

## READING 1

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Candice Goucher, Charles LeGuin, and Linda Walton, *In the Balance: Themes in Global History* (Boston: McGraw-Hill, 1998), 10–12 “The Measurement of Time”; 13–18 “Origin Myths: The Creation of the World”; 37–38 “Origin Myths: The Flood.”

**Abstract:** This essay explores notions of time, oral tradition, and myth, and how these factors have affected the ways in which humans – in the distant past as well as in the present – have understood their origins and place in the world. Human groups in different times and places have often conceptualized time quite differently: some have viewed time as linear, some as cyclical, and some in terms of dynastic events. Human origin stories also differ, especially in detail, but common themes and patterns in most such stories suggest common human experiences and concerns. Historians use these stories – collected through oral, written, and archaeological sources – to develop a greater understanding about both the distant and the more recent human past.

### The Measurement of Time

Time is the arena in which historical events happen. The variety of global history is in part the consequence of the ways in which historical time is constructed by different cultures, how they place events in time, how different people answer the question of *when*. A society’s notion of time is a socially constructed category that expresses the concept of time that is common to the group. All cultural clocks are systems of reckoning time, which arise through human interaction with the natural world. Regardless of what the “clock” is – whether reigns of kings, human generations, planting seasons, plagues of locusts, or the movements of planets – practical and ritual events are perceived to have meaning because of their placement in time.

#### ***Linear Chronology***

Since well before the European Renaissance, Western historians have understood historical time in a linear fashion: human events are seen as beads strung on a string. The linear pattern of human history stems from the Judeo-Christian belief that human events tend purposefully toward a final conclusion, the coming of a Messiah. According to this tradition, the history of the past is an orderly, progressive narrative of events. In the Christian tradition, historical time became the preserve of the Church and was consequently shaped to conform to the calendar established by Pope Gregory VII in the sixteenth century, the basis of the one used today in the West. Islam, which shares common cultural roots with the Judeo-Christian tradition, measures time in a similar linear fashion, starting with its own beginning, the flight of Muhammed

from Mecca to Medina known as the *hejira*. This took place in 622 C.E., according to the Christian Gregorian calendar, or the first year A.H. (after *hejira*), according to the Muslim calendar.

## ***Nonlinear Chronology***

### **Early Calendars**

Before the emergence of the linear European and Muslim calendars, astronomical calculations were carried out in North Africa. The ancient Egyptians devised a solar calendar which divided the calendar year into three seasons of four months. Each month had thirty days, and five days were added at the end of each year to create the 365 day calendar. Egyptians also used a religious, lunar calendar. A dual chronology was developed by other cultures, including the Maya (ca. 300–900 C.E.) in the Americas. The Mayan calendar was based on two recurring cycles of different length and with different purposes. The ritual, or sacred, calendar of 260 days was used together with a solar calendar of 365 days, resulting in a dual name for each day; the same combination of names, however, occurred only once every 52 years and was recognized in special ceremonies. In addition, Mayans reckoned time according to a lengthy linear pattern, beginning with a point in the distant past identified with the creation of the world.

### **Cyclical Time**

Other nonlinear chronological traditions have been based on the notion of circular or cyclical time. Early South Asian astronomers measured world cycles (*kalpa*) in terms of billions of human years. These cycles repeated the creation and dissolution of the universe. Some sub-Saharan African societies also reject the emphasis on a strictly linear progression. Time, they feel, is process linked and abstract. For example, historical time may be measured by remembered plagues of locusts or by generations, established by those coming of age or initiated at about the same time. Longer durations are understood in terms of the rebirth of ancestors and ritually structured. These systems of reckoning and recording time provide culturally constructed chronological categories that do not conform to a linear, measurable pattern. For some peoples and places, the task of assigning dates to events recorded in oral tradition remains impossible and unwarranted, even culturally inappropriate.

