Aim: Why is the study of Pre-History fundamental to the study of History?

UNIT 1:
Topic: Human Evolution
Early Man & the Agricultural Revolutions
JOURNAL ENTRY 1.
Please answer the following question in your journals.

Why is it important to understand origins or beginnings? Do you believe that “your origin defines who you are”?
1. **What is Prehistory?**

   a. Story of humanity before the invention of writing.
1. This term pertains to the study of the early human societies which is only known about through the examination of remaining evidences like fossils and artifacts: objects made by humans such as tools, items of clothing, shelter, etc.
Since Prehistory pertains to story of early human societies and before writing was developed, it is inevitable to discuss it in the context of ‘ORIGINS’ and ‘BEGINNINGS’.

In Prehistory, we ask the following questions:

*How & when did the first humans emerge?*

*How were the first humans like?*

*How can we describe the geography of the EARTH during prehistory and how did it affect humans?*

*Going deeper and further back in time, how did everything – life on Earth and the Universe—begin in the first place?*
For humans, beginnings are fundamentally important in their attempt to understand their existence. This is why earlier societies strived to explain how the world and man came to be through various Creation Myths. Common to these Creation Myths is the idea that man’s existence holds some central or pivotal meaning. "While these myths may not accurately explain the world’s origins, they reveal significant information about the ways of life of the people, societies, and civilizations that conceived these myths".
II. ORIGINS OF HUMANITY

a. Science affirms that the beginning was a gigantic explosion 13 billion years ago (BIG BANG THEORY).

b. Life on earth evolved from the first appearance of a multi-cellular organism some 600 million years ago (EVOLUTION).
As many more individuals of each species are born than can possibly survive; and as, consequently, there is a frequently recurring struggle for existence, it follows that any being, if it vary however slightly in any manner profitable to itself, under the complex and sometimes varying conditions of life, will have a better chance of surviving, and thus be **naturally selected**. From the strong principle of inheritance, any selected variety will tend to propagate its new and modified form.

-Charles Darwin

1. What is Darwin saying here?

2. What does “naturally selected” mean?
Who do scientists believe were our earliest ancestors?

1. Blombos Cave
2. Jwalapuram
3. Mungo III
4. Chauvet Cave
5. Clovis complex

YA = Years ago
Based on this map, on which continent did humans first appear?
III. AFRICA—THE BIRTHPLACE OF HUMANITY

a. Great Rift Valley might be where human life originated and spread to other areas of the earth.

In Tanzania, Kenya, Ethiopia, & other places, archaeologists have unearthed bones & tools of human ancestors going back to five million years.
Ancient history in the DNA

By comparing mutations in the DNA of people who live in different parts of the world, geneticists are developing new theories about how humans populated Earth. The evidence points to a common African origin about 150,000 years ago. Much of the work has been based on maternal lines.

The First Europeans

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Roots in Central Asia

All Asians derived from two common roots, with some lineages more frequent in southern Asia (Vietnam, Indonesia, Malaysia, New Guinea) and others more prevalent in the north (Thailand, Korea, Samar). The DNA of present-day Asians is more diverse than that of people on other continents, indicating that humans have lived there longest. Traces of ancient Asian genes can be found in everyone living today.

The Australian enigma

Modern humans traveled to Australia by 40,000 to 60,000 years ago. One theory suggests that they followed the southern Asian coast, building boats along the way.

A bridge to the New World

The first inhabitants of the New World migrated from central Siberia 20,000 to 50,000 years ago along the Bering land bridge. They may have been joined by a second migration 15,000 years ago that shifted the coast. Indigenous people, who include the Alaskan Eskimos, Apaches, and Navajos, are genetically distinct from the first Americans. They came from northern Siberia about 6,000 years ago. Eskimos and Aleuts arrived about 4,000 to 5,000 years later.

Along the Andes to Tierra del Fuego

The earliest migration swept from Siberia to Tierra del Fuego, traveling along the Andes. Another route curved farther east, to present-day Brazil.

Stone tools:

- Found: Canberra, Australia
  - Dated: 14,000 years ago
- Found: Cactus Hill, Virginia
  - Dated: 15,000 to 16,000 years ago

Land bridges between continents:

- Strait of Magellan
- Bering land bridge

Key:
- Colored arrows represent separate genetic lineages.
- Black arrows show hypothetical routes.
HISTORICAL CONTEXT

Before the 1950s, anthropologists knew little about early humans and their ancestors. Prehistoric groups did not have cities, countries, organized central governments, or complex inventions, so clues about them were hard to find. However, archeologists in East Africa started uncovering ancient footprints, bones and tools. With these first key discoveries, scholars began to form a picture of life during prehistory.

