your evidence?

9. How had life changed from the Old Stone Age?

E. Vocabulary

architecture
circular
domestic
excavation
habitation
millennium
quern
rectangular
settlement
standardization
village

F. Evaluating The Lesson

1. Evaluate students' map work.

2. Informally evaluate students' group brainstorming.

3. Evaluate oral discussion of Beidha and Çatal Hüyük.

4. Evaluate students' journals and notebooks for sketches, observations, and vocabulary entries.

Permanent Houses and Settlements

One of the major consequences of the human invention of farming and herding was that humans no longer had to follow their food source. With their cultivated fields and their cattle nearby, humanity was able to settle permanently in villages. And, as you will study later, similar villages would, in time, become cities and eventually great civilizations.

In the Old Stone Age people lived in rock shelters, caves, simple wood and hide houses, or "pit houses" dug in the ground. These homes were temporary, and people would move on depending on the season of the year or the availability of the hunt. With the advent of agriculture, people could build more permanent dwellings made of wood or mud bricks.

As you will see by analyzing the drawings of houses and villages from the seventh millennium B.C., houses became more and more sophisticated, being precursors of our houses today. You will discover this by looking at two very important archaeological discoveries in the village of Beidha (Bay-dah) in present-day Jordan, and the settlement of Çatal Hüyük (Chah-tahl Hooyook) in present-day Turkey.

The first houses excavated from the Neolithic period were circular in form (for example, the houses at Beidha and Jericho). These homes were simple and housed at most two people (see **Illustration 3A**). The next phase in domestic architecture, as seen in the later stages of Beidha and at Çatal Hüyük in Turkey (see **Illustration 3B** and **Illustration 3D**) was that of rectangular houses, each having large rooms with passageways from one to another. Floors were now paved with plaster and often painted. There were built-in benches and hearths for cooking. One even finds an enclosed pen for animals.

When you look at these pictures along with their descriptions and when you read the quotations by Diana Kirkbride, the archaeologist who uncovered Beidha, try to imagine what life was like in those early villages. You will discover that people had specialized professions which were completely separate from the procurement of food.

Beidha: A Case Study

The settlement of Beidha, located in Southern Jordan, is the best known early village in the Levant. It is also one of the largest excavations in the Near East. It was uncovered in the 1960s by Diana Kirkbride, an English archaeologist. Here is some information about what she found at the site:

- The site has 26 levels of **habitation**. The various layers reveal the evolution of domestic architecture.

- Level 6 (see **Illustration 3A**) reveals round houses arranged in clusters, like the cells of a honeycomb. They are connected by passageways.

- Level 4, a later level, shows rectangular houses. These houses have rounded corners and are single-roomed.

- Level 2, still later (see **Illustration 3B**), reveals a dramatic change from layer 6. Now houses are completely rectangular with a high level of **standardization**. That is to say, all houses are very similar, as in a modern-day housing development. These houses are now multi-roomed, and they have hearths, cooking areas, and courtyards which may have been used as animal pens.

