

# Big History and Religion:

## The ties that bind

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Lowell Gustafson  
Department of Political Science  
Villanova University

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How can Big History help us think about religion? How does it influence how we think about it? What can be learned from existing religions that can be incorporated into a Big History narrative?

We are here doing what might be called a Little Big History. One of the many strengths of this approach is that that it begins with a current specific entity, such as grass, the Eiffel Tower, Chartres Cathedral, or the city of Jericho, for example – and then investigates the origins of their many components, as well as the process by which they have been combined. Especially in such cases as grass or a city, possible future developments may be explored. Ever since the astrophysicists established that there was a beginning point for the entire universe, it is possible at least in principle to consider the Big History of every item and behavior.

We have to focus on what we mean by the word. There is an extraordinary number of definitions of *religion*, a word that covers a huge range of traditions. I am going to argue here that ideas about the supernatural or gods are important, but emerged long after religion did. The same can be said about awe and wonder. These too are important, but they depend on a level of cognition that comes rather late in the story. The one I am going to concentrate on here is the one that emerges from words meaning to tie or bind together. The emergent complexity of the ties that bind units together in ever more complex relationships over time began with the strong force that holds quarks together in protons and neutrons. With the eventual evolution of the most complex matter in the universe of which we are aware, the human brain, electrical and chemical communication between neurons are able to take multiple routes, permitting an enormous range of cultural ideas that connect ever larger numbers of groups of people.

The Big History of emergent complexity that moves through a series of transitions from the Big Bang to the Cultural Era of the Anthropocene transforms the study of religion. While it

finds all existing religions instructive, big history changes their calibration of time and the meaning of religion itself. Big Religion evolves out of earlier religions and incorporates many aspects of them, but also adds its own properties. In this paper, we will consider the Little Big History of religion, how religion originated, how it developed, and where it may be headed.

### **The Impact of Religion**

Virtually all of the major currently practiced religions – Baha'i, Buddhism, Christianity, Confucianism, Hinduism, Islam, Jainism, Judaism, Shinto, Sikhism, Taoism, Zoroastrianism – and even most folk religions – have developed within the past few millennia. An anthropology of religion pushes the discussion of religion to much earlier in the history of homo sapiens and perhaps even other hominins. Big History, the scientific study of the entire known past of our universe, begins the study of religion long before the founding of any of the current religions, and develops its meaning as a result.

There is much wisdom in all of the world's religions, and they each deserve study. Each is instructive in its own way, telling us much about the people who developed and practice them. All currently practiced religions decidedly do not all have the same teachings. There is great diversity – and great value – in all of them. Many often claim to have the final and exclusive truth, and that is among their many components that are best left behind. But each also has great wisdom that merits study and incorporation in Big Religion.

The great amount of evidence of people's current attention to religion is itself reason to investigate it. If billions of people talk about religion, practice one (or more), construct religious buildings, carry out actions in the name of religion, and so on, then this is an important topic. Europe has relatively few active practitioners of Christianity but increasing numbers of Muslims;

the percentage of religious practitioners are significant but declining in the US. Religious affiliation and practice seem to be numerous and growing in Africa and Latin America, and are emblematic of a number of Middle Eastern and South East Asian nations. The Russian Orthodox church has made a comeback since the fall of communism, and Putin makes use of it from time to time. The influences of religion on contemporary culture remain significant. In the name of religion, people bomb others, heal others, teach others, pray, study, care for others, and much else. Some people who don't much care for religion sometimes denounce it. Religion motivates many; it bothers many as well. Either way, it has impact and deserves study.

### **Measuring Time**

One influence of religion has been on our understanding of time. Religions often date time from an important event in their own histories, or even their understanding of the creation of the universe. For example, a traditional date is the one used by the organizers of this conference: 2016. This date had referred to the number of years since Christ's birth; it is now sanitized to refer to the beginning of the Common Era, whatever that is. The current year in the Jewish calendar is 5776, with that many years since God said, "let there be light," as well as the sun, moon, earth, life, and people. Islam calculates 1437 years since the emigration of Muhammad from Mecca to Medina, known as the Hijra. In the Hindu calendar, it is 5118 years since Śrī Kṛṣṇa returned to his eternal abode. In Buddhist calendars, the Buddha attained parinibbāna on or around 13 May 544 BCE. The ancient Mayan long count began on the date for the most recent creation date, the equivalent of August 11, 3114 BCE in the Proleptic Gregorian calendar. These and other dates indicate that these religious traditions are ancient by traditional standards, but very recent by geologic or astronomical standards. If current science was used, our calendar

may not begin with an event of importance in human cultural history, but with the best current date of the Big Bang at 13.8 billion years ago. Admittedly, this is not a convenient way to record time when agreeing on when to get together for a conference.

Our study of religions cannot begin with the origins of currently practiced religions; they are all far too recently developed. They cannot even begin with the study of the origins of human religion, using evidence of ritual architecture or burial practices suggesting belief in an afterlife. A Big History of religion needs to begin with the Big Bang. What in the Big Bang and everything after that leaves us evidence that permits us to talk about religion?

What is religion?

## **Defining Religion**

One value of considering the origins of religion is that it requires as clear thinking as possible about the definition of the topic. What is this religion whose origins we will discuss? How can we find evidence for a scientific analysis of it? Very often, religion is considered to be somehow about God or gods involved in creation. This is the case in the well known Biblical Genesis account as well as in the ancient Maya account of creation, the *Popol Vuh*. However, it is not central to other religions, such as Buddhism, which is concerned more with what is necessary for human enlightenment than with the creation of the universe. Our discussion here will not focus on whether or not there is a God who was involved with the Big Bang. The idea of God and spirits eventually became an important part of the story of religion, but there is no measurable evidence for or against gods at such an early point and they are not part of our definition of religion. Religion for many will certainly become associated with a belief in and

worship of a superhuman controlling power, especially a personal God or gods. But that is not our beginning point. Nor is our focus here on a particular system of faith and worship.

The etymology of the word religion is an instructive place to begin our discussion about the origins of religion. Cicero wrote that the Latin word *religio* derived from the verb *relegere* in its sense of “to re-read or go over a text,” religion being a body of custom and law that demands study and transmission. Some major current religions are called religions of the Book – the Bible, Koran, or other sacred text. This is not our definition here since there have been texts only for the past few millennia, and none in the billions of years before that. There is no Big History of religion if it only began with the writing of texts a few thousand years ago.

Others have found that *religion* comes to us through the Latin word *religio*, meaning reverence for what is sacred or awesome. There is indeed much for us to be awed by in the universe, but this is a response that many of us have that required millions of years of brain evolution. It may be that baboons too are awed by sunsets. We have pictures of them sitting on a precipice looking at a sunset. But it is hard to see awe in the response of creatures that evolved for the first few billion years of life on Earth. Awe and wonder do indeed become a part of the religious experience, but there was no one to be awed for the vast majority of universal history. They cannot be where we begin our account.

The Christian writer Lactantius, writing in the early fourth century, opted for a root of religion being the Latin *religare*, a verb meaning “to fasten or bind.” “We are,” he said in his book *Divinae Institutiones*, “tied to God and bound to him [religati] by the bond of piety, and it is from this, and not, as Cicero holds, from careful study [relegendo], that religion has received its name.” The idea of the ties that bind gets to where we want to begin. Augustine preferred this etymology to Cicero’s while suggesting yet another possibility: *re-eligere*, “to choose again,”

religion being the recovery of the link with God that sin has sundered.<sup>1</sup> If we focus on his idea of a link, once again we are getting close. *Religio* may well have been based on *religare*, meaning to tie, bind, or connect.<sup>2</sup> If so, the Latin word may be drawn from the even older Indo-European word, *leig*, meaning to tie or bind. The words league and ligament are other words that derive from this.<sup>3</sup>

The meanings of tying or binding here is not to restrain, but to form a useful connection or relationship. Two unconnected bones do not permit movement. Tying them together with ligaments permits muscles to coordinate their movement so that an animal may go where it wants to. The newly related bones have a relationship making the whole more complex than its single parts would be alone. This is the meaning of religion that Big History permits us to explore. Religion refers to those connections that enable ever more complex relationships among parts.