TIMELINE OF HISTORICAL BREAKTHROUGHS

1930s-1959- In the 1930s, anthropologists Mary Leakey and Louis Leakey stared searching for clues to the human past in a deep canyon in Tanzania called Olduvai Gorge. Geologists have dated the bottom layers of Olduvai Gorge to an age of 1.7 to 2.1 million years. In 1959, after more than two decades of searching, Mary Leakey found a skull embedded in an ancient rock at Olduvai Gorge. After careful testing, the Leakey’s determined that the skull belonged to an early hominid. Hominids are a group that includes humans and their closest relatives walk upright on two feet. Humans are the only hominids that live today.

“I dug things up. I was curious. And then I liked to draw what I found.”
-Mary Leakey
b. The Olduvai Gorge in Tanzania and Hadar in Ethiopia have yielded individual remains from several different species belonging to the genus AUSTRALOPITHECUS.
Account of Finding Lucy

“We need a skull. We really must have a complete cranium. That goal, which I underscored in my journal one night shortly after we arrived at Hadar, was on everyone’s mind as we set up camp in the baking wilderness of Ethiopia’s Afar region.

This was our second expedition back to Hadar after a ten-year interruption. There had been a government-imposed moratorium on fieldwork in Ethiopia during the 1980s. But in 1990 officials of the Ministry of Culture and Sports Affairs invited our team from the Institute for Human Origins (IHO) in Berkeley, California, to return. It was now January 1992, and I was delighted to be back on this ground, gazing out over Hadar’s seemingly endless badlands, with their multicolored layers of sands, silts, lava, and volcanic ash. We had pitched our tents, as we always did, high on a bluff above the Awash River, where we would sit at the end of the day and watch the setting sun bathe the hills and valleys in shades of orange and purple.

It was out there, on a scorching day in 1974, that we’d found Lucy. At first glance all we saw was her elbow protruding from the sediments. But we quickly identified the bone as that of hominid – a member of the human family tree. We roared back into camp in our Land Rover, horn blaring. We soon realized we had found more than an elbow. Lucy, whom we named after a Beatles song popular in camp – “Lucy in the Sky With Diamonds” – belonged to a new species of human predecessors, which in 1978 we named Australopithecus afarensis.

Dating back more than three-million years, Lucy was the oldest, most complete hominid fossil ever found. She stood a mere three and a half feet tall, with a mixture of ape and human features. Her long arms dangled apelike by her side. Yet her leg and pelvic bones showed that she walked upright on two legs. I and my colleagues at IHO have long believed that Lucy’s species is the common ancestor of all later hominids, including our own genus, Homo. We see her, in a sense, as the mother of all humankind.”

Donald Johanson

From: National Geographic, March 1996

3. According to Document #3, why did Donald Johanson and his colleagues believe that Lucy’s species is the common ancestor of modern humans?
From apes to humans in 35 million years

The earliest fossils which we confidently identify as anthropoids (apes) have been found at many sites in Africa (Figure 16.25). They date from about 35 mya. Humans clearly demonstrate one form of anthropoid body organisation, so we can say the human story has taken about 35 million years to unfold.

Figure 16.25 Major fossil sites

Location of hominid fossil finds (1924–recent times) (excluding the modern humans – H. neanderthalensis and H. sapiens)

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Turkana
- Hadar
- Omo
- Koobi Fora
- Peninj
- Olduvai
- Swartkrans
- Makapansgat
- Sterkfontein
- Kromdraai
a. **Australopithecus**

1. (Latin—for “southern ape”) extinct member of the hominid family, and early human.

2. Lived in Africa from about 4 to 1 million years ago. The first discovery of an early Australopithecus was made in the Great Rift Valley, the skeletal remains of a female now called LUCY.
TIMELINE OF HOMINID EVOLUTION

Millions of Years Ago
7
H. habilis
A. africanus
A. robustus
H. erectus
A. boisei
Lucy
Early H. sapiens
Modern H. sapiens
Neanderthal

Arboreal apelike ancestor
Terrestrial apelike ancestor
Present
b. **HOMO ERECTUS**

1. **750,000-500,000 years ago.** Stood upright and learned simple tool use, for hunting and gathering.

