

## God and gorillas

Anthropologist Barbara J. King explains what our distant cousins can tell us about religion and why it's OK for scientists to believe in God.

By Steve Paulson Jan. 31, 2007 |

Every human culture has believed in spirits, gods or some other divine being. That's why human beings have often been called *Homo religioso*. Some people take this long history of belief in the otherworldly as evidence for God; doesn't it explain why religion continues to be so pervasive? But many scientists are coming up with their own, decidedly secular, theories about the origins of faith. In fact, over the last few years, a small cottage industry made up of scientists and philosophers has devoted itself to demystifying the divine.

Take Daniel Dennett, the philosopher who has proposed that religion is a meme -- an idea that evolved like a virus -- that infected our ancestors and continued to spread throughout cultures. By contrast, anthropologist Pascal Boyer argues that religious belief is a quirky byproduct of a brain that evolved to detect predators and other survival needs. In this view, the brain developed a hair-trigger detection system to believe the world is full of "agents" that affect our lives. And British biologist Lewis Wolpert, with yet another theory, posits that religion developed once hominids understood cause and effect, which allowed them to make complex tools. Once they started to make causal connections, they felt compelled to explain life's mysteries. Their brains, in essence, turned into "belief engines."

Of course, these thinkers are either religious skeptics or outright atheists who mean to imply that we've been duped by evolution to believe in supernatural beings when none, in fact, exist. That's what makes Barbara J. King, an anthropologist at the College of William and Mary, so unique. She has no desire to undermine religion. In fact, she's been deeply influenced by the religious writers Karen Armstrong and Martin Buber. But her main insights about the origins of religion come not from researching humans' deep history, but from observing very much alive non-human primates.

For the last two decades, King has studied ape and monkey behavior in Gabon and Kenya, and at the Smithsonian's National Zoo. In her new book, "Evolving God: A Provocative View on the Origins of Religion," King argues that religion is rooted in our social and emotional connections with each other. What's more, we can trace back the origins of our religious impulse not just to early cave paintings and burial sites 20,000 to 40,000 years ago, but much earlier -- back to our ancient ancestors millions of years ago. And today, King says, we can see the foundations of religious behavior in chimpanzees

and gorillas; watching our distant cousins can do much to explain the foundations of our own beliefs.

I spoke with King by phone about the ape's capacity for empathy and imagination and why religious belief may have given our ancestors the competitive edge to wipe out their Neanderthal rivals.

Why would an anthropologist who studies apes be interested in religion?

I think religion is all about emotional engagement and social action. And we can get a whole new read on the evolutionary history of religion by asking the kinds of questions that we ask of language and culture. We can see that way back in our past -- literally, millions of years ago -- some practices are visible in the archaeological record that reflect the deepest roots of religion. And apes today are pretty good stand-ins for those very early human ancestors. So when I go to the National Zoo in Washington, or spend time in Kenya looking at monkeys, what I see is very social. It's about emotional connection that's at the very ancient roots of religion.

So you're not saying that the great apes you study are religious -- or have spiritual lives -- but they show behaviors that are required if you're going to develop religion.

That's right. I'm not suggesting that apes are religious. In fact, I have to say that, because Jane Goodall, who is such a renowned and loved figure for her chimpanzee studies, has said very provocatively that chimpanzees may have an incipient sense of religious awe. For example, when she comes upon them looking at a waterfall -- something in nature that is amazing -- they're riveted. She's wondering what's going through their minds and if they may be spiritual in some sense. That's a fascinating idea, but that's not my approach. I don't look for things in apes that are religious. I look at how their behavior relates to the very foundation of what later became religion. For me, the question turns on how I understand religion. I want to be very careful to differentiate between what we think about religion today and how it evolved. I'm really talking about the earliest origins of religion, which was a social and emotional process.

So you're not talking about a set of beliefs? I think that's how most people think about religion.

I'm not talking about a set of beliefs. When I think about religion, what comes to mind are personal relationships with the supernatural, with God or with spirits, and compassionate action. Not neces-

sarily books or texts that you read, but some sort of action in the world. This is coming from Karen Armstrong's work, who has helped me let go of the idea that religion is about a bunch of things in our head that we have to feel and believe. So if I'm going to think about religion as compassionate action, how do you look for that in prehistory? That's the real question that I face as an anthropologist. And the way I approach that is to look at the active expression of this emotional connection in something that I can identify as a spiritual realm.