A central theme of Big History is the idea of emergent complexity. The idea here is that matter begins relatively simply. There is a rather homogeneous soup of quarks and protons and neutrons for a few hundred thousand years after the Big Bang. No stars, no planets, no life, not even atoms. And then, very gradually, and step by step, in some instances there were increasingly complex relationships among parts that formed more and more highly structured beings.

### **Religion as Increasing Complexity of Relationship**

Big Historians are familiar with increasingly complex, structured relationships among parts. Almost immediately after the Big Bang, when baryonic matter first emerged, three quarks formed relationships through the mediation of the strong force. When two Up quarks and one

Down one are bound together, they form a proton. When one Up and two Down quarks are “tied” together, they form a neutron. About 380,000 years after the Big Bang, when the universe had cooled to about 3000° Kelvin, the electromagnetic force was able to “tie” a negatively charged electron to each positively charged proton within a Hydrogen atom, and two electrons to a nucleus of two protons in each Helium atom. When gravity had brought huge amounts of these atoms together in dense, hot spheres, the atoms began to fuse, forming stars and increasingly heavier atoms, all the way up to iron with 26 protons in its nucleus. When the large stars exploded in supernovae, they formed all the even heavier elements. Elements that had been formed within stars were shot out into space, where they could form connections through covalent bonds within molecules, or relationships among different atoms. The most famous of these is water, H<sub>2</sub>O, although there were dozens of other molecules formed in space, some of them biomolecules – or some of the building blocks that were later the building blocks of life. So by then, there were quarks tied together within protons, protons tied together with electrons within atoms, and different types of atoms tied together with covalent bonds. Relationships within relationships were formed by the fundamental forces of the universe: the strong force, electro-magnetism, and gravity.

After supernovae shot out virtually all the elements in the periodic table, second generation stars and terrestrial planets were formed through gravity and accretion. Chemical and mineral evolution on planets such as Earth formed even more complex relationships. Biomolecules were bound together in amino acids and then proteins. Proteins and lipids were tied together in prokaryote cells. Cells formed relationships among new parts, such as a nucleus and mitochondrial organelle in a eukaryote cell. These cells might take on specialized functions within new bodies such as sponges. Different types of cells developed to form increasingly

complex baupläne from jellyfish to hominins. Electrical and chemical transfers between neurons would form the most complex relationships of matter of which we are aware. Although many questions remain about the exact progression of these events, they are widely enough known not to require further discussion here. The point is merely that the story of Big History is the story of ever increasing complexity in the ways that units are tied together.

### **Alternate Paths**

The story takes quite a leap with the evolution of brains. Especially the brains of social mammals – whales, dolphins, primates, hominins, and humans. As brains became more complex, life forms became increasingly able to self-consciously and explicitly remember what no longer existed but could again, and to imagine what did not yet exist but might. This was made possible in part by alternate routes of communication between neurons. Both memory and imagination are complex phenomena with long histories. One could begin the idea of imagination and purposeful behavior to prokaryote cells that used flagella to move toward light and food, and away from danger. With more complex, motile life forms, animals often were able to choose between alternate paths. An elephant may think about crossing a river at this location, but decide to actually cross it further downstream where there is a more accessible bank and less of a current. Planning and choosing involved options among behaviors that were not yet pursued.

This ability became pronounced among the most social mammals, including dolphins, whales, wolves, primates, and others, among whom brains are the most complex in the animal kingdom. When survival strategy is tied to complex social behaviors, brains are needed to enable members to make and carry out all kinds of complex decisions about their relationships.

There are a number of key ties that bind members together: raising offspring, food exchanges, scavenging, hunting, and many other activities. These ties are certainly not “religion” as we normally think of it, but they are the ways that members are bound together into structured, lasting relationships. They are not “real” in the sense of having matter. But they are behaviors that are so important to us. Should we have sex now or later, if at all? Should we eat this or that now or later, and with whom and how? Should I groom you now or not?

### **Social Ties**

A key transition is from earlier forms of cognition to increasingly complex, self-conscious, symbolic thought. As hominins evolved from other primates and then homo sapiens eventually from earlier species, they exhibited increasingly complex cognitive behaviors. These are represented in tools, artwork, burials, and building structures. With the advance from tool using to tool making, animals even before humans began to demonstrate imagination and planning. Chimpanzees could think about a poker even before they fashioned one from a small branch. Humans could imagine a tool before they chose the best type of rock and then chipped it. Vervet monkeys could use particular sounds to communicate immediate danger, but humans could self-consciously decide to bring up a memory of an earlier event to consider and discuss it – even when the referent was physically absent. Humans could chat about jaguars when none were in sight; vervet monkeys do not. Etchings, drawings, and shell necklaces from Blombos cave in South Africa about 90,000 years ago and other locations indicate an interest in creating patterns and perhaps symbols. Shells with a drilled hole in each one suggests a necklace that could have had symbolic or decorative purpose. The one indicates ritual thought and practice, the latter a sense of adornment or beauty.

Memory and imagination are thoughts about what no longer exists in current reality or what does not yet exist. Memories of caretakers from childhood who are now dead may be powerful enough to warrant the effort and forethought of ritual burials. Imagining the future may have justified the trouble over many years of raising children who were not yet adults. Ideas, thinking, memories, imagination – all about what did not exist – were important to humans and perhaps earlier hominins. Thinking of what no longer existed conjured it up in memory. Imagining it could lead to making it real later. A hominin could think about a tool and turn a rock into it. She could imagine her child as an adult and then see him grown up years later. One could think it, and then say it, and only later make it real. Memories of ancestors – imagination of future generations – were powerful experiences. And none of it had matter.

In a society in which relationships among kinship members were important for survival, the subtleties of society were of crucial importance. How should food be collected and distributed? How should sexual relations be regulated? Where should a group live? When should the group move to a new location? How should childcare be provided?

This last question was among the most influential in the development of hominins, for whom childcare was essential to species survival. With large brains that took years to develop to maturity, hominin offspring took much longer to reach sexual maturity than any other species. Getting a number of children to survive and reach maturity took the energy of the kinship group rather than only the mother. This required long-term relations among adults, who needed to maintain their relationship over many years, and usually their entire lives. Large, complex brains facilitated these social relationships. Brain development made our social nature our best available survival strategy. These relationships often defined what seemed most important. They lasted a long time. They were real. And they had no material evidence for them.

What made our social relations possible? Clearly energy flows have been necessary. As we moved from scavenging, gathering, hunting, farming / pastoralism, industrial, and now digital / information economies, these increasing energy flows have been necessary. But there is much else that is striking about this development. As we moved from kinship group to multi-kinship villages, to cities, empires, and globalization, we have had to form structured, lasting relationships among ever greater numbers of people. What are the ties that have bound together these ever increasing numbers?

Sex, trade, exchange, and other relationships clearly established ties of various types among hominins. Cultural factors were crucial as well. Exchanging memories, imaginations, and ideas were also ties that bound. How is it that what we commonly think of as religion – gods, spirits, the afterlife, and so on – came about and helped to tie societies together?

We have already mentioned the importance of memory and imagination creating a reality that does not correspond to anything tangibly real now. Symbolic language and art helped in this regard. Being able to name things that could be thought about and discussed even in their absence. Cave paintings of animals that were not in the caves and probably had never been is evidence that the artist could remember the animal, plan out a painting of it, and then turn pigment into image. Reality flowed from memory and imagination. It could be thought of and made real later. It could be said, and then brought into existence. Planning a scavenging or gathering outing, or a hunt, followed by finding food, and then discussing it all later that evening, was another way in which imagination followed by memory was important.