2. Developed and spread in Africa, Asia and Europe, reaching a population size of perhaps **1.5 million 100,000 years ago.**

3. Disappeared about **40,000 years ago.**
1. Earliest Homo sapiens were Neanderthals (*Homo sapiens neanderthalensis*) who developed about 150,000 years ago and went extinct shortly after encountering a human species with more advanced technology.

2. From Africa, Homo sapiens spread over Eurasia and later reached Australia and America during Ice Ages when water locked in ice sheets lowered the level of oceans. Land exposed at the Bering Strait formed a “land bridge” where Asian peoples likely crossed to America while following wild game herds some 20,000 years ago. Others might have migrated to America from Europe along the edge of ice sheets. These travelers became the Native Americans of North and South America, the last continents to be occupied by humans.
Genetic Differentiation in Modern Humans

Researchers studying human population structure have discovered five main genetic clusters, which largely correspond to major geographic regions. The map shows the average genetic makeup of 52 modern human populations.

Adaptation to Local Conditions
Humans have continued to evolve in the past 50,000 years, spurred by changes in diet, disease, environment and culture.

Modern Genetic Clusters
- Africa
- Eurasia
- East Asia
- Oceania
- America

The ancestral human population is thought to have originated in northeast Africa about 50,000 years ago.

A study of three modern populations found signs of recent evolution in different locations on the genome.

Population-specific changes include genes related to sucrose metabolism in East Asians, skin pigmentation and lactose tolerance in Europeans and the metabolism of mannose (a sugar) in Africans. Regions of overlap include genes related to fertility and brain development.
THE HUMAN STORY

7 MILLION YEARS BC
- Man's ancestors, known as hominids, break from the chimpanzee evolutionary line in Africa.

6-7 MILLION YEARS BC
- Oldest found human ancestor, known as Toumai, dies in Chad. Toumai, right, discovered in 2001.

2 MILLION YEARS BC
- Modern-day man's first ancestral species evolved enough to warrant the genus Homo. First Homo habilis fossils found in 1960 in Tanzania.

160,000 YEARS BC
- Earliest known Homo sapiens uncovered in Herto, Ethiopia, in 1997 and announced today.

130,000 YEARS BC
- Previous oldest set of Homo sapiens remains found near Omo River, Ethiopia, in 1967.

40,000 YEARS BC
- Mungo Man, right, a Homo sapien, dies near Willandra Lakes in NSW. Australia's oldest known human inhabitant was discovered by Jim Bowler in 1974.
Side by side with an ancient relative

The Neanderthals flourished in Europe about 100,000 years ago and spread as far east as Turkey and western Asia. But by 30,000 years ago, they had vanished, displaced by Cro-Magnons, the ancestors of modern humans.

A new analysis by Stanford anthropologist Richard Klein may be the most complete picture yet of why Neanderthals disappeared so abruptly. Among other things, his analysis challenges the notion that Neanderthals and Cro-Magnons interbred to any significant degree.

This full Neanderthal skeleton, recently assembled using casts made from fossils, highlights the difference between it and that of modern humans.

Neanderthal fossil sites

Neander Valley, Germany
Site of first found fossil

Source: American Museum of Natural History; New York Times; National Geographic;
Ancestors evolve into Neanderthals and first modern humans.

Neanderthals die out.

Researchers looked at five groups of modern humans:
- French
- Han-Chinese
- Papuan
- Yoruba
- San

Common ancestor with Neanderthal.

Some Neanderthal and *Homo sapiens* interbreeding.

Some modern humans leave Africa.

*Homo sapiens*
DISCOVERIES IN AFRICA AND BEYOND

1976—FOSSILIZED FOOTPRINTS:

How do we know if an early ape-man or woman walked upright? An examination of certain bones—a tibia (leg bone) or pelvis, for example—can reveal the answer. So can fossilized footprints.

In 1976, members of a team led by Mary Leakey discovered the fossilized footprints of human ancestors in Laetoli, Africa. The footprints were formed 3.5 million years ago, when at least two individuals walked over wet volcanic ash. The wet ash hardened like cement and then was covered by more ash.

The footprints show that the individuals had perfect, two-footed strides. They also reveal that one hominid was larger than the other. And because the footprints fall next to each other, they indicate that the two hominids were walking side-by-side close enough to be touching.

