Chapter 1

Our World

Our world is a mystery. The story of this world is filled with wonder and awe. It has a scientific and artistic aspect. Historians write its history in such a way that no chapter is left out. But still, there is something missing. There is a secret hidden in it that cannot be uncovered. To write the history of the world, it is not just the knowledge of facts that is required, but also the art of expressing them. This requires scientific insight, but it is not enough to arrive at a final conclusion.

Despite their extensive research, scientists and historians differ in their conclusions about Earth. After further research and investigation, they often change their opinions.

It is said that our world was created approximately 470 million years ago. Today, we see it in a completely different form. In the beginning, the Earth was a burning, molten mass. Due to the pressure of gases, cracks appeared in it, and the Earth broke into pieces. As a result, the planets of the solar system came into being, and our Earth assumed its current shape.

Life began on Earth after it cooled down. Gradually, after millions of years, the Earth became habitable, and plants, animals, and humans came into existence. The history of this world is very long, and many events have taken place in it.

In today's advanced world, modern science has made it possible to study this world in more detail. The conclusions we reach from this research are often unexpected and astonishing. It is said that today's sophisticated and advanced knowledge did not exist in ancient times, and it is the result of human progress and innovation.

The ancient world had a different perspective on the world, and the beliefs of the people were based on myths and legends. Today, science has refuted these ideas and has uncovered the truth about the world. But even now, there are many secrets of the world that remain hidden, and it is the duty of science to reveal these mysteries.

A map of the world showing the eastern coast of North and South America fitting into the outline of the western coast of Africa.

Signs of Life

Half of this world's life has passed, but this world remained devoid of living things. Finally, life took pity on this desolate world. It adopted various means for its expression. It is said that the repeated flashes of lightning and atmospheric vapors combined to create such a chemical compound that after billions of years, it succeeded in preparing the first cell. From this life cell, the foundation of life was laid in this world. After one cell, many cells were formed, and then over millions of years, plants, forests, germs, insects, and animals began to appear. And then dinosaurs, large and powerful animals, also appeared, and thus life began to grow and flourish in this world.

The First Human:

Despite the creation of countless things mentioned above, there was no trace of human beings in this world until then. Millions of years passed, and the creature we can call human, who stood upright, did not appear. The continuous efforts to trace the human existence revealed that 500,000 years ago, the excavated remains of human skeletons indicate that the human race was present at that time.

(A map of the world showing the landmasses connected, with no oceans separating them.)

The origin of the human race that walks upright can be traced back to Kenya. This is because ancient human skeletons were unearthed during excavations near a lake in Kenya, East Africa. This upright human species was given the name Homo Erectus. From Africa, this human race gradually spread to Europe and Asia, until it spread throughout the entire world in a period of two to three lakh years.

The reason for this was that during the initial ice age, the water level in the oceans was low. Therefore, many regions that are now separated due to the spread of the ocean were once part of the same landmass. As a result, the map of the world at that time was different. The tip of northeastern Asia, known as Siberia, was connected to the coast of North America, Alaska. The land of Africa was connected to Europe through Spain and Italy. England was not a separate region from Europe. There was no sea between the islands of Indonesia and Malaysia.

Many human groups from Asia migrated to the islands of Southeast Asia that were connected to the larger continent, and began to settle there. Evidence of these human settlements dating back four lak years has been found on the island of Java. From there, humans boarded boats and reached Australia around 16,000 BC, and later migrated towards South America.

A Brief History of Humans

The Early Humans

Many groups of people migrated from Siberia to Alaska in search of prey. This led to the settlement of humans in America around 30,000 years ago. Some experts believe that America's population began as early as 12,000 years ago. Today, human remains have been found in many places around the world, from South Africa to Europe, Asia, China, Pakistan, India, and Java. These remains show how humans have evolved over time and how different they were from us today.

Two Theories of Human Evolution

Scientists have two main theories about human evolution.

Some believe that humans evolved and developed in one place and then spread out in waves. Others believe that the first humans, who originated in Africa, spread throughout the world with the same structure and then adapted to different environments.

Physical Appearance of Early Human Being:

Early humans were short and had heavy bodies. They had small foreheads and thick, protruding eyebrows. Their chins were small and sloped backward compared to their faces. Their necks were short and did not move side to side like modern humans'. They walked upright. Their thumbs were in a straight line with their fingers and were not as flexible as today's thumbs. This made it easier for them to hold things tightly but difficult to do delicate tasks. Despite this, early humans were able to create tools, including axes made from stone. It took thousands of years for their hands to develop into the more flexible hands we have today.