## **Remembering the Ancestors**

People, like the members of many other species, are social. We live in groups. The isolated individual living alone is the extraordinary exception. Given our lack of sharp teeth, claws, wings, shells, and so on, the couple of things we do have going for us are our large, complex brains and our social nature. We generally have fond memories of those who cared for us and miss them when they are dead. Our ability to think about those who are no longer alive is important. We remember them. We wish they were not gone. And since planning and imagination can often make reality exist, why not imagine a life after death? It seems that many have.

We gradually learned as children that even when we crawled out of their sight, our caretakers were still there. All we had at the time was a memory of them, but we believed they were right around the corner. Our memory was what was real. Thought was real. After grandma died, we could sit around and talk about her. Was the memory of her – her name spoken by us now – maybe even more real than her body used to be? Did she live on in our memory, which is what was most real? Or did she actually still really exist, just like she did when she was around the corner? Is grandma now a spirit? Is that a cognitively concrete way to think of her memory?

There are many early ritual burials with flowers, jewelry, pots, weapons, tools, and even servants who were buried with the deceased. It appeared that not only people, but also inanimate things have spirits. The person's spirit will need the spirits of all the things and people they needed in life. Our life is followed by a next life, which will be more or less the same as this one. As it turned out, you can take it with you. Or so many seemed to think.

We can take care of the dead by sending them off with the things they will need. Our relationship with them has not been broken by death. They still exist. We remember them. And they are really there, somewhere out there.

When they were alive, they taught us much about how to live. It takes humans a long time to grow up, and we are taught much along the way. Since they are still there, they can continue to interact with us. The dead, the spirits, retain an interest in us and go on to help us out where they can. If I can imagine that I need help from former caretakers, they can offer it.

The ancestors were perhaps the first gods. My memories of those to whom I was close in life can be imagined to still exist in spirit. They care about me still. They do things for me. The world is less lonely if they are still involved in it.

Put aside the issue of real evidence for spirits, the issue here for us is the reality of our memory and imagination indicating how strong our lasting relationships are in our own minds. They indicate how much we value our relationships. We could talk about kinship strictly in terms of reproductive strategy for the species, but that hardly gets to the richness of lived experience. What we think about often are the memories, imaginations, the made up world of our interior lives. That was much more important to people than what they threw out in middens.

### **Practical value of religion**

The value of religion for social life is significant. Certainly there are many other factors that serve human society as well. Sex, reproduction, trade, and many other activities tie groups together. But religion does as well.

In scavenger / gatherer and then hunting societies, population density was by later standards relatively low. It took a fair amount of land to sustain a relatively small group. Some regions

were more food rich than others and were of particular value. Kinship groups by necessity had to be rather spread out. They might come together for festivals at certain times of the year, when sons or daughters at sexual maturity could be sent off with other kinship groups, depending on the culture. But most of the time, kinship groups would have had to gather and scavenge and do all the other work to survive.

Much of this work could be done under the watchful eye of other group members. But some work would often be done in small groups or alone. Resonances of this older phenomenon was recorded in the *Popol Vuh*, when the younger set of hero twins went off to till the farming plot at some distance from the family home. Once there, they did no work. Luckily for them, they had magic tools which flew around doing the work for them. But what could societies do whose sons had no such magic available? How do groups prevent members from becoming freeloaders who don't carry out tasks that are expected of them?

A watchful eye of the gods could help here. If the workers could be made to believe that a god existed who actually saw and cared what kinship group members did, the workers might be more likely to do as was expected of them. In our own age, with less faith that the gods are watching, we have cameras recording us frequently. Watched behavior is changed behavior, and more likely to keep us in line with societal expectations. Watched workers are less likely to be free loaders.

Another need of all groups is commitment to the group. We want to know that others are dedicated to the group and will carry out tasks that the group needs. One way to know this is if individuals go to great lengths to learn complex ideas that are unique to the group. An often repeated story is of soldiers who come across each other in battle and night. They know someone is out there but can't see them. The unseen soldier claims to be from the same nation's

army. But can either trust the other? So they each ask an arcane question that requires extensive knowledge about the home culture; something that enemy imposters would be unlikely to know. Who won last year's World Series? Or something else rather specific. An intimate knowledge of cultural specifics can help establish trust.

Religious doctrine is another way to gain trust among group members. Especially as religious stories become more and more developed over time, it takes a long time and a lot of effort to become familiar with them. And the more arcane and implausible they are, it is a further demonstration of loyalty to the group to be able to repeat or discuss them in depth. Outsiders cannot quite keep all the nuances straight, nor is it easy for those outside the group to be willing to become immersed in the minutia of religious knowledge. If you can rattle off the equivalent of a catechism, you must be a loyal member of the group.

Loyalty to the group is often enhanced most effectively by fostering fear, rivalry, and hostility towards other groups. There is an irony of divisions between groups being a strong tie that binds members of one group together. One reason that some religions claim absolute truth is to foster group identity and to ensure that members look askance at other groups. We are the holders of truth; others hold to falsehoods.

This is part of the dehumanization of adversaries. The name for our group means human. And we represent what is good about humans: we are courageous, rational, and so on. Others are cowards, irrational, pagans, heretics, unbelievers, and so on. Among the first to have encountered Columbus when he arrived in the Caribbean, the Taino's word for themselves meant noble or good, in contrast to other neighboring Caribs. Ancient Greeks, Hebrews, Chinese and others also considered themselves to be humans or fully human, with others being lesser humans or unhuman.

A crucial need for homo sapiens to survive is for every generation to take care of their offspring until they reach sexual maturity quite a few years after birth. Needing to learn the complex social customs that permit people to live together, children require an extensive learning period as their brains mature. Caretakers need to be invested in the future when their children are born, or the species' survival is threatened.

The survival of the species and the teaching of skills of culture go hand in hand. Over time, culture, like nature, is malleable. In the short term, specific aspects of it seem to be permanent. The value of memory and imagination as cultural constructs in the service of increasing social complexity is lost sight of; specific ideas are thought to be the point. Investment in the future and commitment to the well being of the next generation may become part of the caretakers' hope for immortality. If my children carry out cultural practices and believe as I do, that is the way I can be committed to the future. If they think or behave differently, then I will not survive. Collective learning – the next generation learning my culture – is one way I achieve life after death.

There is a tendency in some religions to see themselves as representing permanent, unchanging, final truth. One value of the Big History of religion is to see that religion, like every other phenomena, can and often does exist largely unchanged for significant periods of time. But there are also times of change and transition for everything. The ways that religion may help tie people together within increasingly complex, structured relationships is going through a transition in our time.

## *Religion in the Digital Age*

As we have seen above, religion has a Janus faced characteristic of binding together and breaking asunder. Division and even hostility towards others is often a powerful way to tie members of a group together. Those who practice religion or believe differently are damned in the next world or unworthy of benefits in this life. The need in our time is not to ignore or to reject existing religions. The need is to learn from them, select from them those parts that tie us together, see our common connections to the past, permit us to imagine and plan for the well-being of the future, and leave behind those characteristics that divide people and nurture inter-group hostility.

The idea of emergent complexity is central to the big history account. With access to high quality energy, the universe could move from quarks to protons to atoms to stars and galaxies to chemicals to solar systems and then to life on terrestrial planets. With life, emergent complexity could evolve within natural selection in response to environmental conditions. With the development of sex, sexual selection – of preferences of one sex for certain characteristics in the other sex – could start to account for the development of certain traits. With the development of complex cognition and culture, cultural selection was added to emergent complexity. We could choose those attributes in us that were not necessarily important for physical reproduction, but for what can foster increasing social complexity.

The ideas and practices that tied groups together during the periods of scavenging, gathering, hunting, agriculture, and industrial production now need to be developed in a time of our information, digital age of enhanced transportation and communication. Religions that tied people together within kinship groups, tribes, villages, cities, nations, empires, and civilizations also often served to divide these groups from each other.