The footprints also look remarkably like a human’s. In fact, they looked so human-like some scientists had a hard time believing that they were made by Lucy’s species, the only human ancestor known to have lived at the time.
A new Ardipithecus skeleton found in 2009 is much older, 4.4 million years old, from the Middle Awash study area, about 75 kilometers south of the 'Lucy' find. The Middle Awash project team worked for 3 years to excavate the 'Ardi' skeleton at a place called Aramis in the Afar Rift of Ethiopia. The recovery effort involved many dozens of scientists from around the world. When the skeleton recovery effort finally ended, the team had recovered more than 125 pieces of one individual - a 4.4 million-year-old female, the oldest hominid skeleton yet found. The discovery was made by a team of scientists led by UC Berkeley anthropologist, Tim D. White.
Meet *Homo naledi* - our new human ancestor

Named after the Rising Star cave, "naledi" means "star" in Sesotho

**Discoverd:** Rising Star cave, Cradle of Humankind, Gauteng in 2013/2014.

**Age:** Unknown

**Height:** 1.5 metres

**Weight:** 45 kgs

**Characteristics:** Small brain, human-like skull; teeth and hands, ape-like shoulders.

**Skills:** Climbing and walking long-distances

**What makes it human?**

Scientists believe that *Homo naledi* intentionally buried its dead in the difficult to reach, isolated Dinaledi cave chamber.

SOURCE: University of the Witwatersrand, National Geographic Society, Department of Science and Technolog/National Research Foundation
The Sum of Its Parts

A composite skeleton reveals *H. naledi*’s overall body plan. Its shoulders, hips, and torso hark back to earlier ancestors, while its lower body shows more humanlike adaptations. The skull and teeth show a mix of traits.

**HOMO FEATURES**

**Humanesque skull**
The general shape of *H. naledi*’s skull is advanced, though the braincase is less than half that of a modern human’s.

**Versatile hands**
*H. naledi*’s palms, wrists, and thumbs are humanlike, suggesting tool use.

**Long legs**
The leg bones are long and slender and have the strong muscle attachments characteristic of a modern bipedal gait.

**Humanlike feet**
Except for the slightly curved toes, *H. naledi*’s feet are nearly indistinguishable from ours, with arches that suggest an efficient long-distance stride.

**AUSTRALOPITHECINE FEATURES**

**Primitive shoulders**
*H. naledi*’s shoulders are positioned in a way that would have helped with climbing and hanging.

**Flared pelvis**
The hip bones of *H. naledi* flare outward—a primitive trait—and are shorter front to back than those of modern humans.

**Curved fingers**
Long, curved fingers, useful for climbing in trees, could be a trait retained from a more ape-like ancestor.
A New Kind of Ancestor

*H. naledi* was much closer in appearance to *Homo* species such as *H. erectus* than to australopithecines; such as Lucy. But it possesses enough traits shared with no other member of our genus that it warrants a new species name.

**‘Turkana Boy’**
*Homo erectus*
1.6 million years ago
Adolescent male
Height: 5 ft | Weight: 110–115 lbs

**‘Lucy’**
*Australopithecus afarensis*
3.2 million years ago
Adult female
Height: 3 ft 6 in | Weight: 60–65 lbs

**Rising Star hominin**
*Homo naledi*
Date unknown
Adult male
Height: 4 ft 10 in | Weight: 100–110 lbs
JOURNAL ENTRY II.
Please answer the concluding question in your journals.

What is it that makes us human or what does it mean to be human?
Aim: What is the significance of the Paleolithic era in World History?
Imagine life before villages, towns and cities existed. What do you think was different about human life back then?
In the Paleolithic Age, humans used stones for hunting which was found in nature and already had cutting edge. They used tree branches, leaves and stones to make shelter for living. They ate plants and meat, gathered berries. They may have eaten flesh of dead animals left behind by other larger predators. They used fire by rubbing stones together and roasted meet.

In the Mesolithic age, human started to sharpen their stone tools for hunting and looked for stones (such as flint) that was harder and could be sharpened easily. They started to settle in one place but still remain hunter and gatherer of meet, fish, berries, nuts and fruits.

During the Neolithic Age, group of hunters learned about agriculture. At first they collected wild crops and domesticated wild animals. By 10,000 years ago they started to produce grains, fruits and vegetables from seeds. They made plow out of antlers, stone and wood and started to cultivate the land with the help of herded animals. They used stone mortars and pestles to grind cereals and grains.
1. **PALEOLITHIC ERA (OLD STONE AGE): 150,000-8000 BCE**

a. **250,000-10,000 yrs. ago**, 95% of human time.

b. Initial settlement of the planet & the creation of earliest societies.

c. Also known as the "food-gathering stage".
d. Paleolithic humans migrated from place to place thus developing a **nomadic lifestyle**.
e. The principal characteristic of the Paleolithic era was that human beings foraged for their food: scavenged meat killed by predators or hunted wild animals or gathered edible products of plants.
f. Humans became dependent on their geography.