I understand you don't want to get caught up in modern debates over belief and what we think about God. But isn't the core of religion the sense that there is some transcendent realm out there -- something that's separate from our world of everyday experience?

Oh yes, definitely. But the emotional connection to that transcendent realm is what I'm looking for, rather than a mental or rational formulating of beliefs about such a realm. A word that's so important to me is "embodied." It's an embodied religion. Religion is based in our senses, in our emotions.

What kinds of behavior do you see in the great apes that show us how religion evolved?

I look at four different kinds of behavior -- meaning-making, imagination, empathy and following the rules. Together, I think they give us a sense of what religion might have started out to be. The apes have bits and pieces of all these four things, but not in a coherent pattern that adds up to religious behavior. To my mind, apes are conscious beings and they do these four things in incredibly fascinating ways.

It's a provocative idea to say apes create meaning. How do they do this?

Typically, ape communication is viewed as the exchange of messages. You know, one hoots and the other responds. I don't see it that way at all. I see them really transforming each other as they act. The smallest gesture or eye gaze can cause one ape to shift its behavior toward the other, until they converge on a shared action or maybe decide to avoid each other. That's what I call meaning-making.

What's an example of this?

There's often some conflict over food in the gorilla group I've been studying. There may be a fight or a tussle. But things don't play out the same way every time. So let's say a female and a male are fighting with each other, then the male runs off with the food, and the female hits him as he goes by. This is fairly typical with gorillas -- the female will try to get in a swat at the male. What happens next depends very much on the mood of the two participants -- what happened that morning, how much sleep they had, how feisty they're feeling. So the female may walk up to the male, put her arm around his shoulders and look in his eyes. That's a very reconciling

gesture. Alternatively, the male may be really annoyed and start hitting back at the female, and that may escalate into a fight. In other words, they affect each other every minute, and they shift in very subtle ways. And together, that's meaning-making.

You mentioned empathy as well. Are chimpanzees and gorillas empathic creatures?

Yes, they are. Many people may remember an incident that happened 10 years ago at Chicago's Brookfield Zoo. A female called Binti Jua was sitting with her gorilla family when a toddler tumbled into that enclosure, to the real horror of onlookers. Here's this little kid lying on the pavement with these large gorillas. Binti Jua had an infant on her body. She walked over, picked up this human boy, carried him to the zoo staff and got him to safety. This has been interpreted by primatologists as empathy. She's a mother who had youngsters; she saw that there was a hurt child and lots of very upset adults; and she solved the problem. There are also lots of examples in wild chimpanzees

Tell me about one of those stories from Africa.

A chimpanzee female named Tina was killed by a bite to the neck by a leopard. She'd been living in a community of chimpanzees for quite a long time. The group didn't just pull at her body or tug at it or ignore it. Rather, the dominant male of the group sat with her body for five hours. He kept away all the other infants and protected the body from any harm. With one exception. He let through the younger brother of Tina, a 5-year-old called Tarzan. That's the only youngster who was allowed to come forward. And the youngster sat at his sister's side and pulled on her hand and touched her body. I think this is not just a random occurrence. The dominant male was able to recognize the close emotional bond between Tina and Tarzan, and he acted empathically.

When I first read about that story, I was amazed. So I began to talk to people in the zoo world. And there's been a very interesting transformation lately in how deaths in great ape families are managed. When an ape dies, it's becoming a regular practice to allow the family to approach the body and say goodbye. If the ape simply disappears, it's much harder for them to cope.

You also talked about apes having an imaginative life. What's the evidence for this?

I spent some time at the Language Research Center at Georgia State University, at the invitation of the primatologist Sue Savage-Rumbaugh. And I worked with a group of bonobos. They're very chimpanzee-like apes and extremely intelligent. Many people know them as the sexy "make love, not war" ape. When I was watching them, I noticed that not only were they very tuned in and emotional with each other, but they were doing some things that I didn't understand. Sue explained that one of the apes

was a female who couldn't herself have children. That female would often act in ways that seemed to be beyond even adoption behaviors with other infants. She would, for example, take a squirrel and strap it across her belly as mothers do when they're carrying their young, and apparently enter into an imaginary relationship with this other animal, as if she had an infant. A very well-known story in primatology circles comes from Uganda, where there was a chimpanzee who was also apparently rather lonely. He began to carry a log around in a way that made primatologists convinced he was imagining the log as a type of companion. He made sleeping nests for the log as he did for himself, as all chimpanzees do. He was very careful with how he cradled it.

It sounds like a child with an imaginary playmate.