At each stage of transition, religious people had to develop their religious thought. For example, as agricultural village life began to supplement earlier forms of social organization, there was a need to develop new ties. In kinship or tribal forms, physical descent was an important tie. It still is within family groups. It was easiest to know who one's mother was. Cultural norms were often needed to be confident about who the father was and why men should be invested in the group. With the rise of multi-family settlements, there was a need for ties that were not restricted to physical descent. Founders or parents of villages, cities, or nations needed to be imagined. Given the importance of the earlier traditions, these newly imagined progenitors could be called Father or Mother, even when everyone knew they were not biologically involved with the descent of all the people within the group.

The exceedingly difficult task now is to imagine and then establish a religion that ties together groups from very different civilizations. Samuel Huntington's book, *The Clash of Civilizations*, made a big splash in 1993; its ripples continue to influence thinking about current world affairs. His basic idea was that there are very different civilizations in the world, such as the Judeo-Christian, Islamic, and Confucian, and that these are in conflict with each other. It is not hard to see significant evidence for this.

A Big History of religion simply says, what's new? Shamen in villages faced a similar problem when different families started to try to live together. They had to imagine new shapes of thinking in order to engage these different families, to tie or bind them together in one group. Whoever came up with the story of Abraham as the common father of twelve tribes in ancient Israel may have been doing this. The new Father of the Hebrew people, and all the stories that went along with that, helped bring together the tribes of Reuben, Simeon, Judah, Issachar, Zebulun, Benjamin, Dan, Naphtali, Gad, Asher, Ephraim and Manasseh. A nation with a

religious father could integrate tribes. In America much later, some in a new country liked the idea of a Father of Our Country. For others, George Washington was not such a person. But the effort it is often made to imagine a common familial ancestry. In Big History, there is in fact evidence for this in a small group in East Africa a couple hundred thousand years ago, or with LUCA about 4 billion years ago.

Big History is an evidence based account that presents a common origin of all nations and civilizations. In that sense, it serves as a persuasive way to imagine a common tie that binds humanity together with the environment from which we have evolved and that continues to sustain us – for now. Are Big Historians the new shamen who are drawing from their story the ties that can bind all humans together with each other and with their environment? Is Big History in this sense indeed the new religion? Not about gods, but about the ties that bind.

Or maybe not.

It is important to admit the historical reasons against this process of unification. The story of the past is indeed one of common origin. All of humanity has descended from the same small band of hominins about 200,000 years ago. All of life on earth descends from LUCA (the last universal common ancestor). The entire universe has a single point of origin 13.8 billion years ago. But, each common origin is followed by splitting apart, differentiation, or speciation. A soup of quarks became hydrogen and helium. Nuclear fusion became all the many elements on the periodic table, the “noble” ones of which seem distinctly uninterested in connecting with others. Following LUCA, we have a process of speciation, a number of which like to eat each other. And over the past 200,000 years, we have the emergence of many physical characteristics and cultural differences among humans – often used to divide people into hostile groups. If there

is indeed a common human family, it has far too often been a severely divided one. Maybe the story is one more of emergent differentiation rather than of emergent relationship.

Can Big History learn from religion? How religions have inspired awe? Sought to create or restore relationships? Presented a connection between the universal and global with the personal? Relished a sea of mystery that surrounds our hard won island of knowledge?

If it can, then there is a convergence between it and the religion that I come from. For some, there are centrally defining issues like belief in a virgin birth, a physical resurrection, whether Jesus now sits on the right hand of the Father, and if Jesus is the only way to the Father. For others, there is an acute awareness of broken relationships and the longing to overcome these. The tradition responds to those who ask, “Why am I separated from people who matter to me? Why do I feel alienated from what is around me? What have I done to lead to that separation? What can be done to restore relationship? How can union be restored, created, maintained, or developed?”

Other religions offer profound ideas and meaningful practices that should be integrated within a new, imagined synthesis. What would be a Big History of Judaism’s sense of justice and memory? A Big History of Islam’s five pillars as we enter a global age could be very instructive. How could Big History and the Hindu account of the deep past be included? A discussion of the many current religious traditions by those who can bring a knowledge of Big History to it would be of great value.

Can Big History bring about a reunion of peoples who have been differentiated since they migrated from Africa about 70,000 years ago? Can it do this without creating even further division, setting up rigid views, or claiming unchanging truth? Can Big History provide not only a common origin story but a persuasive, evocative account that imaginatively includes ties that

bind current civilizations together? Can Big History be part of what creates new, strong, ties that bind us together with each other, with our Earth, and with the cosmos?

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<sup>1</sup> Roots of 'Religion,' by Philologos, May 25, 2007 <http://forward.com/articles/10776/roots-of-religion/#ixzz4AzosCL8o>, accessed June 8, 2016

<sup>2</sup> Oxford Dictionaries, [http://www.oxforddictionaries.com/us/definition/american\\_english/religion](http://www.oxforddictionaries.com/us/definition/american_english/religion), accessed June 8, 2016.

<sup>3</sup> [http://www.thefreedictionary.com/\\_/roots.aspx?type=Indo-European&root=leig-](http://www.thefreedictionary.com/_/roots.aspx?type=Indo-European&root=leig-)



Third  
International Big  
History  
Association  
Conference,  
Amsterdam,  
July 14 - 17, 2016

# The Big History of Religion: The Ties that Bind

Lowell  
Gustafson

Villanova  
University

What is religion?

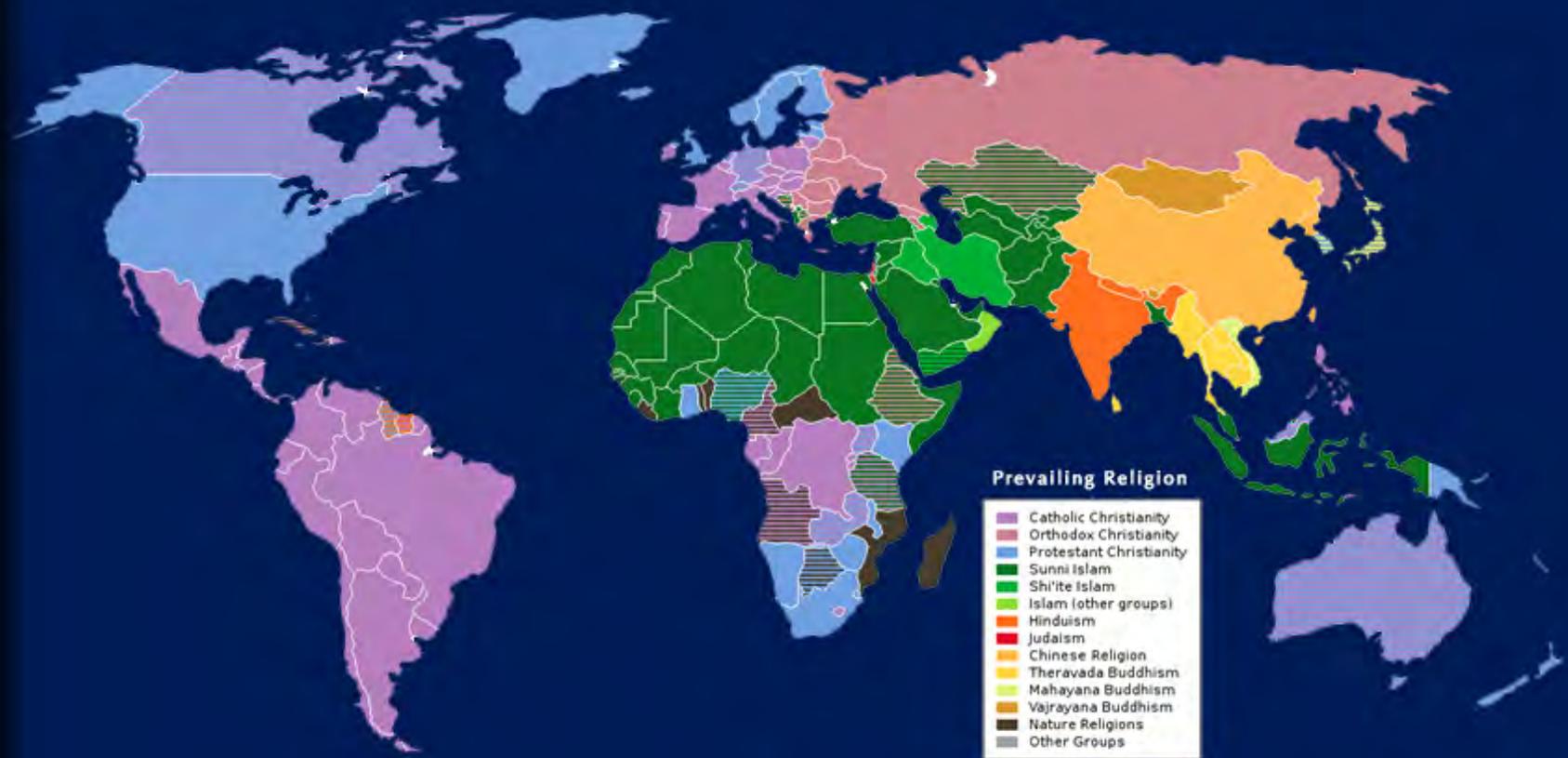
The belief in a god or in a group of gods.