Lifestyle

Early humans ate both plants and meat, including large animals. They also practiced cannibalism. They were able to control fire and were starting to speak. The remains of early humans who walked upright are called Homo Erectus. Their most important remains have been found in Europe, Java, China, and Pakistan. It is believed that during this time, men began hunting while women stayed near home to find food. This search for food introduced humans to edible fruits and plants. Women also gave birth and raised children.

Housing

Although they usually lived in caves, early humans also built huts made of branches and covered with animal skins and stones. These huts were oval-shaped and measured 50 feet long and 19 feet wide. In such kind of houses Homo Erectus used to lived for long. But caves remained their permanent residence in this era.

The Superiority of Humans Over Animals:

There were several reasons for the superiority of humans over animals. Despite the significant differences between early humans and modern humans in terms of intellect and physique, there was a clear distinction between early humans and animals that made them human. This difference was evident in their following characteristics and superiority:

1. **Upright Walking:** Early humans walked upright, freeing their hands and arms. They used their hands and arms not only for tearing food and grasping objects but also for creating tools from bones and stones. Many experts consider this ability as the primary reason for human superiority over animals. The ability to use their hands and arms for labor and create tools for the future was a foresight not found in any other living being.

2. **Broader Vision:** Standing upright allowed early humans to see farther, leading to a wider range of observation and mental development.

3. **Thinking Brain:** Early humans possessed a thinking brain that enabled them to learn from experience and gain further knowledge. This ability helped them control fire, the first additional power they acquired beyond physical strength. This power led to many other advantages over animals. The earliest traces of fire have been found in China. Fire helped humans (a) protect themselves from the cold, (b) intimidate animals, and (c) cook meat.

4. **Foundation of Knowledge:** Thanks to their brains, early humans laid the foundation of knowledge. They were also able to share their knowledge with others. Although their knowledge was limited to things like (a) identifying poisonous plants, (b) selecting and creating the best stones for tools, (c) self-defense techniques, (d) identifying the best hunting grounds and hunting techniques, and (e) understanding animal behavior, they were able to pass this knowledge on to future generations.

5. **Ability to Speak:** Early humans had the ability to speak. The change in the position of their necks and vocal cords, resulting from upright walking, contributed to this ability. Their first sounds likely expressed natural instincts like hunger and pain. Later, they developed sounds related to tools and hunting. The ability to speak allowed humans to teach others and their children, creating a link between generations and preserving traditions like hunting techniques and tool-making.

The development of the human brain over the 400,000 years following the emergence of Homo Erectus, or upright walking humans, was a significant factor in human evolution.

The Emergence of Modern Humans

During the Upper Pleistocene era, which lasted from 90,000 to 10,000 years ago, humans began to resemble modern humans. This period saw significant advancements in human development, including the ability to create tools, build houses, and hunt large animals. The Upper Pleistocene is divided into three main periods:

- **Lower Paleolithic:** This period lasted from 2.5 million to 120,000 years ago. During this time, humans used simple tools made of stone.

- **Middle Paleolithic:** This period lasted from 120,000 to 40,000 years ago. Humans during this time were more skilled at creating tools and hunting.
- **Upper Paleolithic:** This period lasted from 40,000 to 10,000 years ago. It was during this time that humans saw the most significant advancements. They developed complex tools, created art, and built houses.

The Upper Pleistocene era was a time of great change for humans. They adapted to new environments, developed new technologies, and became more like the modern humans we know today.

Sources to know about History:

We know about world and human history from two sources:

1. Written history that we have read.
2. Material objects that we have seen and learned about the past from.

Initially, this world was empty of humans. When humans inhabited this world, they didn't have the ability to write. Thus, thousands of years passed after humans came into this world, but no history of their evolution was recorded. Therefore, the period before humans came to this world and the unknown period of human life is called the Prehistoric Era. The information we get about this era comes from stones, mountains, bones, and used items that geological changes and ancient people left behind in this world.

