**Big History – An Overview**

1.) What is history and what is the “human story”? History is an attempt to understand both our insignificance and our significance. To study history is to better understand the world and our place in it.

2.) How long have humans been on Earth? You, and the other humans with whom you share this world, are the culmination of the human story. Primates appeared on Earth between 5 and 7 million years ago and about 200,000 years ago, Homo sapiens appeared.

3.) What is an “origin story” in history? From the very beginning, we’ve had different stories that explain the origins of the Universe, our planet Earth, and life itself. These origin stories, as they’re called, are as varied as the cultures that created them.

4.) How is Big History different from these origin stories? At its heart, Big History is simply another origin story. However, it differs from all other origin stories because it’s science-based. Big History uses the scientific evidence we have available to create an understanding of the Universe.

5.) What parts of history do Big Historians focus on? Big Historians focus on eight turning points in the history of the Universe, which we call thresholds. These are moments when the Universe became significantly more complex than it had been previously.

**The First Threshold**

6.) What was the Big Bang? The Big Bang was a split second in which all matter and energy expanded at tremendous speed and became the Universe.

7.) What do we think about the period before the Big Bang? It’s mind-bending to think about it, but in some ways, there was no “before” the Big Bang, because the Big Bang created not only space as we know it, but also time as we know it. The important thing to know is that around 13.8 billion years ago, very suddenly, the Universe exploded into being.

**The Second Threshold**

8.) What elements did the early universe consist of? The early Universe consisted almost entirely of hydrogen and helium for a very long time.

9.) What formed the stars in the early universe over time? After a few hundred million years, clouds of hydrogen and helium began to collapse, and the increasing heat and pressure generated by collapse led to the creation of the first stars.

**The Third Threshold**

10.) What made the creation of more complex chemical elements possible? The death of a star can generate high temperatures and pressures like those in the Big Bang, and this makes possible the creation of more complex atoms.

11.) What would the new elements create later? A greater variety of atoms is critical to making more complex things like planets and living things, so the death of stars is the third threshold of increasing complexity in Big History.

**The Fourth Threshold**

12.) What structure preceded the planets and the sun? Our Sun is a star, and like all other stars, it was formed from the collapse of a huge cloud of gas and dust particles. More than 99 percent of this material went to make up the Sun, but wisps of matter orbited around it at various distances. Over time, the matter in each orbit was drawn together by gravity. The gravitational pull created violent collisions into lumps of matter that eventually formed the planets.

13.) What is the process that created the planets of the Solar System called? This process, which we call accretion, is how our Earth was formed approximately 4.5 billion years ago.

**The Fifth Threshold**

14.) What created the chemical reactions that formed first living creatures on Earth? Around volcanic vents at the bottom of Earth’s oceans, complex chemicals engaged in ever-changing reactions powered by the heat from these volcanoes. Those reactions led to the formation of complex chemicals that eventually created the first living organisms.

15.) How can be the structure and size of the first life described as? For a very long time, that was it: single-celled, microscopic organisms. Life first emerged on Earth perhaps three billion years ago; the first multicellular life didn’t show up until around one billion years ago. But slowly, life grew more and more complex.

16.) What was the type of animals that first flourished at land? One hundred million years ago, the land-based animals that flourished most were the reptiles we call dinosaurs. About 65 million years ago, however, most of them died off.

**The Sixth Threshold**

17.) Where did the hominine predecessors of humans originate from? Our ancestors, the hominins, are primates, and they first appeared between five and seven million years ago in Africa. Over millions of years, hominins evolved in important ways, both physically and socially.

18.) What was the important ability that set the Homo sapiens apart from their ancestors? About 200,000 years ago, Homo sapiens, which means “wise human,” appeared. Modern humans developed language, a method of communication.

19.) What is collective learning? In other species, knowledge dies with the generation that created it. Humans have the ability to build on the accomplishments of previous generations.

**The Seventh Threshold**

20.) How did the first Homo sapiens acquire vital resources? Our ancestors lived by foraging. Foragers survive by gathering plants, hunting animals, and scavenging the remains of animals killed by other predators. Foraging supported early humans for millions of years.

21.) What vital skill did humans learn about 12000 years ago? About 12,000 years ago, humans began to domesticate plants and animals, in other words, to farm. They began interfering with the natural life cycles of plants and animals in order to control where they grew and promote characteristics in those plants and animals they preferred.

22.) How did the learning of this skill influence the humans? Growing food gave humans access to a vast amount of energy created by the Sun through photosynthesis. Because foraging for survival was no longer necessary, tremendous lifestyle changes were possible, like settling down to live in cities, creating political structures, and developing skill and trade specializations. The results of all of these changes define the agrarian civilizations. Farming has had a tremendous impact on the way humans live and how they interact with the Earth.

**The Eight Threshold and The Future**

23.) When did human innovation started to accelerate? The adoption of farming led to dramatic changes in the way humans lived. Innovation accelerated dramatically with the Modern Revolution, which began about 300 years ago.

24.) What are the key features of the modern world? Rapid growth of human population and the creation of a highly interconnected world are some of the key features of the modern world. These features make the modern world the eighth and final of Big History’s thresholds.

25.) What can the research of the past thresholds contribute to in the present? Big Historians look across the thresholds to understand the connections between past and present. With that understanding, developing a view of what the future might hold becomes more than a random guessing game. It becomes a way of expressing your own point of view about how the future will be the logical outcome of billions of years of the past.

**Vocabulary “BH Overview”**

Thresholds

Origin stories

vast, tremendous

exploded, expanded, collapsed

specks, clouds, lumps – wisps, chunks, blocks, pieces,

were drawn together by

collisions

average features of species

cells, multicellular organisms, plants, fungi, fish, amphibians, reptiles, ancestors, mammals, primates, Homo sapiens

pass on knowledge, build on accomplishments,

foragers, gatherers, scavengers,

interfere with the natural cycles, settle down in…, create political structures, domesticate

interact, interconnected,

flourished,

increasing complexity

History = knowing what happened when…

 = knowing connections between the past and present …

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