

Science and Christianity

Adam, Evolution and the Hobbit of Indonesia.

How Christianity can be enriched by the latest discoveries in human evolution.

By Stephen Milton.

Last month, scientists reported the discovery of fossils from a new kind of ancient proto-human on an island in Indonesia. This has scientists astounded and excited, while Christians have pretty much shrugged their shoulders, ignoring the discovery. Indeed, aside from attacks on evolutionary theory, Christians rarely engage in any discussion of human evolution's implications for our faith. This is a mistake. The current understanding of human evolution can help us better understand what it means to be a Christian, as it speaks directly to what makes our species *Homo Sapiens* unique in the history of the world. Indeed, I want to show how the existence of this new proto human and others too helps us understand what we are told about the forbidden fruit in the Garden of Eden.

The 'Hobbit' discovery

First, the facts about this strange new discovery. Last month, scientists announced the discovery of a new kind of ancient human that was remarkably small and remarkably bright. Found on the Indonesian Island of Flores, this little creature had a brain the size of a chimpanzee and was making stone tools too advanced for any ape. This came as a shock to scientists for a number of reasons. First of all, complex stone tools were believed to require brains much bigger than this 3 foot tall creature possessed. Secondly, this creature was tiny, stuck on an island hunting tiny elephants. Thirdly, this 'Hobbit' lived up until 18,000 years ago.

For me, this last point is the most amazing, and to understand it, let's go back in time to 32,000 years ago. In Europe, England and northern France are covered in glaciers from the last ice age.

Inside a cave in what is now southern France, human beings like us are painting extraordinary pictures of animals on the walls. Mammoths, deer, even lions. These people have our gift for art, and probably for a belief in divine forces that affect everyday events like hunts. These ancestors are tall - well over six feet. A few valleys away, a much shorter species of human being is hunting caribou. They are only five feet five inches tall, incredibly strong, and have large brow ridges over their eyes. These are the Neanderthals.

Further east, in China, another human species is walking upright like us. Its brain is much smaller than the one possessed by either Homo Sapiens or the Neanderthals. It can hunt, uses stone hand axes, and cooks over fires. Known as Homo Erectus, this species has been around for two million years. And finally, on an island in Indonesia, a tiny human creature is hunting dwarf elephants, and cutting up its meat with stone tools over a fire. This is our newly discovered 'hobbit' *Homo floresiensis*.

Just as the Lord of the Rings depicts a world populated by trolls, humans, orcs and fairies, the real world was once filled with multiple species of humans. Four different species of human beings

walked the Earth just 32,000 years ago. It is possible that in some places in the Middle East or Eurasia, Neanderthals, Homo Sapiens (us) and Homo Erectus even met at the same watering holes for a while. The 'hobbits' were probably trapped on their island. Since our species appears to have evolved around 200,000 years ago, it is possible that for upwards of 160,000 years, the Earth was host to this strange menagerie of humans. It seems very likely that our ancestors killed or out-competed the Neanderthals and Homo Erectus. It's too soon to say what killed off the 'hobbits', although they appear to have lasted until at least 18,000 years ago, making them the last of our human cousins to die out.

We are not the only kind of human being

So, the fossil record suggests that we were once not the only kind of human being, and that only one species, our own, survived to take over the world. Why? Here we enter a realm of speculation. The fossil record is more like watching a slide show than a movie. We get glimpses every few thousand years of what's going on, with a lot of the important action missing. The smoking guns - or bloody spears - are missing. So there's no way to tell if humans hunted our cousins

to extinction or if they died out on their own, or a little of both.

But the fossil record does give some clues about what made our species very different from the others. Let's go back to that cave painter in Europe 32,000 years ago. He was tall, strong, and could talk like we do, although in a language long lost. He was a good hunter, and tended to do it in groups. But most of all, he was a symbol freak. His knife's bone handle was covered in engravings of animals. He wore a necklace of shells. He could have been wearing body paint like ochre. And of course he was an artist, painting exquisitely realistic depictions of animals on the walls. This is the first visual proof we have that our ancestors liked stories and images as much as any television watcher today. These people had primitive technology, but they were story and image junkies just like us.