Yeah. And if you bring great apes into the home -- which, thankfully, we don't do anymore, but people did in the '50s and '60s -- you see much childlike play. There was a famous chimpanzee named Viki, who liked having a pretend pull-toy. She would pull behind her something nobody could see, but she was very careful and precise in how she went around the house with this imaginary toy behind her. And lots of other examples suggest that apes have a very child-like type of curiosity.

Let's pick up this evolutionary history that you've been laying out. We know we're related to the great apes, but this goes way back. Apparently, our lineage broke off from other apes 6 to 7 million years ago.

That's right. I'm not suggesting that we evolved from the apes. We didn't. We have a common ancestor with the apes. I think apes are useful because they're good models for what happened after that split between apes and humans. Many people have heard of the australopithecines. These are the very first human ancestors going back 4 to 5 million years ago. We know very little about them except that they were small-brained, bipedal, they walked upright, and they lived in Africa. But how do we get a handle on what they might have been doing with each other? Here's where I think the apes come in. The apes give us a clue that a lot of these emotional interactions were in place very early in our evolutionary prehistory. And then I look for an intersection with the sacred realm.

But trying to find archaeological evidence for the sacred must be extremely difficult until you get into relatively modern history -- those cave paintings or burial sites dating back tens of thousands of years ago. Can you actually go back hundreds of thousands of years, or even millions of years, to detect some evidence of religiosity?

We can definitely go back before the cave paintings. First of all, I should say we now know that our species, *Homo sapiens*, is 200,000 years old. So we have a much longer history than the famous Lascaux

cave paintings in France. The first concrete artifact that I have found useful in the search for the sacred is something called the "Makapansgat cobble," which was found in a South African cave and is dated to 3 million years ago. What we see here is a bit of jasper that very much resembles a human face. There are depressions where the eyes would be, and there's a nose-like projection in this piece of stone. I should add, no archaeologist has suggested that the australopithecines, who apparently carried this around, modified the piece of jasper to look like a face.

How do anthropologists know that it was carried around and not just lying there?

There's no such material like this in the cave, but several miles away from the cave, there is this kind of jasper. So through archaeological analysis, they determined that this artifact was carried into the cave. In other words, we think it meant something to these early human ancestors. And that raises very interesting questions. Some archaeologists have asked, Is there recognition of something like an afterlife? Is there recognition of a soul? I don't quite see the connection between those questions and just seeing a human face. But I do think it gets at the idea of self-awareness, of a being that's separate from other beings in the world. It's possibly being able to see that here we have ancestors, millions of years ago, who are not just scraping out survival but are aware of something like a symbol.

But that's quite a leap forward. You're talking about a symbolic image that would conjure up some kind of meaning. There's nothing in the ape world that's been found like that, has there?

No, not apes out in Africa, or apes in a normal zoo. But there are apes being raised by people who surround them with human culture and human language. And these particular apes interact symbolically with the world. So there's a capacity in the ape brain in the right environment to think symbolically. There's a bonobo named Panbanisha who communicates through lexigrams. These are very abstract symbols that are arranged on a board. So if you press, let's say, the abstraction that represents "orange," a computer voice will say "orange." Panbanisha is able to not only ask for foods she likes, but to deal with abstractions, like good and bad. She was scolded once for jumping on the family dog. The dog screamed. Savage-Rumbaugh pressed the lexigram for "bad, bad." Panbanisha had a very contrite and sorrowful expression on her face and pressed "good, good." That is symbolic interaction with the world.

That's fascinating. Of course, there is a basic mystery at the heart of evolution -- whether we humans are fundamentally different from our primate relatives, or whether the differences are only a matter of degree.

My whole career has been predicated on being what's called a "continuity theorist" -- a person who believes in degree and not kind. Sure, I can talk about how human language differs from any kind of complex ape communication. And I don't believe that apes are capable of constructing narratives of the past and the future, or really using concepts. But I think that is only a matter of degree.

To return to our evolutionary history, what are some of the most interesting findings after that masklike object dating back 3 million years?

Starting around 2.5 million years ago, we get a fascinating record of technology -- flakes and cobbles for hunting and gathering. But that is not particularly helpful with understanding the sacred realm. Then somewhere around 100,000 years ago -- well before the art caves -- we do begin to get this explosion of symbolic ritual that tells me very clearly we're in a sacred realm. It begins to coalesce when we get to burials.