1. Discoveries included the use of fire.
Hunting
Most hunting was done by men. They worked together to bring down large animals.

Art
People painted herds of animals on cave walls.

Gathering
Most gathering was done by women. They gathered food like wild plants, seeds, fruits, and nuts.

Fire
People learned to use fire to cook their food.

Tools
Early people learned to make tools such as this spear for hunting.
g. Language development, more complex tool production, and artistic and ritual creativity.

Toward the end of the Old Stone Age, people began to leave evidence of their belief in a spiritual world. About 100,000 years ago, some people began burying their dead with great care. Some anthropologists think that this practice suggests a belief in life after death. Old Stone Age people may have believed the afterlife would be similar to life in this world and thus provided the dead with tools, weapons, and other needed goods to take with them. Many scholars think that our ancestors believed the world was full of spirits and forces that might reside in animals, objects, or dreams. Such beliefs are known as animism.

What might stone age people believed in?
h. Intellectual progress and improvements in social organization are suggested by the appearance of cave paintings, bone and ivory carvings, as well as beads and jewelries.
Prehistoric Art

The horse's head sculptured on a piece of reindeer horn, was found buried with relics of the rough stone age, in southern France. The charging mammoth was engraved on an ivory tusk, also in southern France during the rough stone age; it is one of the most remarkable relics of its kind. The stag hunt shown at the left is from a painting on the walls of a cavern in Spain, made in the polished stone age.
Cave painting, Lascaux, France, 15,000 to 10,000 B.C.
PRIMARY SOURCE from “Window on the Stone Age” by Leon Jaroff

In December 1994 Jean-Marie Chauvet and two fellow cave explorers discovered Stone Age cave paintings in southeastern France. As you read this account, think about the significance of their discovery.

At the base of a cliff in the Ardèche region in southeastern France last December, the three middle-aged spelunkers felt a breeze wafting from a pile of rock and debris. “That was a sign that there was a cave beneath it,” recalls Jean-Marie Chauvet. With his companions, Chauvet cleared away an opening, then wriggled through a tunnel into a complex of large caves. Then, in the pale glow of their head lamps, the explorers noticed two red lines on a cavern wall. Chauvet, a government employee who oversees the protection of the many historically important caves in the region, recognized the markings as “characteristic of the Stone Age.” What he did not immediately realize—and the world did not know until the French Culture Ministry announced it last week—was that they had discovered an archaeological trove that may rival even the fabled drawings on the cave walls at Lascaux in France and Altamira in Spain. The spelunkers had found an extraordinarily clear window on prehistoric life. . . . Probing deeper into the cavern system, they began coming upon exquisite, intricately detailed wall paintings and engravings of animals, as well as numerous images of human hands, some in red, others in black pigment. “I thought I was dreaming,” says Chauvet. “We were all covered with goose pimples.”

The art was in pristine condition, apparently undisturbed for up to 20,000 years, as was other evidence of the ancient artists’ presence: flint knives, mounds of clay used for making paint, and charred fire pits.

Photographs of the Stone Age art show images of lions, bison, deer, bears, horses and some 50 woolly rhinos. “These paintings are more beautiful than those in Lascaux,” says Patrice Béghain, the regional head of cultural affairs. “There is a sense of rhythm and texture that is truly remarkable.” . . .

Of particular interest to Jean Clottes, France’s foremost expert on prehistoric rock art, is the fact that, in contrast to previous cave artwork, images of predatory and dangerous species—bears, lions, rhinos, a panther and a hyena—far outnumber the horses, bison, deer and mammoths usually hunted by Stone Age people. “The paintings in this cave,” he says, “will force us to change how we interpret Stone Age art.”

Béghain is particularly struck by the skull of a bear perched on a stone near a wall adorned by an urinal image. “What is significant,” says the official, “is that some 17,000 to 20,000 years ago, a human being decided to put it in that particular place for a particular reason. I think it fair to assume that the bear did not self-decapitate on that spot to intrigue us.” Was this an altar for some Paleolithic ceremony? Stung by lessons learned at Altamira and Lascaux, where initial unrestricted access to the caves obliterated archaeological clues and led to the rapid deterioration of artwork, the French Culture Ministry has put the Chauvet cave off limits to all but a handful of experts and installed video surveillance cameras and police guards at the entrance. “Our goal,” says Béghain, “is to keep the cave in this virgin state so that research can, in theory, continue indefinitely.” —Reported by Bruce Crumley/Paris from Time, January 30, 1995, 80–81.