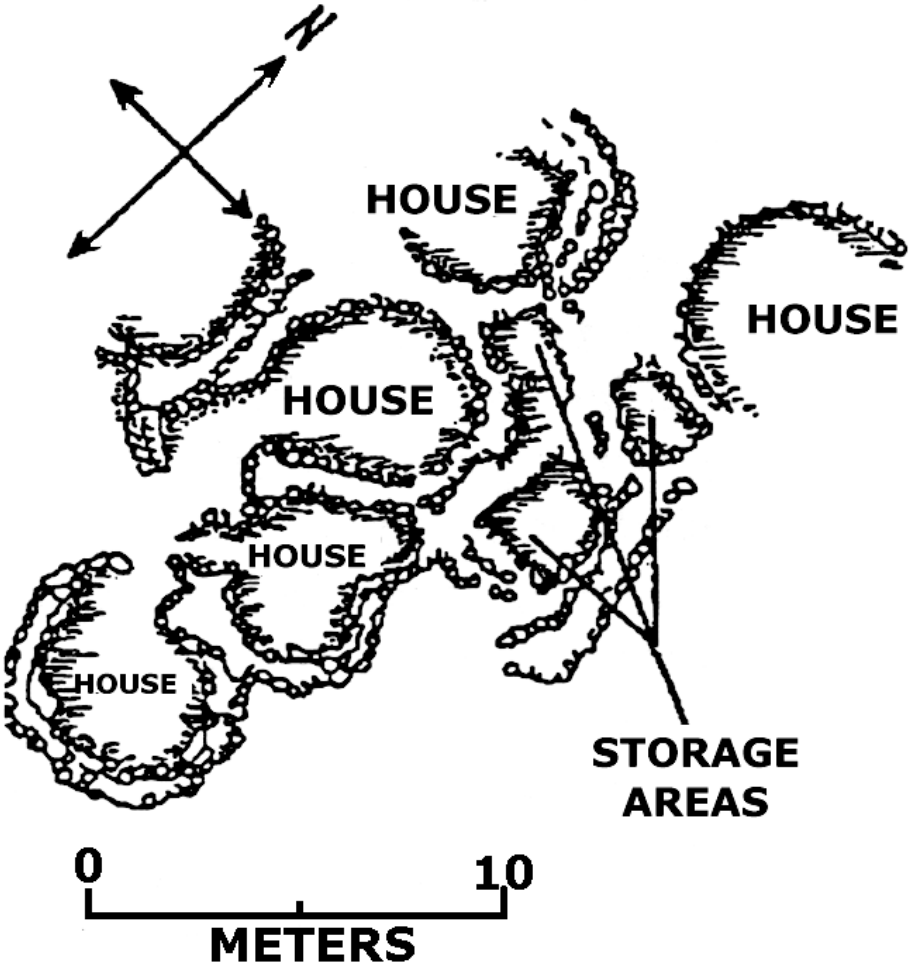
The importance of comparing the different levels uncovered at Beidha is that this site exemplifies the evolution of structures from small round huts to larger circular houses, to rectangular houses, to multi-roomed houses with a growing sophistication and specialization in the use of space.

Notice in **Illustration 3B** that corridor buildings stand by the side of the large single room. They were probably workshops. We know this because they had no hearths and many tools were found in these rooms. In fact, a fascinating variety of industrial, activity can be reconstructed from the debris found in these buildings. Read the words of Diana Kirkbride, the archaeologist who first saw and described this site, because it is best to see things through her eyes. You will discover that people were new engaging in professions other than growing food. Jobs were now more specialized., and the effects of the Neolithic Revolution can be readily observed.

The workshop of a specialist in bone tools and beads contained an untidy clutter of the raw material, animal long bones and ribs, lying in depth in the corridor and in his workroom. The tables on which he worked were flat sandstone slabs lying on the floor, together with his tools and with beads of stone, bone and shell in every stage of the making. Some stone beads were found with the grinding process unfinished, others with the perforation just begun. By the table lay a slender long bone, the shaft divided by incised grooves into nineteen fairly equal sections; nearby were separated slices of rings, rough and unworked, as well as the finished products, smooth and polished. The bone tools also provided a fine view of the worker's art: beautifully polished spatulae, slender points and long weaving implements of aurochs' ribs. One worker in horn left his workroom with a magnificent pair of horns lying on the table; nearby was another pair in readiness for use. In a corner lay a neat pile of ground stone tools. This man kept his basement tidy in marked contrast to most of the others. In one cubicle of the butcher's shop was a great heap of animal bones, some jointed, and horned heads, while the room opposite was piled with heavy implements, choppers, grinders and pounders. Other workshops showed a more general activity; one contained a mixture of horn and bone working, with ground stone tools in quantity and beads as well. Querns, (grinding stones for grain), were abundant everywhere and when worn out were frequently used as building material.