### **Chinese Chronology and Cosmology**

The early Chinese understanding of time was derived from an organic theory of the universe in which human and cosmic events were part of a seamless whole. Perception of the rhythmic cycles of nature, knowledge of which was vital to agricultural societies, led the Chinese to recognize the regularities of

celestial events. A calendar adopted more than 2000 years ago was based on the movements of both the moon and the sun. One of the ruler's crucial responsibilities was to establish the official calendar. For this purpose, court astronomers recorded the movements of celestial bodies. The role of astronomer evolved into that of historian as the record of celestial events was correlated with that of human events.

### **Dynastic Cycles**

The Chinese defined the beginning of time as the moment when the sun, moon, and all the planets were perfectly aligned in the heavens. The longest cycle of cosmic time was the period that elapsed between these recurring perfect alignments. Within these cosmic cycles, human events were recorded in the framework of political time: the spans of dynasties.

Dynasties corresponded to reigns of families, within which era names were chosen to reflect moral or auspicious symbolism, such as the symbol for "rectified government." Each era within a dynasty progressed in linear fashion: "rectified government" 1, 2, and so on. But the dynasty itself had a "life cycle" of birth, maturity, and decline, a cycle that would be repeated with the next dynasty. The Chinese conception of time thus encompassed both the enormous, astronomically based cycles of cosmic time and the much smaller units of repetitive dynastic cycles, in which the linear time of era names measured political events on a still narrower scale. The Chinese were not troubled by the apparent ambivalence of a history that incorporated both cyclical and linear senses of time.

### **World Historical Time**

Maps of time are constructed to negotiate a common understanding of the individual in the human and natural worlds. In this way, calendars and power are intertwined. Ancient Chinese bureaucrats said that when they had incorporated some new region into the empire, its inhabitants had "received the calendar" (meaning the emperor's time map). When Europeans colonized parts of the globe in the nineteenth century, they also imposed their calendars and clocks on other cultures. Multiple notions of time sometimes converged, as they still do in ritual performances based on the cyclical repetition of events that contrasts with linear time; linear time, while recognized, is not acknowledged in the context of the repetitive, cyclical time of ritual. Since each system of reckoning time constitutes a way of knowing as it organizes and contextualizes knowledge, cultural clocks are an essential aspect of understanding the human experience, and they are significant to a people's understanding of the past. For example, most scholars today represent historical time along a linear timeline. The terms B.C.E. (Before the Common Era) and C.E. (Common Era) are used to distinguish between the two

directions to the left (before) and right (after) of the timeline's zero mark, replacing the Christian terms B.C. (before Christ) and A.D. (*Anno Domini*, "in the year of our Lord") with less culturally specific ones. This system has gained currency through its avoidance of explicit cultural references, but it, too, contains an arbitrary beginning point.

World history is also constructed temporally, within a conceptualized experience of time. Events have meaning through their being told as narrative; in turn, narration is construction in time. History, by definition, implies a distanced relationship – between the historian and the event, between the present and the past, between the "here and now" and the "then." The historian's concern with the chronology of the distant past has been greatly refined by scientific improvements in dating techniques. From Chinese water clocks to microprocessor clocks, technological tools for measuring time have also altered the human perception of temporal events.

### Radiocarbon Dating

One of the most important discoveries of the twentieth century for historians was the invention of radiometric (radiocarbon) dating, by which dates are assigned to objects through the use of measurements of the radioactive decay of such substances as carbon 14, potassium 40, and other radioactive elements. Conceived around the time of World War II by the Nobel Prize-winning chemist Willard Libby (1908 – 1980) and his coworkers, radiocarbon (carbon 14) dating has been refined to produce increasingly more accurate measures and calibrations. The application of this and other scientific techniques to dating physical evidence of the past has permitted historians more confidently to compare the time and place of the material remains of the human experience in one part of the globe with that of another part, independent of historical assumptions. Once excavated objects or remembered events have dates associated with them, they can be placed into a time perspective that permits comparison or allows relational links to be established.

### Prehistory

Since chronological reckoning clearly varies, there is no common agreement on the beginning of time or the beginning point of history. Reliance on written documentation of the past has tended to limit the subject of historical inquiry to what has been recorded in written texts. Since, by definition, such evidence is largely the record of those who were literate and held power, it excludes much of humanity and ignores what came before written records, that majority of the human story termed "prehistory."