When did it originate?

Respect for what is sacred, awe inspiring.

How did it develop?

1150–1200; Middle English religioun (< Old French religion ) < Latin religiōn- (stem of religiō) conscientiousness, piety, equivalent to relig ( āre ) to tie, fasten ( re- re- + ligāre to bind, tie; compare ligament) (leig – IndoEuropean – to bind. Latin "religare" to bind.



Baha'i, Buddhism, Christianity, Confucianism, Folk Religions, Hinduism, Islam, Jainism, Judaism, Shinto, Sikhism, Taoism, Zoroastrianism

## Size and Projected Growth of Major Religious Groups

	2010 POPULATION	% OF WORLD POPULATION IN 2010	PROJECTED 2050 POPULATION	% OF WORLD POPULATION IN 2050	POPULATION GROWTH 2010-2050
Christians	2,168,330,000	31.4%	2,918,070,000	31.4%	749,740,000
Muslims	1,599,700,000	23.2	2,761,480,000	29.7	1,161,780,000
Unaffiliated	1,131,150,000	16.4	1,230,340,000	13.2	99,190,000
Hindus	1,032,210,000	15.0	1,384,360,000	14.9	352,140,000
Buddhists	487,760,000	7.1	486,270,000	5.2	-1,490,000
Folk Religions	404,690,000	5.9	449,140,000	4.8	44,450,000
Other Religions	58,150,000	0.8	61,450,000	0.7	3,300,000
Jews	13,860,000	0.2	16,090,000	0.2	2,230,000
<b>World total</b>	<b>6,895,850,000</b>	<b>100.0</b>	<b>9,307,190,000</b>	<b>100.0</b>	<b>2,411,340,000</b>

Source: The Future of World Religions: Population Growth Projections, 2010-2050

PEW RESEARCH CENTER

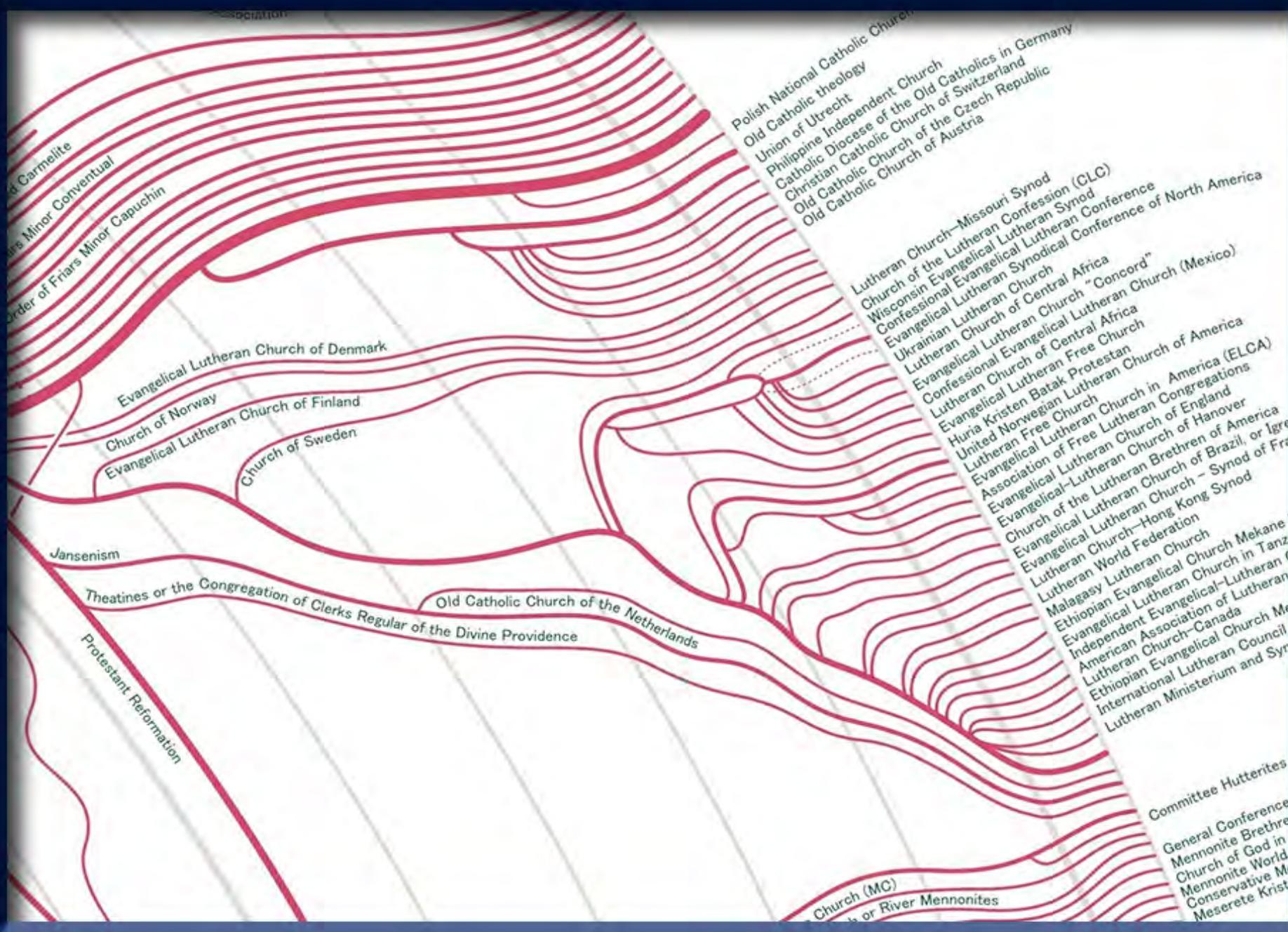
<http://www.pewforum.org/2015/04/02/religious-projections-2010-2050/>

# Religions in the United States

<b>Christian</b>	70.6%	<b>Non-Christian Faiths</b>	5.9%
▶ <b>Evangelical Protestant</b>	25.4%	<b>Jewish</b>	1.9%
▶ <b>Mainline Protestant</b>	14.7%	<b>Muslim</b>	0.9%
▶ <b>Historically Black Protestant</b>	6.5%	<b>Buddhist</b>	0.7%
<b>Catholic</b>	20.8%	<b>Hindu</b>	0.7%
▶ <b>Mormon</b>	1.6%	<b>Other World Religions</b>	0.3%
▶ <b>Orthodox Christian</b>	0.5%	▶ <b>Other Faiths</b>	1.5%
<b>Jehovah's Witness</b>	0.8%	<b>Unaffiliated (religious "nones")</b>	22.8%
▶ <b>Other Christian</b>	0.4%	<b>Atheist</b>	3.1%
		<b>Agnostic</b>	4.0%
		▶ <b>Nothing in particular</b>	15.8%
		<b>Don't know</b>	0.6%