Activity Options
1. Writing Narrative Paragraphs: Imagine that you are Jean-Marie Chauvet. Write a diary entry about your discovery and share it with classmates.
2. Forming and Supporting Opinions: Write two paragraphs: one that explain why the public should be allowed to explore the caves and the other explaining why they should not be allowed. Draw on information in your text to prepare your arguments.
Primitive Progress

Although there were some stirrings much earlier in Africa, culture and technology seem to have taken off for good around 45,000 years ago. A look at some developments from the Upper Paleolithic era.

Music
Perhaps the earliest known musical instrument, a vulture bone flute found in Germany, dates back to 35,000 years ago. The foot-long flute, made from the naturally hollow wing bone, has five finger holes and a v-shaped mouthpiece. Music may have helped early humans communicate and form tighter social bonds.

Clothing
Clothes made the prehistoric man by about 30,000 years ago, the date of the earliest known needles for sewing, made from bone and ivory. While pointed tools could help early humans stitch together basic garments, eyed needles allowed for finer tailoring.

Hunting
Spear throwers came into use in Western Europe about 18,000 years ago. The thrower consisted of a straight rod with a hooked end, where the spear fit in, and the invention helped hunters launch their spears farther. Early artists carved images like a leaping horse onto their throwers.

Art
Small, finely carved ivory figurines—including a bird and what appears to be a horse's head—found in Germany from around 30,000 years ago are some of the oldest known examples of art. One of the researchers who made the discovery, from Tubingen University, has suggested that the objects may have been associated with shamanism, used as symbols to connect to the spirit world.

Burials
There's evidence that Neanderthals buried their dead, but regular, elaborate burials came into practice among early Homo sapiens in this period. One of the best known sites is Sungir, in Russia, dating to around 28,000 years ago. Some of the dead were dressed in jewelry and clothing decorated with thousands of handmade ivory beads. The elaborate burials suggest belief in an afterlife.
i. Humans lived in groups of 30 to 50, and human society was relatively egalitarian in social and gender ways.

j. Human economics depended on their environment for their economic needs. There was simple trade that was conducted by barter.

k. Limited technological advances kept the scattered bands living in precarious life-styles.
Based on what you read, what evidence is there to support the claim that we should start teaching history with the Paleolithic era? Include evidence from your text that can be found in your notes. You must have at least three pieces of evidence to support the teaching of the Paleolithic era.
Aim: How did the Neolithic Revolution transform human life?
Journal Entry III.

What does the term “Neolithic Revolution” refer to? What happened during this event? Did this revolution occur overnight? Explain.
I. NEOLITHIC REVOLUTION

a. 8000 BCE—coinciding with the first evidences of sedentary (permanent settler, as opposed to nomadic) communities in the Near East (ancient Turkey, ancient Palestine, and ancient Iran).
b. Shift from the Paleolithic to the Neolithic Revolution happened with the invention of agriculture and domestication of animals, also known as the “food-producing stage”.
Agricultural Revolution

**Graphs:***

**Temperature**
- [Graph showing average global temperature in Fahrenheit over years ago (in thousands)].
  - Beginnings of agriculture.
  - Last ice age.

**Population**
- [Graph showing world population in millions over years ago (in thousands)].
  - Post-Agricultural Revolution.
  - Agricultural Revolution.
  - Hunting-gathering stage.

**Skillbuilder**

1. When did the Agricultural Revolution begin?

2. When was population growth the greatest?
b. Induction of the “**AGRICULTURAL REVOLUTION**”: Radical changes brought about by the invention of agriculture to human societies.
Tool-making was initiated by pre-sapiens man. The first comparable achievement of our species was the agricultural revolution. No doubt a small human population could have persisted on the sustenance secured by the hunting and food-gathering technology that had been handed down and slowly improved upon over the 500 to 1,000 millennia of pre-human and pre-sapiens experience. With the domestication of plants and animals, however, vast new dimensions for cultural evolution suddenly became possible. The achievement of an effective food-producing technology did not, perhaps, predetermine subsequent developments, but they followed swiftly: the first urban societies in a few thousand years and contemporary industrial civilization in less than 10,000 years.