Most historians now regard prehistory as a legitimate part of the reconstruction of the past. Evidence for the systematic study of world

prehistory relies on stones and bones, changing environments, the scientific record of human fossils, archaeology, myth, and legends. The earliest evidence for the human experience is material and oral rather than written.

## **Origin Myths: The Creation of the World**

Once the standards for historical reconstruction were set in the nineteenth century, oral history and legend – a source of the earliest remembered or imagined beginnings of human life – were customarily excluded from historical writing. Professional historians considered such sources to be dubious and unscientific, to belong to literature or folklore, much as they assigned “stones and bones” to archaeologists. It was not until the twentieth century that historians generally began to accept oral tradition and myth as attempts to explain and comment on, rather than merely remember, the past. Accepted as explanation and commentary, oral accounts, like archaeological evidence, became useful in reconstructing the distant past. Incorporating into history oral evidence that has been written down or recorded on tape or disc is especially important to the global understanding of human origins.

### ***Creation Myths***

Creation legends or myths explain how people believed the world began, and origin myths tell how human beings came to be a part of the world. There are varying versions of what people believed or imagined about what happened at the beginning of the human story. They reveal much that is common, as well as much that is unique, about how the past is perceived. By doing so, they are powerful sources of cultural identity, not only telling us how early people understood the world but also giving some sense of important aspects of their cultures and experience, such as social and political organization, family life, gender and ecological relationships, spiritual life and values. Oral history, like other kinds of history, frames events, lives, and processes through culturally specific points of view.

### **Australian**

Versions of their origins unique to Australian aboriginals reflect archaeologically proven migrations that took place perhaps 50,000 years ago. The legends refer to the era of creation as the “Dreamtime,” and they explain the migration of their ancestors to Australia in terms of beliefs about superhuman spirit ancestors who lived during the Dreamtime. The Kakadu people of Australia believe that the arrival of Imberombera, the Great Earth Mother ancestress, was by canoe, a mythical version of an event which archaeologists and prehistorians accept, even though no canoes – since they are perishable artifacts – have survived. Kakadu legend further explains the populating of Australia by the fact that when Imberombera came to Australia, she was pregnant, her womb filled with children. Once on the continent, she

created the natural landscape – hills, creeks, plants, and animals – and peopled it with her children.

## South Asian

The people of the Indus Valley civilization of South Asia (ca. 3000 – 1600 B.C.E.) left little indication of their beliefs about their origins other than some archaeological evidence of a fertility cult, which, like many others, centered on a mother or Earth goddess. The earliest South Asian creation texts date from the period of the Indo European invasions (ca. 1500 – 500 B.C.E.) and represent ideas introduced by the invaders. The texts are collectively known as the Vedas (literally, “knowledge”) and include hymns, ritual texts, and philosophical works. The central narrative in the oldest of these texts, the Rig-Veda, concerns the deity Indra, who slew a serpent demon and by this act created cosmic order:

Indra’s heroic deeds, indeed, will I proclaim, the first ones which the wielder of the thunderbolt accomplished. He killed the dragon, released the waters, and split open the sides of the mountains.

When you, O Indra, killed the first born among the dragons and further overpowered the wily tricks of the tricksters, bringing forth, at that very moment, the sun, the heavens, and the dawn – since then, indeed, have you not come across another enemy.

Indra, who wields the thunderbolt in his hand, is the lord of what moves and what remains rested, of what is peaceful and what is horned [aggressive]. He alone rules over their tribes as their king; he encloses them as does a rim the spokes.

Other scriptures in the Vedic tradition present the idea that the creation of the universe was the product of the sacrifice of the primeval man, Purusha, who was sacrificed by his children and from whose body the universe was created. One of the later scriptures in the Rig-Veda, the “Hymn of Creation,” displays a questioning attitude toward the idea of creation, implicitly expressing doubt about various theories that existed, such as the suggestion that creation was the result of a sexual act or the product of a “cosmic egg.” This text exhibits a high level of abstract thinking and is one of the earliest examples of philosophic doubt:

Then even nothingness was not, nor existence.  
There was no air then, nor the heavens beyond it.  
What covered it? Where was it? In whose keeping?  
Was there then cosmic water, in depths unfathomed?