And that made them very different than the other human beings in the world 32,000 years ago. *Homo Erectus* was around for two million years and made the same kind of tool the entire time. A sharp rock. That's it. No technological progress whatsoever. Big but dumb. The Neanderthals were smaller and much smarter. They made better

tools, and even copied the new tools brought in by our ancestors when they arrived in Europe 40,000 years ago. But there isn't much evidence of the gift for symbols. Neanderthals couldn't speak very well due to a different kind of throat, and perhaps that held them back. It's hard to share good new ideas and stories if you can't talk very well. So, they were smart, but not candidates for an information age. And finally, there were the small brained creatures in Indonesia, who appear to have been stuck in the mental world of *Homo Erectus* - no pictures, just sharp rocks.

Eden and Evolution

So what does all this tell us about ourselves and our relationship to God? The first thing that stands out is that if we were made in God's image, it wasn't because of what we looked like. There have been creatures with human bodies for two million years, starting with *Homo Erectus*. Their faces and brains were different, but from the neck down they looked like basketball players. If we are uniquely made in God's image, it isn't because of our bodies.

For scientists, our defining feature as a species is our unique way of thinking. This made us distinct from all the other human and

animal species alive at the time. Interestingly, the Bible's creation story also speaks of two kinds of intelligence that were available to human beings. In Genesis, Adam and Eve possess a direct, non-self conscious relationship with God before they taste the forbidden fruit. After they eat from the Tree of Knowledge, these lose this easy and direct relationship with God. This act initiated a new kind of consciousness among the first human beings, one that made us aware of good and evil, pain and pleasure, shame and innocence.

Both stories are about a new kind of thinking, although they disagree about the significance of human consciousness. In the scientific story, our species' breakthrough was that we evolved minds that were capable of symbolic thought - the ability to think in terms of the real and the imaginary. This enables us to use rational thought to solve problems, understand how the universe works and build technology unlike anything the other humans ever accomplished. However, in Biblical terms, this kind of consciousness is the curse of the Tree of Knowledge. Why is it a curse? Because this kind of thinking distances us from a direct relationship with the ultimate reality, God. In this sense, the Tree of Knowledge condemned us to live in a sort of

perpetual hallucination where we mistake what we see for reality itself. The divine, the true reality, is very difficult to see now, or more accurately, it is much harder for us now to feel the love that permeates and orders the universe.

Not surprisingly, scientists get impatient with the idea that religious knowledge is somehow superior to rational scientific knowledge. They point out that science that utterly changed the world in the past four centuries as a host of half-baked religious ideas have been swept away (i.e., the sun revolving around the Earth). Instead, armed with rational thought and scientific experiments, many physicists now believe that they can discover the exact rules of the universe. The physicists who are searching for an ultimate theory of everything often speak in this way, stating that if they can unify the theories which govern the atom with Einstein's theory of gravity, they will have a complete explanation of how the universe works.

The human mind - gift or curse? Science and religion disagree.

So who's right - science or religion? Both approaches agree that the human mind is a radical

break from what came before. Where they disagree is whether our mind now is as good as it gets - able to know the nature of the universe through science - or a fallen mind, that needs God's help to recover that intimacy Adam and Eve once experienced.

Ironically, one way out of this impasse comes from science - thanks to evolutionary theory. As we have seen, the Earth once had many human species which clearly thought quite differently than we do, but still got by. Were they morons? Not really - even with half our brain size, Homo Erectus managed to survive for two million years, living through ten ice ages, travelling from Africa all the way to Asia. His mind was different from ours, but it was well suited to his environment, just as a cat isn't stupid, but has a mind and body very well suited to catching rodents. You don't need to write symphonies to survive, after all. Evolutionary biologists speak of evolution providing creatures with bodies and minds that are 'good enough' to get by. Species don't need to be perfect, they just need to survive. When the climate or their environment changes, their bodies and minds may prove to be no longer good enough, and they will either die out, move somewhere else, or survive by evolving new traits.

Evolutionary theory holds that these changes occur by accident, and they can affect minds as well as bodies. Any new adaptation occurs starts with an accidental, random mutation in the genes, and if it provides a new trait which enhances one's chances of survival, then it stays. If it decreases a creature's ability to survive, then the animal dies and with it the mutation. Thus, in evolutionary theory, our bright minds were an accident which gave us a survival advantage. Our larger brain and its particular gift for symbolic thought may have been produced by a genetic mutation which caused brains to grow for longer periods in the womb and after birth. Not a whole new kind of brain, but a longer development period than before, opening up new opportunities for cognition.