In my opinion there is no need to complicate the story with extraneous "causes." The food-producing revolution seems to have occurred as the culmination of the ever increasing cultural differentiation and specialization of human communities. Around 8000 B.C. the inhabitants of the hills around the fertile crescent had come to know their habitat so well that they were beginning to domesticate the plants and animals they had been collecting and hunting. At slightly later times human cultures reached the corresponding level in Central America and perhaps in the Andes, in southeastern Asia and in China. From these "nuclear" zones cultural diffusion spread the new way of life to the rest of the world.
c. During this period, man exerted more control over nature. Humans raised animals and developed farming to keep a steady food supply. Started settling down because of the nature of farming. They also developed more complex social structures to suit the growing population brought about by the more steady food supply.
As the agricultural revolution began to spread, the trend toward ever increasing specialization of the intensified food-gathering way of life began to reverse itself. The new techniques were capable of wide application, given suitable adaptation, in diverse environments. Archeological remains at Hassuna, a site near the Tigris River somewhat later than Jarmo, show that the people were exchanging ideas on the manufacture of pottery and of flint and obsidian projectile points with people in the region of the Amouq in Syro-Cilicia. The basic elements of the food-producing complex - wheat, barley, sheep, goats and probably cattle - in this period moved west beyond the bounds of their native habitat to occupy the whole eastern end of the Mediterranean. They also traveled as far east as Anau, east of the Caspian Sea. Localized cultural differences still existed, but people were adopting and adapting more and more cultural traits from other areas. Eventually the new way of life traveled to the Aegean and beyond into Europe, moving slowly up such great river valley systems as the Dnieper, the Danube and the Rhone, as well as along the coasts. The intensified food-gatherers of Europe accepted the new way of life, but, as V. Gordon Childe has pointed out, they "were not slavish imitators; they adapted the gifts from the East ... into a new and organic whole capable of developing on its own original lines." Among other things, the Europeans appear to have domesticated rye and oats that were first imported to the European continent as weed plants contaminating the seed of wheat and barley. In the comparable diffusion of agriculture from Central America, some of the peoples to the north appear to have rejected the new ways, at least temporarily.
COOKED MEAT!

WHEELS TO CHASE!

A FIRE TO BASK BY!

FELLAS - WE'RE DONE EVOLVING!
What was life like, once bands settled down? This was almost from the start a woman's world. She would mark out the fields for planting, because she knew where the grain grew best, and would probably work in the fields together with the other women of the band. There would not be separate fields at first, but as the former nomads shifted from each sleeping in individual huts to building houses for family groups of mother, father, and children, a separate family feeling must have developed and women may have divided the fields by family groups.


The evidence from food remains in these early villages, 10,000 to 6000 B.C.E., indicates that men were still hunting, to supplement the agriculture and modest domestic herds. This means that they were not around very much. When they were, they probably shared in some of the home-base tasks.
d. Also developed early forms of government, armies, religion.
e. Also developed other technologies related to farming such as pottery (for storing harvest), calendar (or a devise to measure time), cloth-weaving (out of vegetable fiber), weapons, etc.
The people of Jarmo grew the barley plant and two different kinds of wheat. They made flint sickles with which to reap their grain, mortars... on which to crack it, ovens in which it may have been parched and stone bowls out of which they might eat their porridge. We know that they had domesticated goats, sheep, dogs, and... in the latest levels, pigs... As well as their grain and the meat from their animals, the people of Jarmo consumed great quantities of land snails...

The houses of Jarmo were only the size of a small cottage by our standards, but each was provided with several rectangular rooms. The walls of the houses were made of puddled mud, often set on crude foundations of stone... The village probably looked much like the simple Kurdish farming village of today, with its mud-walled houses and low mud-on-brush roofs. I doubt that the Jarmo village had more than twenty houses at anyone moment of its existence. Today, an average of about seven people live in a comparable Kurdish house; possibly the population of Jarmo was about 150 people.

WAS THIS CHANGE POSITIVE? EXPLAIN

The inhabitants might use the upper floor to store crops such as wheat and apples.

Many houses included a shrine. It was decorated with bulls’ horns and sometimes wall paintings. A burial often lay sheltered beneath the shrine floor.

Food was prepared in a small clay oven or over a hearth.
f. Development of social classes.

h. Farming may have encouraged inequality between the sexes, as well.