And not just in our species. You know, the Neanderthals were an extremely fascinating hominid. I don't want to say human ancestor because it's pretty clear that we don't have an ancestral relationship with Neanderthals. Rather, *Homo sapiens* and Neanderthals coexisted in the world. We find that Neanderthals very carefully buried their social companions, but more interestingly, did so in a way that just cries out for a spiritual interpretation. They placed bodies in graves and then brought in bear bones and arranged them around the body, brought in slabs of rock and put them on top of the body, covered the graves with ash and boulders, put elk antlers on top of a whole grave and then lit a fire there.

Doesn't this behavior suggest that there was some belief in an afterlife?

I tend to think in that direction, but it's very hard to intuit what meaning-making was actually going on. We know there are symbols. We know there's ritual. What actually happened at that grave site is the question. And the hypotheses run the gamut. The archaeologist Steve Mithen has talked about how Neanderthals were singing and dancing and chanting in ways that go far beyond survival. I tend to envision a group of Neanderthals responding to death in a way that's also artistic. We have Neanderthals who make objects, such as the French Neanderthal Mask dated to 33,000 years ago. There are pieces of flint pushed through holes in a way that makes the face look more humanlike.

So we have these creatures that are capable of making art. We have them burying their dead. And it's fascinating because they lived for a very, very long time, and then they simply disappeared 27,000 years ago. So why? Why did they not continue to live, and why did we, *Homo sapiens*, go on?

Isn't the reigning explanation that our own ancestors somehow out-competed the Neanderthals and wiped them out?

Yeah. We don't think of some kind of interspecies war in which *Homo sapiens* literally clubbed them to death. But rather, there was some slight competitive edge that our species, *Homo sapiens*, had. And I really think this must have had to do with some edge in language production, an extra way to interact with the world through ritual and symbols and through the social solidarity that comes when all of those processes are deeply engaged.

What makes you think that?

The Neanderthals are pretty amazing. But then, starting maybe 70,000 years ago, *Homo sapiens* really has a much deeper engagement with the symbolic world. They're using jewelry and red ochre. They're decorating their bodies. They're beginning to surround themselves -- not just in death, but in life -- with symbols in art. When *Homo sapiens* die, it's not just a couple of bare bones and a fire. In some cases, thousands of ivory beads decorate the bodies as they're put into the ground. We think the group came together in these social ceremonies. And there's a kind of spillover effect to begin to think about death and the mystery of what comes after -- transcending things that happen in the natural world.

What do you make of those amazing pictures on the walls at Lascaux? These cave paintings weren't just naturalistic renderings of existing animals. Some were strange beasts, certainly suggesting some kind of symbolism.

Yes, it's an amazing experience to look at the paintings of Lascaux; many of the animals are so beautifully and realistically rendered. But then when you get to the less clearly readable images, something else happens to the mind of the observer. If you look at a picture that is part human and part bird, with a shaft or a pole next to him, one can't help but think about shamans. The idea of a designated healer in a community who could get into an altered state and go between the worlds -- between the natural world and the secular world. And one wonders, were there shamans 17,000 years ago?

Many of these paintings really are in deep, inaccessible parts of the cave. These were fantastic places for altered consciousness. It makes you wonder what it would be like to be in the dark, or lit up by a small lamp, and experience these images while singing or chanting or moving rhythmically. In that context, I'm most persuaded that we're dealing with people who were thinking about the mysteries of life that still plague us and delight us.

Isn't that also the core of a lot of shamanic experience? It could be singing or dancing or healing. There's some kind of ecstatic practice that's going on that sends you into an altered state of consciousness.

Yes, whether it's drumming or another rhythmic movement or noise. I think back to apes as well. Mothers and infants are all about establishing an emotional rhythm with each other. And I just can't help but see this as a vast continuum that connects all these different species over time.

Well, you haven't come out and said this, but the suggestion is that the sacred practices of our ancestors -- their religiosity -- gave them an evolutionary edge. Do you think religion enabled our ancestors to survive?

I do feel comfortable saying that. There's now a whole group of scholars who insist that religion is a mere byproduct of something in the brain, that our brain has evolved and adapted to selection pressures of our ancient hunting and gathering world. And if we're religious, it's really just a mistake. The most famous example of this is the work of Pascal Boyer. He says our brains are so attuned to predators who might eat us that we developed a God detector in our brains. We're really just going too far in detecting agency.

When you talk about agency, do you mean God or some supernatural being?