This is a highly speculative area since brain tissue doesn't fossilize. But what is clear is that there's no reason to believe that how a human brain evolves should be any different from how a cat brain evolves. We share most of our genes with cats - indeed, over 50 percent of our genes can be found in yeast. So it makes sense to believe that we evolved just as these other creatures did. It starts with chance, and if a change helps, it may stick around and multiply. No miracles allowed or needed.

Our minds evolved with a *limited* vision of reality

So, in this model, it would be an astounding coincidence if one human species accidentally evolved a brain that could understand the nature of the entire universe. From an evolutionary perspective, that just isn't likely, or, more importantly, it isn't necessary. All we needed was a mind that was good enough to help our ancestors survive the harsh but not impossible conditions of Africa 200,000 years ago. Keep in mind that at exactly the same time, other human species were thriving, too, without our kind of mind. And they would continue to thrive for another 160,000 years. So our mind may have helped us get by, but it wasn't the only way. We are a kind of human, not the only kind.

From a biological point of view, it is likely that there are limits to what we can see and think about. Consider our eyes: unlike birds and insects, we can't see ultraviolet light, nor can we see magnetic field lines. We are blind to aspects of reality which other species find massively useful for migration and navigation. Our blindness is simply due to the way

our eyes evolved - we have three kinds of colour sensors, not four. The world we see is a version of reality, not the whole picture.

Similarly, our minds are full of little reminders of our evolution. Most of us find it difficult to be compassionate to people on the other side of the world whom we have never met. However, we care deeply about people right in front of us, especially if they are friends or family. This predisposition makes a lot of sense for a species that has spent thousands of years relying on a group of about one hundred people to aid in the hunting and gathering. However, we are suspicious of strangers who may want to take away our women or our food. In a world that was filled with other human species, those strangers were a reality for a very long time.

Can we discover the ultimate rules of the universe?

So let's return to the scientist's claim that our mind, through science, should be able to figure out the rules of the universe. Physicists like saying this, but from an evolutionary point of view, it just isn't likely. We humans are good at human things, just as cats are good at cat things. We probably can't

understand the full nature of the universe, any more than a cat can. We may get closer to it, but why would an advanced hominid hunting with sharp rocks get the cosmic nod for seeing into the nature of the universe? From a biological point of view it makes more sense to say that our new form of cognition enhanced our survival, is 'good enough', and probably encourages us to have a high opinion of ourselves. But there's no reason to think that the true nature of the universe will be transparent to us if we just give the scientists more funding.

If we have a mind that evolved, as the scientists suggest, that puts limits on what we can understand about the physical universe and it will likely put limits on what we can understand about God, too. Just as a cat only gets a glimpse into reality, so do we. Just as Genesis suggests, we do not have a direct access to God now. We can imagine a direct relationship - hence the Eden story - but we can't fully experience it. That gulf between what we can imagine and what we can experience is the key trait of our consciousness. It is hardly surprising that this trait would show up in our religion's creation story. We know at a gut level that we are not all that we would like to be, that there is more going on than we can experience. That isn't a failing, it's

who we are. In this, biology and religion can agree.

So, if we can experience reality - God - it will be an imperfect experience, where we stretch beyond our normal consciousness and probably only briefly. Indeed, if this were the case, it could explain why mystics of all faiths suggest that a more direct relationship with God often comes after severe physical and mental changes - for example, fasting or years of meditating and prayer.

The Bible is full of examples of this - Moses spent forty days on the mountain, Christ forty days in the desert. These extreme experiences may constitute a sort of voluntary re-wiring of the brain, literally changing the neurochemistry through fasting and concerted prayer, creating an enhanced awareness of God's presence. When this happens, the spiritually inspired find it hard to communicate to the rest of us what they are seeing and feeling. Language fails. Christ resorts to parables - stories for the story species, but which 2000 years later are still hard to understand.

So, let's return to our question - is the human mind set up to fully apprehend the true nature of reality? If our minds did evolve, it is unlikely. Perhaps one day we

will evolve again and receive a brain that can more directly feel God's presence. For now, however, evolution suggests that we will have a 'good enough' awareness of reality - not perfect, but enough to survive. And for a believer, God's mercy comes in His willingness to offer us a way out of mere survival and suffering. He knows our weaknesses, our evolutionary limitations better than anyone. And still, He offers us a way to get beyond our instinctual selfishness, our survival programming. A chance to experience a fuller more 'realistic' view of the universe. A chance to get past our human kind of consciousness and to find His love. That message can't be arrived at through science, but we don't have to reject evolution to hear it, either.