1. Farming women tended to have more frequent pregnancies than their hunter-gatherer counterparts—with consequent drains on their health.
WAS THIS CHANGE POSITIVE FOR WOMEN?
EXPLAIN

The agriculture practiced by these first women farmers and their children, producing enough food for subsistence only, must be distinguished from that agriculture which developed out of subsistence farming and which produced surpluses and fed non-farming populations in towns. The first type is commonly called horticulture and is carried out with hand tools only. The second is agriculture proper, and involves intensive cultivation with the use of plow and (where necessary) irrigation. In areas like the hilly flanks of the fertile crescent in the Middle East, horticulture moved fairly rapidly into agriculture as it spread to the fertile plains. As we shall see, trading centers grew into towns and cities needing food from the countryside. Women and children could not unaided produce the necessary surpluses, and by the time the digging stick had turned into an animal-drawn plow, they were no longer the primary workers of the fields.

Women also began to spend more time on making tools and containers. No longer needing to hold the family possessions down to what they could carry, women could luxuriate in being able to choose larger and heavier grinding stones that crushed grain more efficiently. They could make containers to hold food stores that would never have to go on the thousands of little bands over the next ten thousand years), would they after all have moved on? While it may have been a relief not to be on the move, they in fact exchanged a life of relative ease, with enough to eat and few possessions, for a life of hard work, enough to eat, and economic surplus. As [archaeologist V. Gordon] Childe says, "a mild acquisitiveness could now take its place among human desires."

Evidence from some of the earliest village layouts suggests that adults lived in individual huts, women keeping the children with them. Marriage agreements apparently did not at first entail shared living quarters. As the agricultural productivity of the men increased, and the shift was made to dwellings for family units, husband-wife interaction probably became more frequent and family living patterns more complex.

With the accumulation of property, decisions about how it was to be allocated had to be made. The nature of these agreements is hardly to be found in the archaeological record, so we must extrapolate from what we know of the "purest" patrilineal tribes of the recent past.
**Cause and Effect**

**Causes**
- Food-gathering women notice seeds grow into new plants
- Food-gathering women notice that thinning results in stronger plants
- Game animals become scarce

**NEOLITHIC AGRICULTURAL REVOLUTION**

**Immediate Effects**
- Abandon nomadic way of life and settle in villages
- Acquire more possessions
- Develop new technologies
- Develop calendars

**Long-Term Effect/Immediate Cause**
- Growth in population

**Immediate Effects**
- More interaction among communities
- Increased warfare

**Long-Term Effects**
- Women lose status
| Changing Ways of Life | Paleolithic Era  
|-----------------------|-----------------------------| Neolithic Era  
|                       | circa 70,000 B.C.—12,000 B.C. | circa 9000 B.C.—1800 B.C.  
|  Arts and Crafts       | painted cave walls; usually painted animals | made pottery; carved objects from wood; built shelters and tombs  
|  Obtaining Food        | hunted animals; gathered nuts, berries, and grains | began farming in permanent villages; raised and herded animals  
|  Adapting to Surroundings | learned to make fire; developed language; created simple tools and shelters | built mud-brick houses and places of worship; had specialized jobs; created more complex tools out of copper and bronze |
Thus in 3,000 or 4,000 years the life of man had changed more radically than in all of the preceding 250,000 years. Before the agricultural revolution most men must have spent their waking moments seeking their next meal, except when they could gorge following a great kill. As man learned to produce food, instead of gathering, hunting or collecting it, and to store it in the grain bin and on the hoof, he was compelled as well as enabled to settle in larger communities. With human energy released for a whole spectrum of new activities, there came the development of specialized nonagricultural crafts. It is no accident that such innovations as the discovery of the basic mechanical principles, weaving, the plow, the wheel and metallurgy soon appeared.
Class Activity
Directions: With a partner, please thoroughly answer the given task.

"Using the following documents, analyze the ways in which the Agricultural Revolution (or Transitions) changed the global processes used by people to survive and prosper. What this change all good?" 

**Historical Background:** As the Ice Ages came to an end, the growing patterns of plants and the migration patterns of animals changed. This forced humans to change their patterns of life. Due to the abundance of seed plants that grew wild, the changing temperatures, and plain old luck, humanity began to cultivate the land and domesticate animals. Some people adopted a settled life style while others adopted a pastoralist life style. Both groups experienced great political, social, cultural, and economic changes.
PEER ACTIVITY-ARTICLE ANALYSIS
PALEOLITHIC vs. NEOLITHIC REVOLUTION
ARTICLE: “The Worst Mistake In The History Of The Human Race” by Jared Diamond, Prof. UCLA School of Medicine
Discover—May 1987, pp. 64–66

Directions: In your groups read & annotate the document, & discuss and answer the following questions on your own paper. Be prepared to discuss them in class.