

## What is it to be human?

An essay by Larry Spencer, for Evolution Week, 2020,  
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(Click [here](#) for the handout shared at the service when this sermon was delivered.)

I want to thank Reverend Myers for allowing me to fill the pulpit this Sunday. Typically, this week in February is called “Evolution Week” and in many pulpits across the nation, lay people or pastors are giving a message about the relationship between science and religion, for the most part focusing on evolution. And why this week? Well, the first person to come up with the idea of evolution by means of natural selection was Charles Darwin and his birthday is the 12th of February.

In the course of my sermon, I plan to concentrate on four main ideas. The first will be a short history of the Earth and life on Earth. This will be followed by an explanation of natural selection and how it guided human evolution through time. The third will be how humans have been able to transcend natural selection by various means. And lastly, I’ll discuss what I think it means to be human. But first a little religious connection.

Humans often believe that we are the epitome of God’s creation, yet if we go to Genesis in the Bible it might appear to some that we are an afterthought, as we don’t appear until the seventh day. In the earlier days of the week God created the physical earth, night and day, the seas and the atmosphere, the vegetation that covers the land and then the beasts and fowl that fill the oceans and the land masses. It’s only on the seventh day that God creates humans, first a man from the dust of the earth and then a woman from Adam’s ribs. He puts the couple in the Garden of Eden and requests that they not eat the fruit of the apple tree. Apparently, the couple were dumber than the serpent, as when tempted, they ate the apple and were tossed out of the garden.

If we look at the real history of life on the Earth, the biblical story is not too far off, although the timing is not quite right. The Earth itself is probably somewhere between 4.2. And 4.3 billion years old. As the planetesimals collected together to form the first planet, the surface temperature was too hot for liquid water and much of our first atmosphere was blown away by the solar wind. When things finally cooled down, we ended up with the first bits of the ancient continents and the first oceans. Then around 1 billion years ago, the first life forms evolved, creatures today that we call the Archaean, bacteria-like creatures that today are found in extreme environments such as the bottom of the oceans or in the hot springs of Yellowstone. Only after a long time, did lifeforms evolve that became our first multicellular creatures on the Earth. These show up as fossils in the ancient rocks of Australia and Newfoundland, just to mention two locations. These creatures are hard to connect to anything alive today. Finally, about 700 million years ago, we begin to find life forms that bear similarities to things alive

today. These are the fossils of the Burgess Shale in British Columbia and world-wide they represent an explosion of living things called the Cambrian Explosion.

We divide the time of complex life forms into three main divisions, Paleozoic, Mesozoic, and Cenozoic, which in common terms represent ancient life, middle life, and recent life. In the Paleozoic we find the origin of many of the invertebrate groups: corals, mollusks, arthropods, echinoderms and also many of the vertebrate groups, the fishes, amphibians, and reptiles. The vegetation of this time period is rather ancient and consists of mosses, ferns, tree ferns and perhaps conifers. In the Mesozoic along come the creatures we call dinosaurs and a few early mammals. Late in that time frame come the deciduous trees. At the end of the Mesozoic, we all realize that the dinosaurs become extinct, i.e., except for their descendants, the birds and when we reach the Cenozoic, the mammals have taken their place in the grand scheme of life.

And whence come the humans. Well, like in the Bible, we are pretty much an afterthought, with the earliest origins of our distant ancestors being found as fossils in Central and Southern Africa about 4.2 million years before present. When we examine our lineage, it is more like an anastomosing bush than a tree with modern humans at its peak. The first human apes were the Australopithecines, so the so-called southern ape-men. Two years ago, in South Africa, Eleanor and I visited a cave from which some of these fossils were found. Later ancient humans in the form of *Homo erectus* probably migrated to other parts of the world about 1.9 million years ago, but it was only about 70 to 80 thousand years ago, that modern humans, *Homo sapiens*, left Africa to migrate north to the middle east, east to Asia and thence to Australia. Then probably about 25,000 years bp, they left Asia and crossed over the Bering Strait to North America and quickly headed south to the tip of South America.

**Point Two:** We informally define biological evolution as the transformation of one creature into another by a mechanism we call today, natural selection. Formally proposed by Charles Darwin in 1859, we know much more about the process today because of our present understanding of genetics, something Darwin had little understanding of. This process and other processes have shaped all creatures on the Earth and will continue to do so, although the presence of our species has been somewhat destructive to living life forms, particularly now that we are applying the techniques of artificial selection to many creatures. The big breasted turkeys we eat at Thanksgiving are a good example of artificial selection, as they can no longer breed naturally and have to be artificially inseminated.