Architectural Structure: Beidha

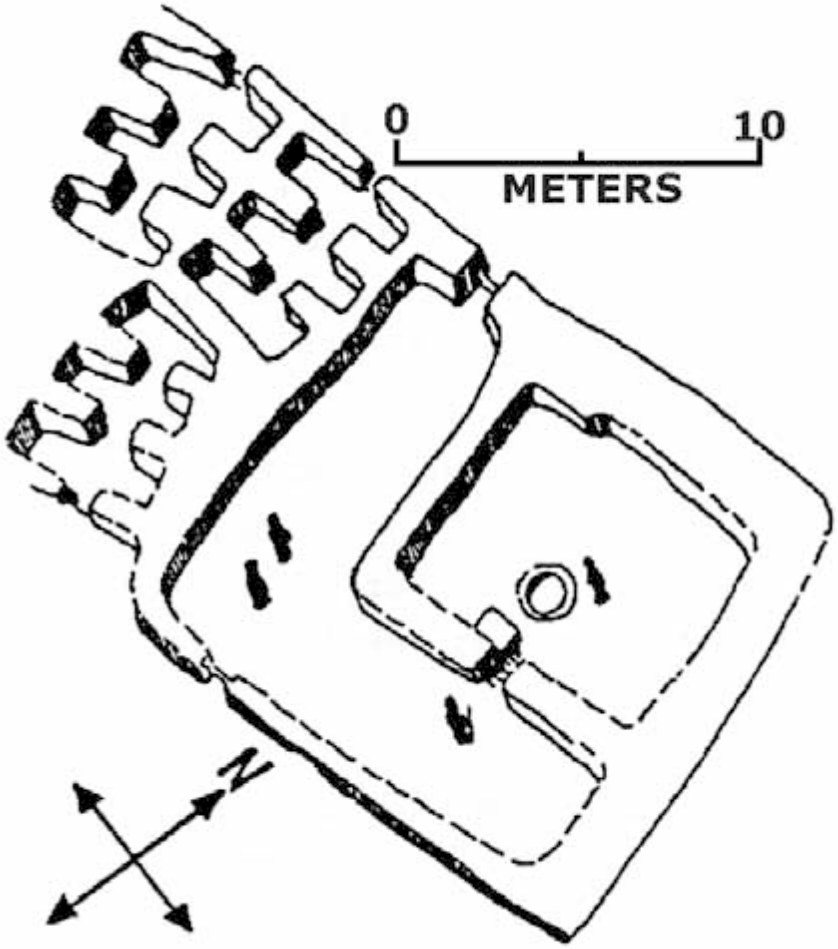
Level 6



Architectural structure uncovered at Beidha: Circular cluster housing in lower level 6 (After Kirkbride, 1966a). Illustrated by Carole Collier Frick.

Architectural Structure: Beidha

Level 2



Architectural structure uncovered at Beidha: Corridor and large-roomed buildings in upper level 2. Illustrated by Carole Collier Frick.

Çatal Hüyük: A Case Study

Çatal Hüyük is one of the largest excavated sites in the Ancient Near East, located in the central plain of present-day Turkey. The period of occupation which has been excavated is from 6250-5400 B.C. Consult the drawings in Illustrations 3C and 3D to better understand the descriptions which follow:

- The site is one of the largest of the Neolithic period. It covers 32 acres and contains over 1,000 houses with a population of 4,000 to 5,000. It was discovered in 1958 by James Mellaart, an English archaeologist.

- It has been beautifully preserved due to a catastrophic fire which baked the clay walls.

- The houses are highly standardized according to a common floor plan. They are usually about 25 square meters in area. They consist of a living room and a smaller storeroom. On one end was a built-in cooking area with a hearth. Furniture such as sleeping or work platforms were built in.

- There are no doors in these houses. Access was from an opening in the flat roofs with a ladder on the south wall. This hole in the roof also served as a smoke hole for the hearth.

- Houses were rectangular and built up against one another. There were no streets and lanes for pedestrians. All communication was by roof-top. The structure of the city did not allow for individual rebuilding when a house needed it; this had to be done as a group.

- Roof levels were staggered to admit light through windows.