It's all an elaborate evolutionary mistake. Well, I don't think that works very well. When you look at the depth of our evolutionary history, and the fact that we were made to relate, that is where anthropology and theology come together. You have Martin Buber saying, "In the beginning is the relation." And that's what our primate history tells us. Not only is it a survival technique to come together as a social group, but especially to come together around the mysteries of life -- to ask questions and find answers about the afterlife and those mysteries. Yes, I do think it was not just an accident but something that is very much part of us and helped us survive.

You mentioned Martin Buber's classic book "I and Thou." Why is his understanding of religious experience so meaningful to you?

For an ape watcher to take a year, as I did, to read Karen Armstrong and Martin Buber and everyone in between, was an amazing experience. For Buber, you become real through transformation with another being. And I really think the whole process we're talking about is how hominids relating in social groups generated the spiritual.

What science can do that's so fascinating is look at the incredibly close connection between our social practices and the sacred realm. If you ask Native Americans today, they'll tell you that "religion" isn't even a word that computes in their native languages. You live religion. You don't talk about it. Certain questions -- Do you believe in God? Do you have a religion? -- don't necessarily make sense to all people. That's the lens through which I want to look at

prehistory. And there's a certain resonance with Buber.

OK, I'm not going to ask whether you believe in God. But I do want to know, do you consider yourself religious?

I consider myself a spiritual person because of the way I feel when I'm around animals in particular, especially apes. The idea that I'm here in this world with other beings who are conscious in different degrees makes me feel part of a very big picture. Do you think there's a transcendent reality out there?

Define transcendent reality.

Something that might be supernatural. A reality that we can't necessarily experience with our five senses.

I'm always open to that possibility. But that's veering really close to asking whether I believe in God. For me, it's a private question, but even more than that, it's a question that doesn't really reflect the depths of what we are as a species.

Are you saying it's just not an important question, whether there is a transcendent reality?

I think we have evolved to believe in transcendent realities. What we're about as a group of humans on this earth is believing that there's something more than us. It takes many different forms. I don't know that I'd focus on a single transcendent reality. I would say that because we're made to relate, we think and feel that we're in relationship with something bigger.

But isn't that the core question that everyone debates? Did human beings just make up the spirits and gods that they worship? Or is there really some other reality out there?

Yes, in my book I say that's a question I will not take up. I think my stance is rather beautiful because it's about "agnosis"; that means not knowing. That's where I would like to leave that question. But we as human beings have gotten to this certain place because of our evolutionary history.

So where does this whole evolutionary history leave us in today's scientific age? What are the implications for how we can talk about religion?

I'm part of the camp of people who thinks it's perfectly possible to see religion and science as compatible areas of thought and inquiry. In my book, I lay out three choices. You can say you've got to choose one. You can believe in science or you can have faith in God -- the Richard Dawkins school of thought. Or you can say there are "non-overlapping magisteria" -- the famous Stephen Jay Gould answer that religion will help us with meaning, and science will tell us about other things. I'm actually in a third place. If you can avoid being a biblical literalist, and if you can avoid being an arrogant scientist who tells everyone else what to think, you can think on multi-

ple levels at once. There's a lot of beauty in seeing that religion and science are really about the same things. They can be perfectly compatible.

Several books have recently come out about the origins of religion. And you get lots of different theories. There was, for instance, Daniel Dennett's "Breaking the Spell." He seemed to argue that religious belief is a kind of meme, sort of an idea -- like a virus -- that spreads throughout human groups. What do you make of his argument?

Yes, let's not be overly kind to Daniel Dennett because he dishes it out and he can definitely take it. He not only says religion is the product of a virus, a meme, some small bit of culture that replicates and gets passed on, but that we humans are infested with this virus. So what do you do if a person is infected with religion? You'd better start talking rationally to that person. The problem that I see with Daniel Dennett's view is that a meme is this little bit of something that's supposed to live abstracted away

from human pairs, groups and individuals. It has a life of its own. For an anthropologist, that just doesn't make sense. It's like taking a gene out of its environment. It's like taking a brain out of its environment. I believe in dynamic relationships with real people having real feelings in real social groups. Sure, we have genes and brains, but we are in a co-creative relationship with all these things. We're not controlled by our genes or our memes or our brains.

Do you think there's much at stake in these questions? Is this just intellectual curiosity, or is there much riding on how we think about religion today?

Oh, I think there's a huge amount riding on it. When I get students coming into my class, they so often feel they have to choose between religion and science. And I find that very distressing. I think it's very important to understand that our heritage has made us religious beings. And this fits very comfortably with our understanding of evolution. Being spiritual and having evolved go hand in hand.

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