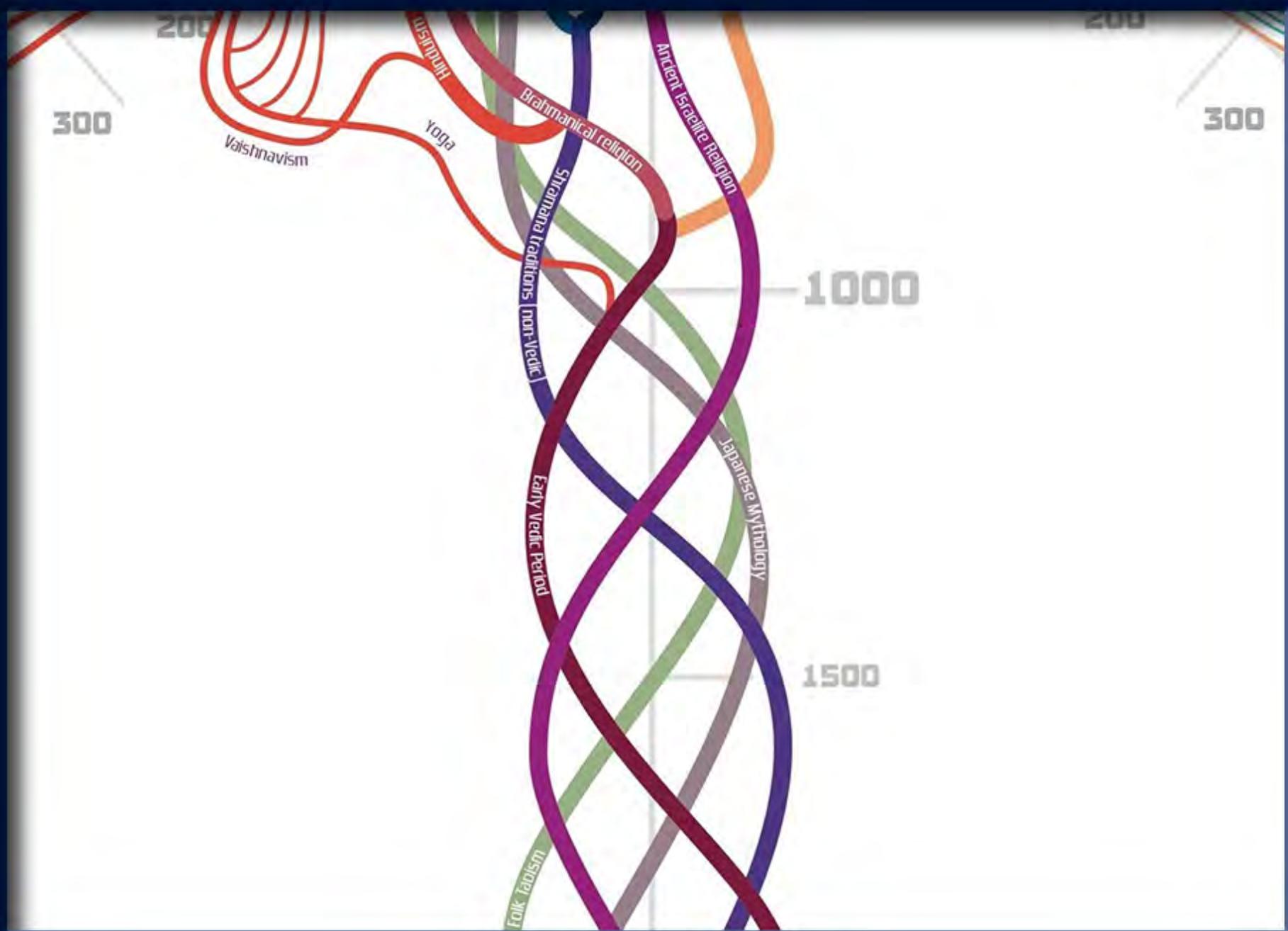
<http://www.pewforum.org/religious-landscape-study/>