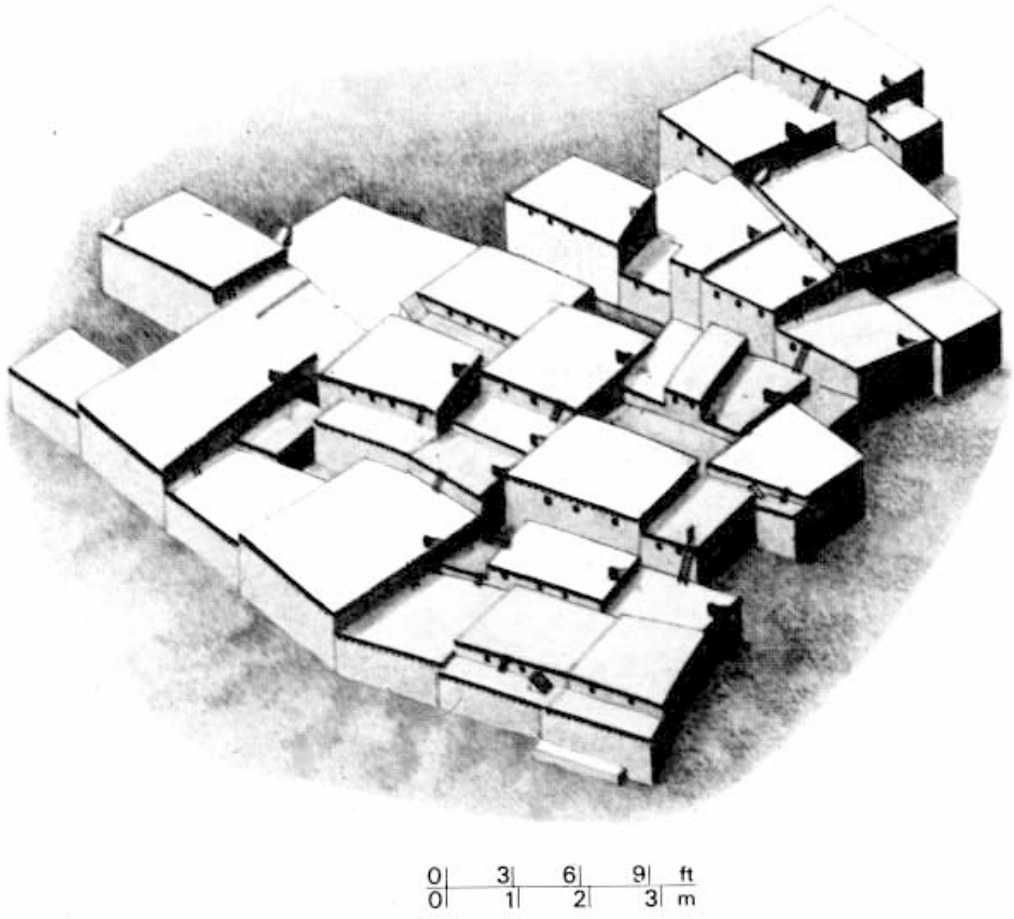
- There were courtyards for animals.

- Simple irrigation ditches were found.

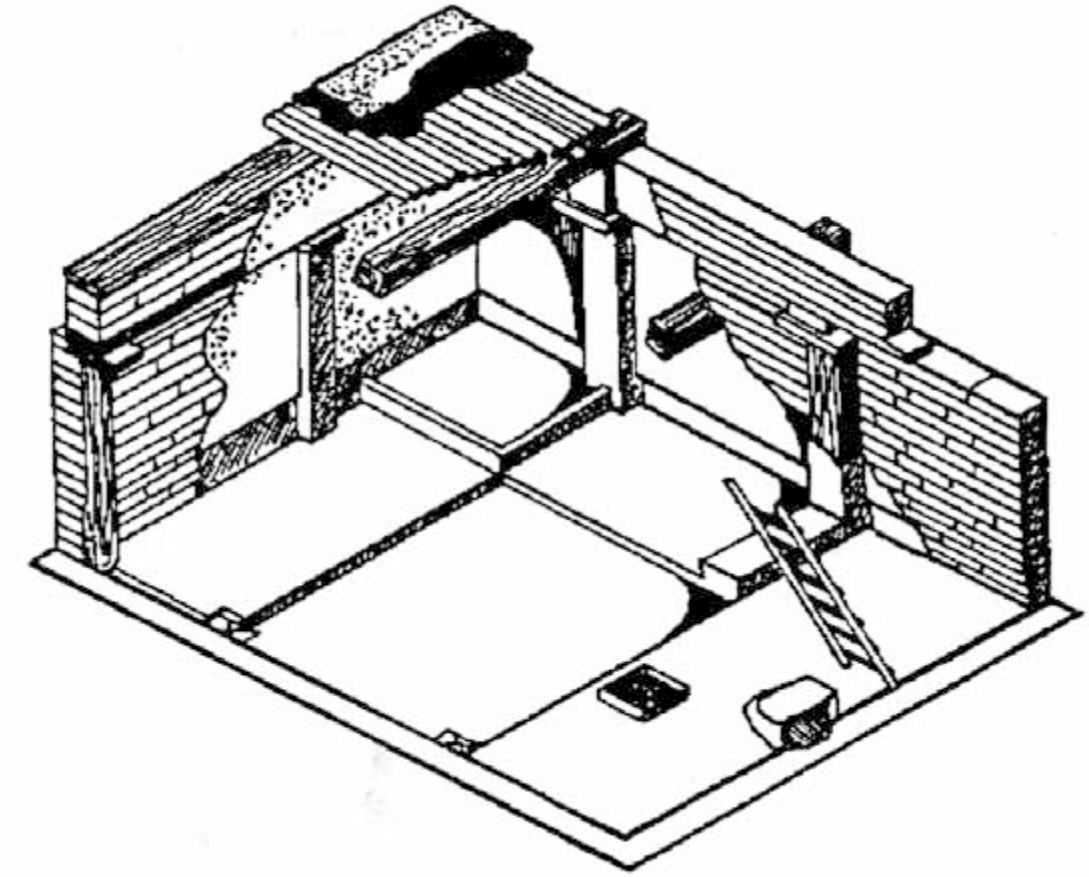
- 90 percent of the animal bones found were those of cattle.