Then there were neither death nor immortality,  
nor was there then the torch of night and day.  
The One breathed windlessly and self sustaining.  
There was that One then, and there was no other.

But, after all, who knows, and who can say  
whence it all came, and how creation happened?  
The gods themselves are later than creation,  
so who knows truly whence it has arisen?

Whence all creation had its origin,  
he, whether he fashioned it or whether he did not,  
he, who surveys it all from highest heaven,  
he knows—or maybe even he does not know.

### West Asian: Judeo-Christian

The role of a creator god is present in the Judeo-Christian tradition as reflected in the story of creation in the Book of Genesis, found in the Bible. This story attributes the act of creation to one god, who forms human beings in his own image:

In the beginning God created the heaven and the earth...  
And God said, Let there be light: and there was light...  
And God made the firmament, and divided the waters...  
And God called the dry land Earth; and the gathering together of the waters called  
the Seas...  
And God said, Let the earth bring forth grass, the herb yielding seeds, and the fruit  
tree yielding fruit...  
So God created man in his own image...

### Chinese

In contrast to this, an early Chinese account (second century B.C.E.) offers an account of creation without a creator:

When heaven and earth were joined in emptiness and all was unwrought simplicity, then *without having been created*, things came into being. This was the Great Oneness. All things issued from this oneness but all became different, being divided into the various species of fish, birds, and beasts. (author's italics)

The creation of the world is often seen as a process of separating the heavens from the earth or the waters from the heavens, either by a creative force or without an agent.

### Cherokee

A Cherokee myth from North America described the primal environment as a watery one. An image of primeval water covering a not yet created earth was found among all American peoples with the exception of the Inuit in the farthest North.

### Yoruba

In the Yoruba myth from Nigeria in West Africa, the earth was created from the beginning of heavens and primeval waters. The creator deities are

humanized to the extent that one of them even falls asleep, having drunk too much palm wine, and misses his chance to create land.

## Sumerian

In the region of Sumer in ancient West Asia, the earth sat upon a vast primordial sea of sweet water, and creation was a matter of differentiating the raw matter of earth, heaven, and air into specific things. There was an assumed prior existence of a god and goddess, from which sprang the gods of the Sumerian pantheon:

When on high the heaven had not been named,  
Firm ground below had not yet been called by name,  
Naught but primordial Apsu, their begetter,  
And Mummu Tiamat, she who bore them all,  
Their waters commingling as a single body:  
No reed hut had been matted, no marsh land had appeared,  
When no gods whatever had been brought into being,  
Uncalled by name, their destinies undetermined –  
Then it was that the gods were formed within them.

The god Apsu was killed by his offspring because they feared he would kill them. The sea was then made from the body of the father; the sky was made from the body of the mother, Tiamat, who tried to destroy the children who had murdered her husband but was herself killed by them. There is a sequence of the acts of creation carried out by the gods – light, day and night, earth and sky, sun, moon, and stars, and with them the ordering of time. Then humanity was created, with its obligations and duties to the gods.

## Greek

There are striking parallels between the Sumerian and Greek traditions, since those of Sumer influenced those of Greece. The anthropomorphic gods of the Greek tradition showed a similar pattern of human and superhuman behavior as they created the world. Heaven and Earth gave birth to numerous gods and goddesses. The youngest, who attacked and castrated his father, married his sister and devoured their children, with the exception of Zeus. When Zeus grew up, he was able to disgorge his brothers and sisters alive from his father's body. Zeus thus became the leader of the Olympian gods, deities held in common by all Greeks, and had the capacity to mate with humans. The Olympian gods exhibited human passions and failings, just like the mortals over whom they ruled

## Nordic

The gods of northern Europe were divided into two families of deities, one connected with war, one with peace. There was a struggle between the two groups of gods that was resolved in favor of the warlike deities, chief of

whom was Odin. Odin presided over Valhalla, where human heroes are received after death. Odin gave his name to the English day, Wednesday (“Odin’s day”), as other gods and goddesses did to other days, for example, Thor to Thursday (“Thor’s day”).