These things or artifacts reach us in two ways:

1. Prehistoric Geology
2. Prehistoric Archaeology

Prehistoric Archaeology:

Geology is the science that provides information about the evolution and history of the earth's upper layer (which is about six miles thick). This information is obtained from the layers of mountains and oceans located in this layer. The main source of information in this field of science is **fossils**. When a living thing dies and sinks into the bottom of a lake, river, or sea, or remains lying open, it is quickly covered by mud, sand, or the remains of other plants or animals. This preserves its structure. Even if it decomposes, its skeleton remains. Sand, mud, or other things continue to accumulate on top of it, and under the weight of this, the skeleton becomes part of the surrounding material. But the marks of its structure, called **fossils**, remain. If the layers of particles around this fossil become hard like stone after centuries, the fossil can remain preserved for millions of years. Due to these fossils, humans learned that the structure of the world has continuously changed. Oceans have retreated from their original places, and new mountain ranges have emerged. This is because fossils of many marine animals have been found on mountaintops. By looking at fossils preserved in stony mountains, geologists estimate when different prehistoric eras occurred and what living things were present during those times. Because the layers of the

earth's outer shell indicate time and duration, and fossils provide evidence of types of living things, it is possible to estimate the history of the world to a great extent by studying these layers. However, it is not possible to definitively determine the history of the prehistoric era because different experts reach different conclusions based on their own information.

There are many ways to determine the history of old materials:

1. **Through trees:** Time, duration, and history can be determined by counting the rings inside a tree that form at regular intervals as it grows.
2. **Through lakes:** By counting the layers of material that accumulate in lakes each year due to melting snow, it is possible to estimate history for about 15,000 years.
3. **Radiocarbon Dating Method**

A new method has been discovered that can accurately determine the age of objects up to 30,000 years old. This method is called Carbon-14 (C-14). Nowadays, different methods are being used to determine the age of even older objects, and these methods are collectively called KAR.Pioneered by Willard Libby in 1949 to date archaeological, geological, and hydrogeological samples. It is used in dating samples up to 30,000 years old.

Geology provides information about the history of the earth and the objects buried within it. **Archaeology** is the study of the history of humans who lived on this land and their activities.

Archaeology is the science that searches for preserved ancient artifacts in the present day and uses these artifacts to infer about the conditions of the past.

There are two main sources of information in this field of Archaeology:

(1) Caves (2) Excavations

Caves: These caves were inhabited by humans 30-40 thousand years ago. Due to certain reasons, these caves became closed, and the paintings, carvings, and tools inside them remained preserved. With the help of these two things, today's archaeologists can learn about those people.

Excavations: Archaeologists all over the world are excavating the earth to find artifacts from the past. In ancient times, when earthquakes or volcanic eruptions occurred and destroyed civilizations, these places were buried under layers of soil for many years and became hidden from sight. Archaeologists study old books to find these places and then excavate them to find artifacts. If a place has been inhabited for several hundred years, they perform stratigraphy, which involves determining the time period of different layers and inferring the customs, habits, and occupations of the people who lived during that time from the artifacts found in those layers. The bottom layer is considered the oldest, and each layer above it is considered younger. Surprisingly, most of these excavations result in finding looted pottery. During excavations, along with the remains of structures, we find broken pottery and stone tools that

provide us with information about these ancient and anonymous people who made small inventions through observation and experimentation.

Despite all these discoveries, archaeologists haven't been able to find a method to understand the thoughts, feelings, and sorrows of these anonymous people.

Compared to the millions of years of prehistoric history, the history of written records is relatively short, spanning only about 6,000 years. Initially, humans wrote on wet clay tablets, tree bark, papyrus reed, and animal skins.

Experts compare the time of human existence on Earth to a day, saying that if the Earth's 4.7 billion-year history were considered a day, humans would have appeared on Earth only one minute before the end of that long day.

Since much of ancient human history is about anonymous people, archaeologists have faced challenges in naming artifacts discovered during excavations. They have named different periods based on the tools and materials found in those periods, such as the Iron Period, Bronze Period, and Paleolithic Period. However, it's important to remember that these names don't represent a historical sequence, as different periods occurred at different times in different places.

There is no consensus among experts about the prehistoric sequence. Therefore, when determining the history of an artifact or period, we cannot provide an exact date.

Today, the world measures time based on the birth of Jesus Christ. Years before his birth are referred to as Before Christ (B.C), and years after his birth are referred to as Anno Domini (A.D), which is Latin for "In the Year of Our Lord." For example, the current year is 1992 A.D.

To trace the story of human evolution, we need to go back 70-80 thousand years before Christ, to the Paleolithic period, when humans used stone tools.

Short Questions:

1. Describe the reasons of human being’s superiority over animals.
2. Who were Homo Erectus?
3. What is meant by BC?
4. What is meant by AD?
5. How many methods are there to determine the history of old materials?
6. What is Archaeology?
7. What is Geology?
8. How many sources of information are in field of Archaeology?
9. What is meant by Fossils?
10. Describe the appearance and features of early human being?