- An abundance of obsidian stones were found here even though obsidian is not native to this region. In fact, it is native to an area 250 kilometers away.

Architectural Structure: Çatal Hüyük



Architectural Structure: Çatal Hüyük



Diagrammatic view of a typical room at Çatal Hüyük showing timber framework, panelling and platforms, bench, hearth, and larder. Illustrated by Carole Collier Frick (after Mellaart).

Lesson Four
Art: Decorative and Religious

A. Objectives

- The student will observe that archaeologists have unearthed an abundance of artistic artifacts from Neolithic sites.
- The student will see that an abundance of food along with a sedentary village life freed people to specialize in craft production.
- The student will be able to identify the geometric patterns on pottery typical of this period.
- The student will be able to analyze renderings of archaeological artifacts in order to make hypotheses about art in this period.
- The student will be able to identify Çatal Hüyük as a specific site where decorative arts have been found in abundance.

B. Lesson Activities (one day)

1. Show students illustrations of pottery from the Neolithic period in the Ancient Near East (see **Illustration 4A**).
2. Hold a discussion on the various skills and equipment that would be necessary for this type of work.
3. Pass out **Student Resources Four** and **Five** along with **Illustrations 4A** to **4E** and have students read the material.
4. Brainstorm and discuss possible differences between purely decorative art and art which is motivated by religion (see sample questions for discussion).
5. Have students copy or create some of the beautiful geometric patterns found on the pottery. This may be put in their journal.
6. Have students define vocabulary words in their notebooks.

C. Extended Activities

1. Students may make clay pottery imitating the Neolithic styles.

2. The students can continue work on their mural depicting the various arts and crafts of the period, including religious art.

3. The whole class, or a group of students, can create a culminating project from this unit. Here are the instructions:

   You are the curator of a museum. It is your job to organize an exhibit to give visitors an understanding of the Neolithic period.

   a. Describe the setting you will create for the exhibition. Don't forget to appeal to all 5 senses if you can. What would you include? Would you include plants? (Think back to **Lessons One** and **Two**.)

   b. List the artifacts you would use.

   c. Choose five artifacts and objects and explain in detail how you will display each one. High or low? Under protective glass or out in the open where it can be touched?

   d. Design a brochure or poster to interest people in coming to see the exhibit.

   e. Design T-shirts, tote bags and other items for sale in the museum shop.