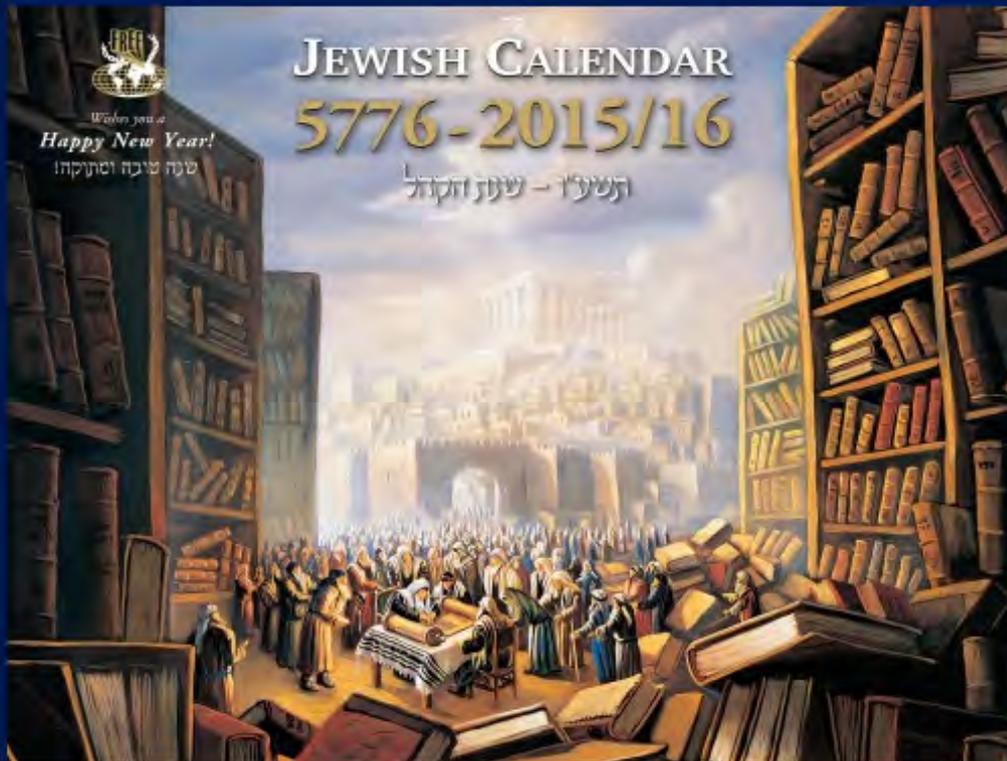


World Religions Tree  
Adam Zielinski  
<n3m0sjogger@gmail.com>

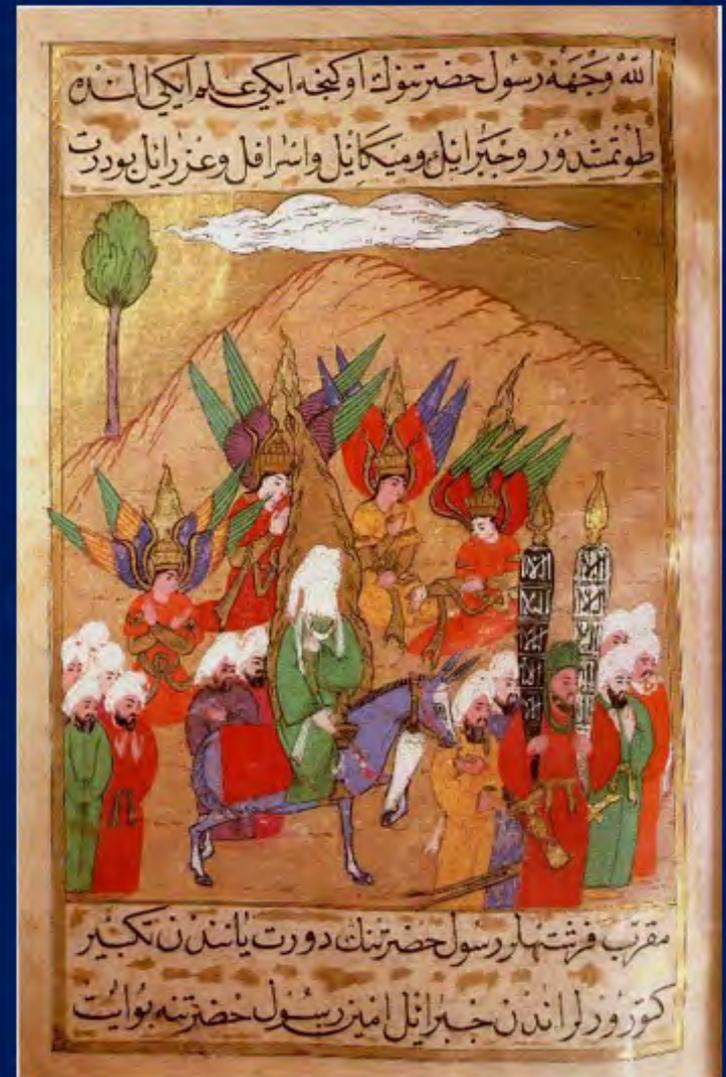


Legend  
1000 BC  
500 BC  
1000 AD  
1500 AD  
2000 AD

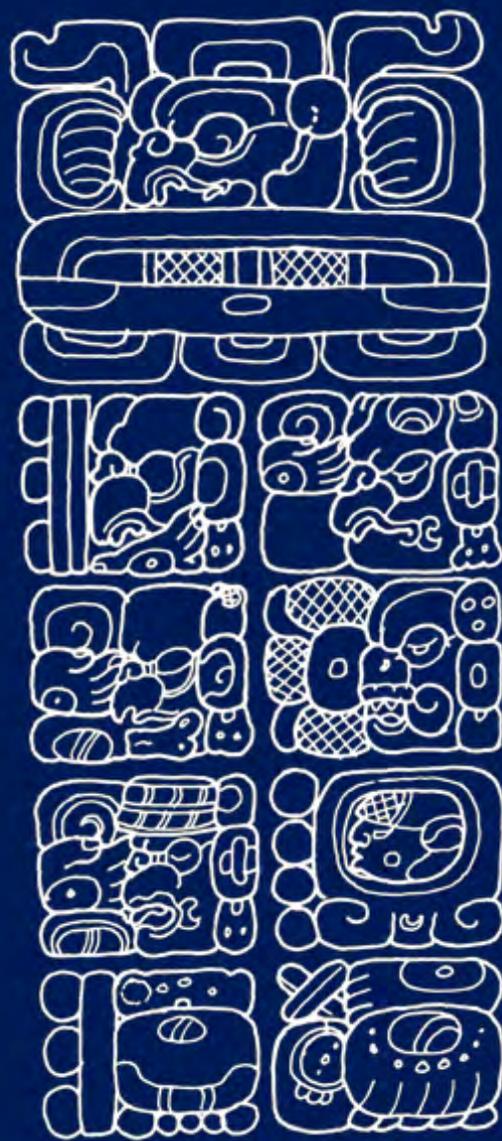




# Religion and Time



Emigration of Muhammad from Mecca to Medina, known as the Hijra (62 AD); 1437 years ago.



Quirigua, Stela C

13.0.0.0.0

4 Ahaw

8 Kumk'u

August 13, 3114 BC





In the Hindu calendar, it is 5118 years since Sri Krishna returned to his eternal abode.

Fabric Hindu calendar/almanac corresponding to Western years 1871-1872. From Rajasthan in India. The left column shows the ten avatars of Vishnu, the center-right column shows the twelve signs of the Hindu zodiac. Top middle panel shows Ganesha with two consorts.

In Buddhist calendars, the Buddha attained parinibbāna on or around 13 May 544 BCE.





The French Revolutionary calendar began at the equivalent of 22 September 1792, when the (First) Republic was proclaimed.

French Republican Calendar of 1794, drawn by Philibert-Louis



## When did religion originate?

**Ain Ghazal,**  
a Neolithic site located in  
North-Western Jordan, on the  
outskirts of Amman. It dates to  
7250 BC, and was inhabited  
until 5000 BC.

Renowned for a set of 32  
statues found in the vicinity of  
some special buildings that may  
have had ritual functions.



# Social Relations: Ancestors

Neanderthal skeleton in La Chapelle-aux-Saints, France, first unearthed in a cave in southwestern France over a century ago, was intentionally buried.

Red ochre over body, pollen of flowers, grave goods in other burials.

<http://news.nationalgeographic.com/news/2013/12/131216-la-chapelle-neanderthal-burials-graves/>



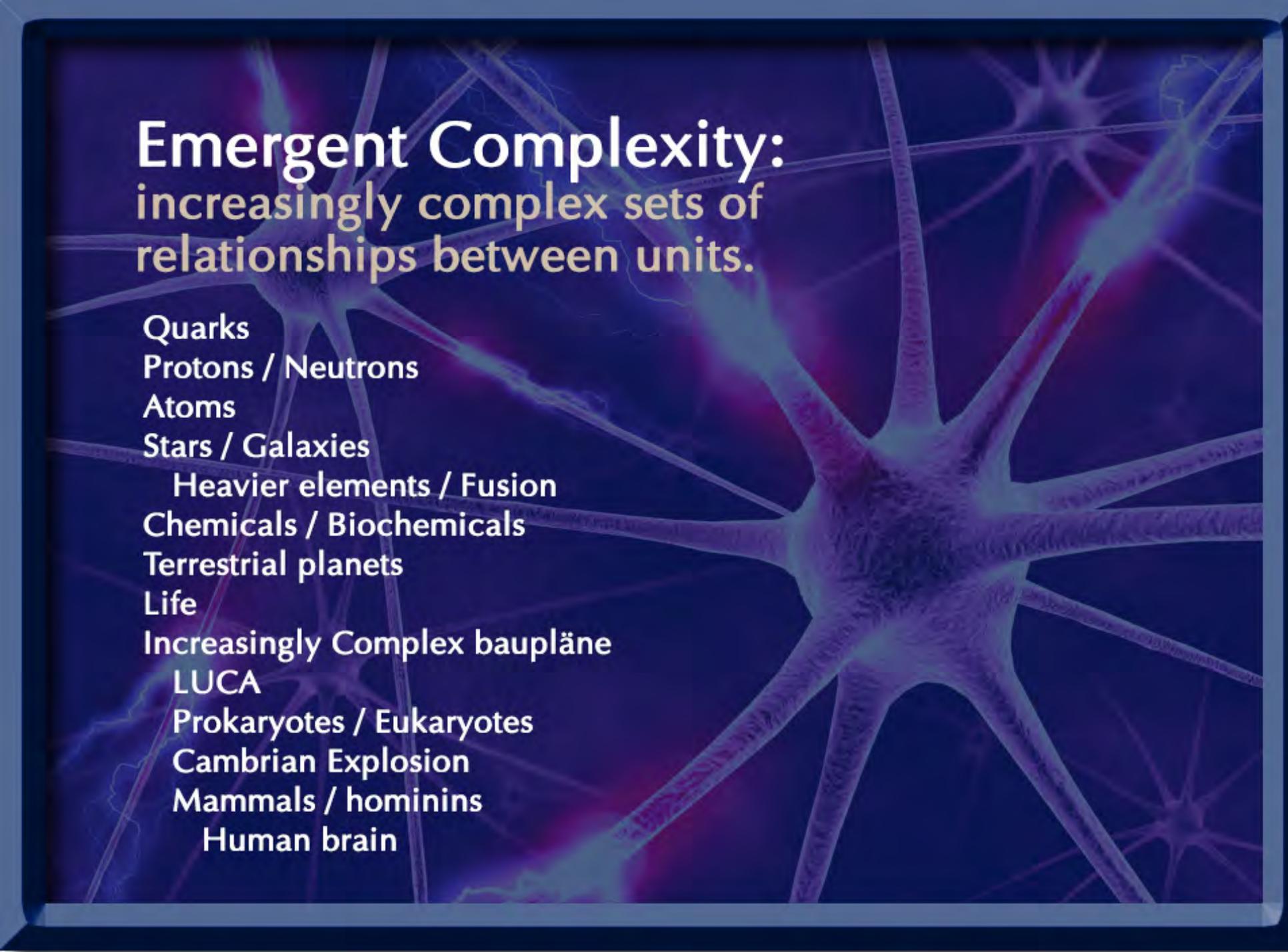
Distinctive behaviors by chimps after death of infant;  
mourning?