## Japanese

Gods also play a central role in the creation of the world described in the *Kojiki*, the earliest textual source of native Japanese beliefs, compiled in 712 C.E. Like Apsu and Tiamat in West Asia, a pair of gods, Izanami and Izanagi, gave birth to the Japanese islands and a host of deities:

When the primeval matter had congealed but breath and form had not yet appeared, there were no names and no action. Who can know its form? However, when heaven and earth were first divided, the three deities became the first of all creation. The Male and Female here began, and the two spirits (Izanagi and Izanami) were the ancestors of all creation.

The progeny of these two gods included Amaterasu, the Sun Goddess, who became the central deity of Shinto (literally, “Way of the Gods”), the native belief system of Japan. The Sun Goddess of Shinto is only one example of a solar deity.

## **Solar Deities**

Solar deities were present in many early societies that were dependent on agriculture, since the sun was vital to their welfare. The Egyptians worshiped Ra, a solar deity. The Aztecs of Mesoamerica, the area between the United States and South America, believed that the sun ordered and structured the universe. For them, the sun and moon were dualities of masculine and feminine, darkness and light, life and death. An eclipse was viewed as an upsetting of the necessary equilibrium between the two, leading to a collapse of the world order. Eclipses were depicted in drawings as mythical animals “eating” or “biting” the sun. In early China, an eclipse was explained as an archer shooting the sun. The Incas of South America believed that the sun created the first Incas, a brother and sister, who set out on a journey to be tested and founded the Incan empire.

## **Origins of Human Culture**

Chinese records, which are thought to reflect a historical memory of community leaders in the fifth or sixth millennium B.C.E., portray the rulers of antiquity as wise rulers who bequeathed to their subjects the knowledge of agriculture, writing, and medicine. Although ideas about the creation of the world can be identified in early Chinese thought, there was no dominant creation myth. It was the origins of human culture and society, not the creation of the world, that concerned early thinkers in China. The recorded

bequests of agriculture and writing illustrate definitive elements of Chinese culture: an agrarian economy with an elaborate textual tradition in which the farmer and the scholar are both idealized. The importance of agriculture, and grain in particular, was reinforced in the account of the birth of the progenitor of the Zhou (pronounced “Joe”) people, “Lord Millet,” in the *Book of Songs*, the earliest poetic anthology in China (sixth century B.C.E.):

She who in the beginning gave birth to the people,  
This was Jiang Yuan.  
How did she give birth to the people?  
Well she sacrificed and prayed  
That she might no longer be childless.  
She trod on the big toe of God’s footprint,  
Was accepted and got what she desired...  
She gave birth, she nurtured;  
And this was Houji [Lord Millet]...  
He planted large beans;  
His beans grew fat and tall.  
His paddy lines were close set,  
His hemp and wheat grew thick,  
His young gourds teemed.  
Truly Houji’s husbandry followed the way that had been shown.

Certain commonalities are apparent in the creation stories discussed here: the creative act by which earth was separated from sea and air; the anthropomorphic struggle among deities; the tangible connection between gods and humans; and the role of gods in originating cultural knowledge, including knowledge of the past. These various versions of the distant human past suggest that all myths, despite unique cultural features, reflect common human experiences and concerns.

## Origin Myths: The Flood

One important means of reckoning time has been based on the geologic ages identified through scientific understanding of the changing physical features of the earth. The period between about 12,000 and 7000 B.C.E. was a period of worldwide warming, when the glaciers of the last ice age melted. Like the changing environmental conditions that prehistorians believe initiated human speciation, this period witnessed dramatic ecological responses: rainfall increased and ocean levels rose some 300 feet. Memories of the melting of the glaciers are reflected in flood legends, which are common throughout the world. Some flood legends are integral parts of origin myths, while others reflect punishment on humans who have displeased their creator. In either case they provide compelling arguments for the comparability of early human experience.