All creatures are subjected to natural selection and the outcome are organisms that at that moment in time are adapted to their environments. If we examine living forms in their basic essence, we find the purpose of life is to produce more life and if lacking the correct adaptations those forms of life will become extinct. Too bad the Irish Elk with its humongous antlers doesn't live in modern Ireland which for the most part lacks forests. Can you also imagine them moving through our NH forests? Only those with adaptations suited for the present environment pass those genes on to their progeny. Humans through all our existence have been subjected to natural selection and our attributes, both physical and mental have been shaped by that

process. That probably includes the idea of religion which perhaps gave to the practitioners some sort of advantage over those human populations that lacked "religious beliefs"'

**Point Three:** Although human populations have been subjected to natural selection through time, we have now reached a point, where various aspects of existence have escaped that subjection. As noted in a previous paragraph. human have transformed the process of natural selection into one of artificial selection for all our domestic plants and animals. And many of those transformed species can no longer breed naturally. But even we as a species in many ways are no longer subjected to natural selection and this for the most part has come through our medical practices. Years ago. a person born with deformities, genetic related diseases, etc. would never live long enough to breed and to pass their genes onto their progeny. Today, that is no longer the case. As an example, let me briefly describe the life of Stephen Hawking, the Cambridge physicist who wrote the book *The Short History of Time*, probably like many other books, cited, but not read. He was married twice and is survived by three children. He suffered from Lou Gehrig's Disease and if born in an earlier century would have died young and left no progeny. Our civilization would have been much poorer without his presence. With our present knowledge of genetics and how traits are somewhat controlled by genes, we are at the point where in the future we may design our progeny, giving them attributes such as eye or hair color, IQ, body shape, athleticism, etc. .

**Point Four:** Humans have always tried to differentiate themselves from other organisms and here's a list of attributes which many consider to be human attributes:

1. Bipedal locomotion
2. Language
3. Memory
4. Tool use
5. Food
6. Written language and symbols

Are these attributes only found in humans? Not really and here are some examples of organisms that show these same abilities.

1. Bipedal locomotion--Chimpanzees and gorillas. Circus horses and elephants. Attacking grizzly bears.
2. Language--Chimps and gorillas. Parrots. Whales and dolphins. Trees in a forest.
3. Memory--many species of woodpeckers are able to find acorns previously stashed in various locations in their environment.
4. Tool use--Chimps using twigs to get termites,
5. Food--although we are probably the only species to cook our food, we do know that some Japanese apes have been found to wash their food in a stream; same with raccoons. As noted above, we're not the only life form to store food.
6. Written language--This is perhaps the one thing that distinguishes us from the rest of living forms

So, what is it that really separates us from the rest of creation? It would have to be written language. We know that other creatures can tell stories. Here's an example. In the western

states sheep growers in the 70s had a problem with coyotes attacking and eating sheep. An animal behaviorist came upon a way to avoid this predation. He took a dead sheep and injected it with lithium chloride, a substance that made the coyote very sick if they ingested sheep meat. One dead sheep with injected lithium was good for a decade as the first coyote who ate the tainted meat told the story of the results of eating the meat to his buddies and no more attacks by coyotes for a long time. But it is only humans who not only tell stories of the past, present and future, but also write these stories down to be passed on to their relatives, friends and folks they don't even know. Because many of these stories have moral or ethical lessons, we don't have to wait for the longer process of natural selection to add these attributes to our human behaviors. We can read these stories and adopt their principles to our own lives. The parables of Jesus inform us as to how we should behave as Christians. The story of Jean Valjean in *Les Misérables* provides us with insight as to how he changed his life and his behavior. The written speeches and essays of Abraham Lincoln show us his mores and can act as guidelines for our own lives. Thus, to be human is to use the written word to tell our stories to not only those alive at this moment in time, but also ones that we will never know in the future. To pass on those actions that have led to improved lives for ourselves, to pass on to those in the future, the actions that we carried out that made the world a better place for all of creation. To pass on knowledge of what worked and what didn't work in our relationships with each other and with our environment.

So, in the end I have one job for each of you to do sometime in the near future. Go home, find a piece of paper or turn on your computer. Sit down and begin to write up your life stories. If not handwritten, print them out. Then send them to those you value in your life, your spouse, your children, your best friend, or perhaps even the local paper. But don't do this digitally, as emails and digital copies quickly disappear into the digital black hole. And why should you do this? It's the one thing that makes us human and differentiates us from the rest of creation. We can pass on good and bad things that we have experienced so that future generations can learn from our experiences without having to relearn these things. And of course, our thoughts, our hopes, and even our emotions live on into the future and although we may not be physically present, like Jesus and the UCC church, "we are still speaking".