May kick dirt or leaves over body.

[Video](#)



Mourning  
elephants



# Emergent Complexity: increasingly complex sets of relationships between units.

Quarks

Protons / Neutrons

Atoms

Stars / Galaxies

Heavier elements / Fusion

Chemicals / Biochemicals

Terrestrial planets

Life

Increasingly Complex baupläne

LUCA

Prokaryotes / Eukaryotes

Cambrian Explosion

Mammals / hominins

Human brain

# Emergent Cultural Complexity:

increasingly complex sets of relationships between social, economic, political units.

Economic	Socio-Political	Time	Population
Scavenging / gathering hunting	kinship	200,000 BP	2,000
agriculture	village / city	10,000 BP	1 to 15 million
industry	nation / empire	1750 CE	700 million
digital / information	global	2016	7.4 billion

... requiring increased energy flows.

# What ties social animals together?

## Physical

strong force  
electromagnetism  
gravity

complex biological  
interactions

food exchange  
sex  
trade

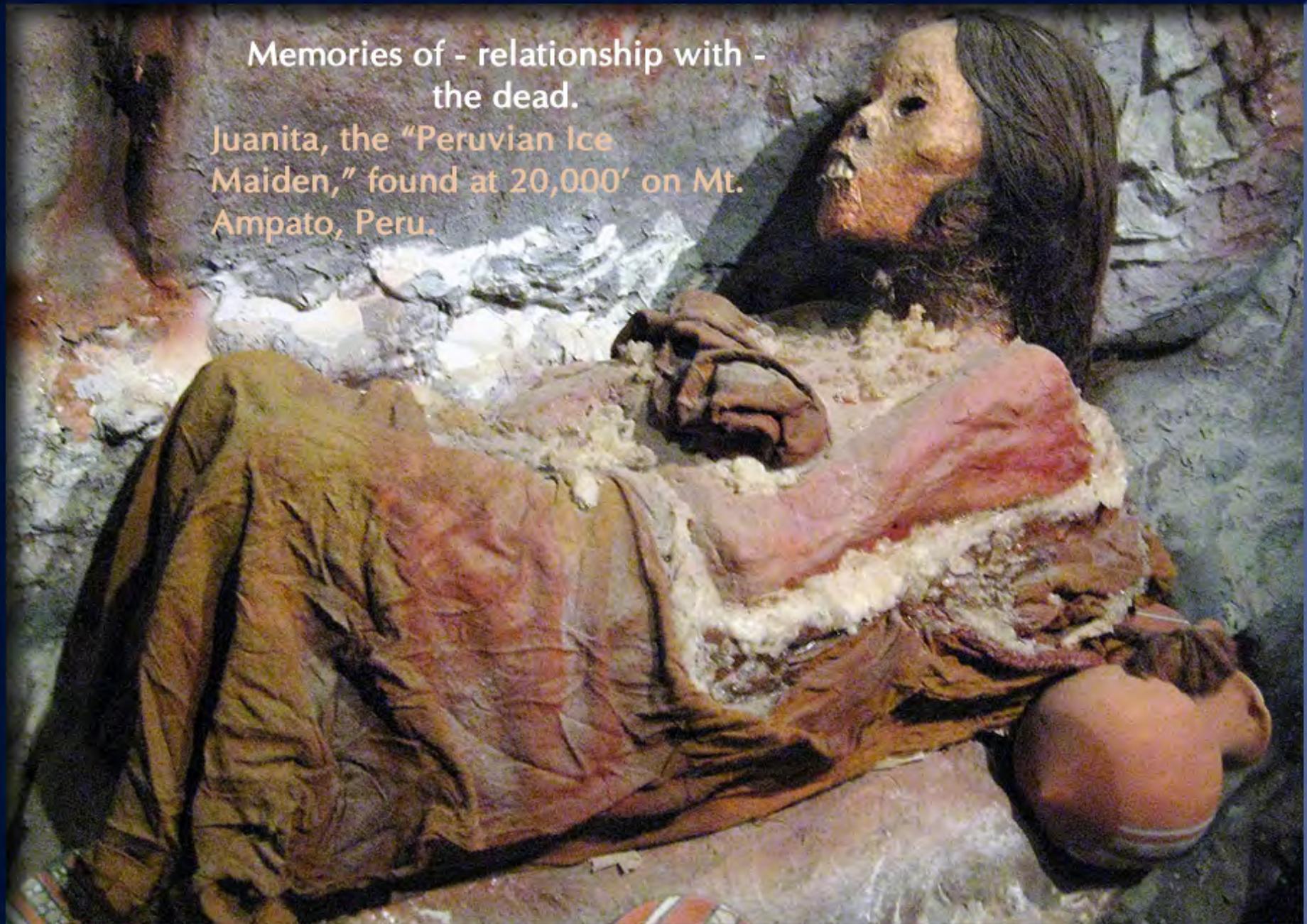
## Cultural

language  
common ideas  
common images  
common memories  
common imagination / plans for the future

... the unseen, unreal for which there is  
no currently measurable evidence.

Memories of - relationship with -  
the dead.

Juanita, the "Peruvian Ice  
Maiden," found at 20,000' on Mt.  
Ampato, Peru.





The ancestors (cameras) up above, looking down on us.

Watched behavior is changed behavior.

Avoid free loading, misbehavior.



Commitment to the group known by the effort it takes to learn all its arcane, indecipherable, unbelievable details.



The Catechism Lesson by Jules-Alexis Meunier,  
Musée des beaux-arts et d'archéologie de Besançon, 1890

# Dehumanize others, unite by separating:

Kraut, Dego, Spic, Nigger, Honkey, Gook, Islamofascist, cowardly and irrational Muslim terrorist, Jew, barbarian, savage, Injun, redskin, Jap, - pick your dehumanizing epithet. My religion / group is true and good and human, yours deserves my hostility.

Exodus 23

[23] "When my angel goes before you, and brings you in to the Amorites, and the Hittites, and the Per'izzites, and the Canaanites, the Hivites, and the Jeb'usites, and I blot them out,

[24] you shall not bow down to their gods, nor serve them, nor do according to their works, but you shall utterly overthrow them and break their pillars in pieces.

John 14. "Do not let your hearts be troubled. You believe in God; believe also in me. 2 My Father's house has many rooms; if that were not so, would I have told you that I am going there to prepare a place for you? 3 And if I go and prepare a place for you, I will come back and take you to be with me that you also may be where I am. 4 You know the way to the place where I am going."

5 Thomas said to him, "Lord, we don't know where you are going, so how can we know the way?"

6 Jesus answered, "I am the way and the truth and the life. No one comes to the Father except through me."



Quran (3:56) - "As to those who reject faith, I will punish them with terrible agony in this world and in the Hereafter, nor will they have anyone to help."

Quran (3:151) - "Soon shall We cast terror into the hearts of the Unbelievers, for that they joined companions with Allah, for which He had sent no authority". This speaks directly of polytheists, yet it also includes Christians, since they believe in the Trinity."

At our point in history, what would create  
the **ties that bind** us  
across regions of the Earth?



At our point in history, what would create  
the **ties that bind** us  
together in a common humanity?



To be sure:  
Trade  
Investments  
Global Financial Markets

and

an evidence based narrative that  
presents

our common origins, and

the increased complexity of  
relationships (ties that bind);

that is awe  
inspiring,

relishes our  
"island of  
knowledge"  
surrounded by a  
sea of mystery,

shows the  
conection between  
the universal and  
global to the  
personal,

and ties us  
together as  
cosmopolitans.