For 3000 years following the glacial retreat that marked the end of the ice age, the climates of West Asia and the rest of the world oscillated relatively widely between wet and dry, finally settling around 4000 B.C.E. into the pattern we see today. In lower Iraq, where Sumer was located, by 5000 B.C.E. heavy rains and raised oceans pushed the Persian Gulf coastline up as far north as the vicinity of Baghdad. By 3500 B.C.E., the climate dried, opening up huge expanses of land to settlement. For Sumerians, this “postflood” period was the beginning of their world.

## West Asia

The West Asian flood story most widely known is the story of Noah and the ark written into the sacred literatures of Judaism, Christianity, and Islam. In this version, Noah’s god, Yahweh, angry at the corruption of humanity, sends a flood to destroy it. But he is merciful to Noah and his family, who do not share in the corruption of the rest of humanity, and allows them to survive. This story dates back to 2800 B.C.E. in the long Sumerian epic of Gilgamesh. The Sumerian epic was picked up and altered by the Assyrians, and it was incorporated into Hebrew creation literature by the seventh century B.C.E.

## South Asia

Memories of the melting of the glaciers are reflected in other flood legends around the world. In South Asia, early Hindu Vedic hymns (ca. 900 B.C.E.) describe the gods’ gift of fire for sacrifices to Manu (Sanskrit for “man”). Manu plays a key role in a South Asian version of the flood story, which is also a creation myth. Manu, warned by a large fish, whom he had earlier befriended, of the coming of a great, destructive flood, builds a boat, hooks it to the fish, and is pulled to a mountaintop, where he remains until the waters recede. He pours a libation of butter and sour milk onto the waters, and from this a woman is created who becomes his wife. Their children are the beginning of a new humanity.

Ancient West Asian cities all had trade links with early urban centers in the Indus basin, and it seems likely that versions of the flood story in all these areas were related. Later versions of the flood story in South Asia are knit more closely to the Hindu sense of the nature of the world. By the sixth century B.C.E., the Hindu time cycle was elaborated, and the flood story acquired a cyclical character, with a new Manu repeatedly producing a new humanity through a new flood.

Although there is no integrated, systematic origin myth in China, there is a flood legend that provides the background for the rise of a culture hero, Yü, founder of the first dynasty, who ordered the empire out of chaos:

Yü divided the land. Following the course of the hills, he cut down trees. He determined the highest hills and largest rivers in the several regions...

Thus throughout the nine provinces order was effected: lands along the waters were everywhere made habitable; hills were cleared of their superfluous wood and sacrificed to; sources of rivers were cleared; marshes were well banked; access to the capital was secured for all within the four seas.

The flood legend in China provides the basis of dynastic rule. It is concerned with the ordering of the physical world, especially the control of flooding, a major problem in the agricultural zone of the north China plain along the Yellow River, and the preparation of the land for farming by a human figure who then rules the people who inhabit the land. The flood is seen as a condition of nature that is altered by human effort, and the human being capable of doing this has proven his ability to rule by channeling and controlling the floodwaters. The West Asian flood tradition identifies the unleashed waters as the gods' (or God's) punishment for humanity's corruption. Purified humanity begins with the survivors of this disaster. The South Asian flood tradition carries something of the same message but adds the unique qualifier that it will be a cyclical, repeating process.

## Summary

History begins with the attempts of humans to understand their beginnings. The earliest attempts at history were origin stories, and they were produced in the language of metaphor and myth, a language that has its own historical truth. We know about them because they have been passed down orally from generation to generation and, in modern times, collected and recorded. Initially, professional historians were skeptical of such sources, but in recent years they have become accepted evidence for understanding and reconstructing the distant past. Every society has its own way of presenting its unique historical vision, the shape of which may vary from generation to generation and which can be known through a variety of historical evidence: archaeological, oral, and written.