D. Sample Questions for Discussion of Background Materials

1. What are some of the reasons that men and women began to produce clay pottery during the Neolithic period?

2. What types of decoration did they use?

3. What evidence do we have that people produced art that had no religious significance?

4. Why do you think female figurines were made?

5. What evidence do we have of ancestor worship in the Ancient Near East?

6. Describe some of the special artistic discoveries made at Çatal Hiiyiik.

7. What evidence is there that Çatal Hiiyiik may have been a religious center for surrounding areas?

E. Vocabulary

aesthetic
artifact
fertility
figurine
geometric
hamlet
motif
polychrome
religious
shrine

F. Evaluating The Lesson

1. Observe students while they analyze the documents.

2. Check their notebooks for accuracy.

3. Evaluate mural or museum activity.

Art: Decorative and Religious

As long as it was necessary for hunters and gatherers to move from home to home, it is not likely that they would have been interested in making pottery. Pottery is cumbersome to carry and too likely to break. Also, there was little free time or space to engage in craft production. Even when people first settled down in villages they made crude stone vessels having no artistic decoration.

At some time between 7,000 and 6,000 B.C. people began to make pottery. Perhaps a reliable and abundant source of food freed people to engage in this specialized craft. Also, people now discovered that baked clay containers had a variety of uses which heavy stone vessels did not. Large clay pots were good for storage of oil, grain, and other products. Smaller vessels were useful for cooking, eating, and drinking. Now people could make stews, soups, and porridge!

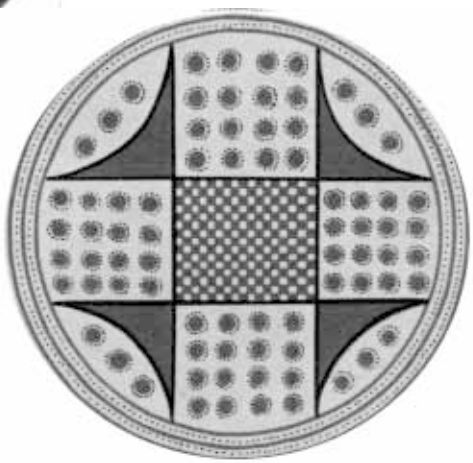
The early potter had no wheel because the wheel would not be invented for about three thousand years. She built up her vessel out of spiral coils of clay, scraping the sides smooth. Quite often it was women who made pottery. Very soon after men and women learned to make clay pottery, they began to decorate it. Sometimes the potter used a shell or comb to make patterns; at other times she painted the surface. The decoration usually was a geometric pattern (see **Illustration 4A**). This design was a distinct change from the realistic animal paintings made by hunter-gatherer tribes. Craftsmen and women also fashioned jewelry out of beads and pendants out of bones, shells, or colored stone.

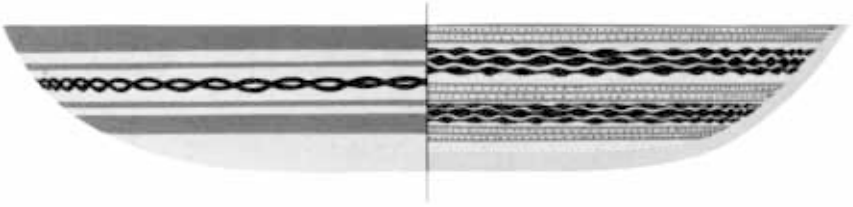
In addition to their decorative arts, many of the farming peoples also used their ceramic skills to make small models, often female figurines (see **Illustration 4B**). These figurines may have had religious or magical significance concerning the fertility of their crops or their flocks. Or, the figures may have been used in rituals or ceremonies exclusively for women. We can only speculate on the purposes of these objects.

Another practice found in sites all over the ancient Near East was the plastering and decorating of human skulls. After a family member died, the body was left outside to decay and the bones were buried under the clay "beds" in the house. But the skulls were given special artistic attention. They were plastered in order to look as realistic as possible, and beautiful stones or shells were inset in the eye sockets.

This elaborate behavior makes us think that Neolithic people practiced ancestor worship (see **Illustration 4C**).

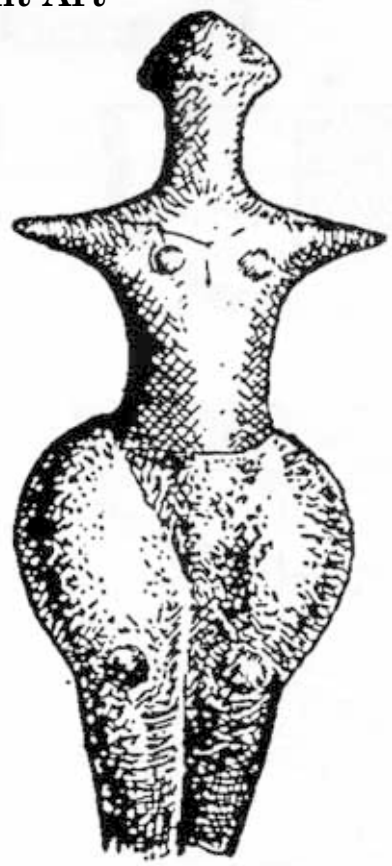
Examples of Neolithic Pottery Designs





Examples of Ancient Art

Illustration 4B:
A Neolithic clay figurine



This illustration of a clay figure was reprinted as published in *Chart E200-Early Man*, copyright 1976, with the kind permission of the copyright owner, Pictorial Charts Educational Trusts, London.

Illustration 4C
A decorated human skull from the Neolithic period

Illustrated by Carole Collier Frick (after Oates and Oates).

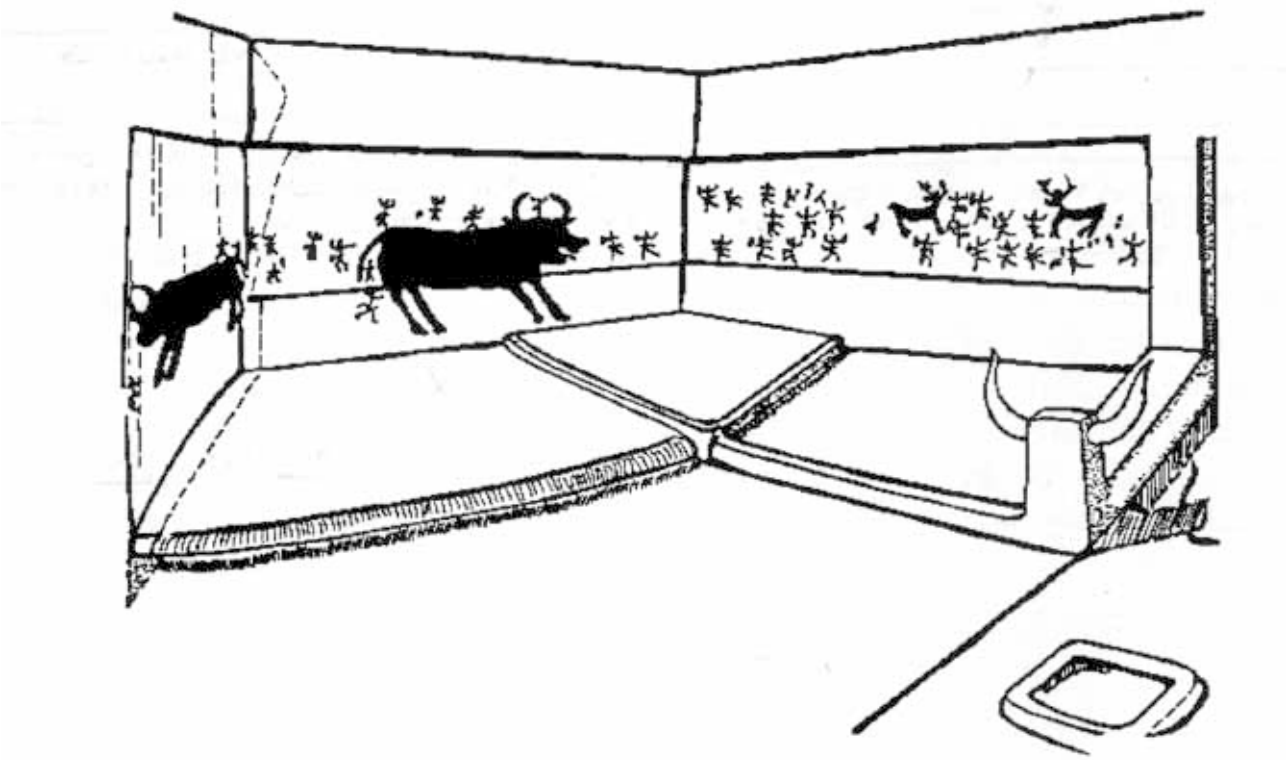
Artistic Achievements of Çatal Hüyük

At Çatal Hüyük, you can observe unparalleled artistic achievements. There is fine pottery at all levels. The quantity of beautiful obsidian points, basketry, and woven goods suggests a craft industry. Residents adorned their plastered walls with paintings done in polychrome. These paintings were of goddesses, animals, and birds, and they may have been associated with religious cults.

Shrines and religious murals are of unique interest at this site. Look at the renderings on **Illustrations 4D** and **4E**. **Illustration 4D** reveals a religious shrine room with its walls decorated in colored murals, recalling the cave-paintings of an earlier era, with heads or horns of animals. The picture in **Illustration 4E** shows a sanctuary furnished with wall paintings, plaster reliefs, animal heads, and cult statues. These rooms were similar in plan to domestic ones, with hearths, platforms, benches, and ovens, but they were elaborately decorated and frequently larger. It is believed that these shrines at Çatal Hüyük served as religious centers for performing rituals for the surrounding hamlets. These rooms may have represented the start of specialized temple and church architecture.

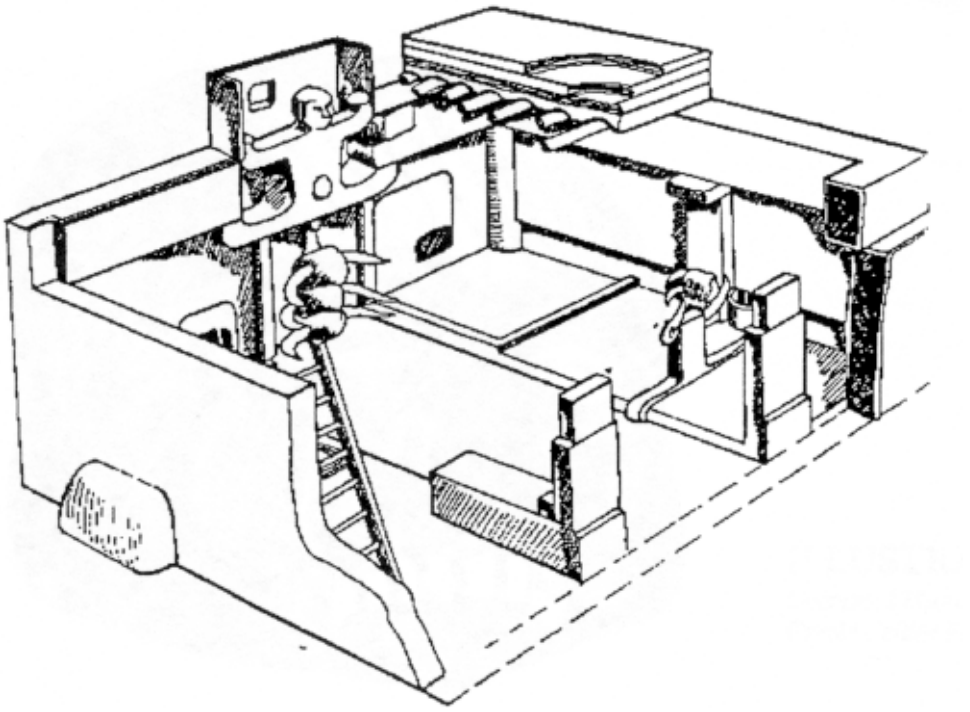
You have seen in this unit that the Neolithic Revolution freed humans to build villages, design houses, and express themselves artistically. They now had all the ingredients necessary to flourish culturally and to build beautiful cities with magnificent monuments. Soon, in geological terms, they would be able to paint the Mona Lisa, write Hamlet, and land on the moon. With the Neolithic Revolution humanity was launched on an endless pattern of technological advancement, which continues today at an ever increasing rate.

Shrine Room
Çatal Hüyük, Turkey



Illustrated by Carole Collier Frick

Shrine Room
Çatal Hüyük, Turkey



Illustrated by Carole Collier Frick

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