The Nature of Belief

Scott Atran

conclusion, "it is not too much to suggest that as the styles of thinking in biology mutate, so then should the styles of thought in those disciplines seeking to understand their social organization and consequences. The critical social sciences also need to understand that the most profound thought is that which remains on the surface." Even as Rose's book offers tremendous insight into our biomedical present, it may be that some of those traditional analyses have something yet to contribute as we confront the unfolding inequities of contemporary vital politics.

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PSYCHOLOGY

The Nature of Belief

Scott Atran

In explaining why he wrote *Six Impossible Things Before Breakfast*, Lewis Wolpert describes a disturbing encounter with his son's envious belief that father has the advantage in life because he is likely to die sooner and enjoy heaven. In August 2005, while with Muslim mujahedin in Sulawesi, I noticed tears welling up in my traveling companion, Farkhin (who helped bomb the Philippine ambassador's residence in Jakarta and had hosted 9/11 mastermind Khalid Sheikh Mohammed) when he heard of a young man killed in a skirmish with Christian fighters. "Farkhin, you knew the boy?" I asked. "No," he lamented, "but he was only in the Jihad a few weeks; I've been fighting since Afghanistan [late 1980s] and I'm still not a martyr."

In trying to grasp his son's belief as well as the beliefs of people like suicide bombers and today's great clashes among religious and political beliefs, Wolpert draws fresh insight from the biological and evolutionary roots of belief. He surveys a vast domain that begins with children's innate ideas about the differences between how inert objects and animate agents like people interact and ends with the almost miraculous breakaway of scientific beliefs from our intuitive understanding of the world: there are more molecules in a glass of water than glasses of water in the oceans. We find out that other primates lack mental equipment for mind reading. They can't represent or embed another's beliefs in their own thoughts ("John believes that Mary thinks that…"). Thus they can't understand how they or others can have false beliefs or conceive of fiction, God, or scientific truth. And we learn why other animals can't truly imitate or learn a new dance and why homeopathic medicine and psychotherapy involve "beliefs related to witchcraft."

The book's unifying theme is that all belief is ultimately rooted in causal understanding and has its evolutionary origins in the use and manufacture of tools. This lets Wolpert scan the landscape of belief with clarity and direction but leads down the wrong path in key areas. He argues that managing fire "might have been one of the origins of market exchange, and might have led to the advantage of humans knowing about numbers." Yet defining aspects of number, such as the concept of a class of similar classes or of infinite discreteness, relate more to categorization processes and language structure than to causality. We are told "Verbs ranging from 'go' to 'hit' to 'throw' require causal thinking … an essential prerequisite for language development." Now Kanzi, a brilliant bonobo, can use symbolic tokens to reference causal relations between actions and goals; however, Kanzi's strings are usually action-action combinations, such as "chase bite." These strings employ two "predicates" and no subject. No human language allows sentences that have no syntactic arguments and thus cannot express a subject-predicate proposition. Hominid tool play tells us little of testable, scientific interest about linguistic structure, number, or markets.

Six Impossible Things Before Breakfast
The Evolutionary Origins of Belief

by Lewis Wolpert

Faber and Faber, London, 2006. 243 pp., £14.99. ISBN 9780571209200.
Norton, New York, 2007. 255 pp. $25.95. ISBN 9780393064490.

But it is Wolpert's speculation on religion that is needlessly awry. He claims religious beliefs "all had their origin in the evolution of causal beliefs, which in turn had its origins in tool use." Gods and prayer act in tandem to promote "optimism and hope" by providing special controlling forces when commonsense expectations fail, catastrophe or chaos leaves life to chance, or death looms. "And since causal beliefs that promote survival are partly programmed by our genes, could that not also be true of some aspects of religious beliefs that promote survival, particularly those that relate to mystical forces, and even, perhaps to the gods themselves?"

Wolpert identifies religion with belief in the supernatural, which is fine by me, but recent work in the cognitive science of religion indicates that there is no genetically privileged "supernatural imagination" or "biologically determined module for making myths." Rather, cognitive production of the supernatural occurs by purposely violating our ordinary and innate ideas about causality. Wolpert acknowledges that "what makes an event magical is that it goes against our natural expectations about causes," just as dragons and other monstrous hybrids violate innate assumptions about essentialized biological categories. But this is not because some extraordinary, parallel faculty of causal reasoning evolved through genetic adaptation.

Religion involves the same causal categories that evolution endowed us with for everyday thinking—including folk mechanics (object boundaries and movements), folk biology (species-like essences and relations), and folk psychology (interactive agents and goal-directed behavior)—and which constrain the ways children learn language. Core religious beliefs minimally violate ordinary notions about how the world is, with all of its inescapable problems, thus enabling cognitively manageable and memorable supernatural worlds that treat existential problems, including death and deception—for example, a world with beings (angels, ghosts, ancestral spirits) that resemble us emotionally, intellectually, and even physically except they can move through solid objects and be immortal.

That "lower blood pressure … has a positive association with religious belief" may be true in settings most familiar to many of us, but it is doubtful for more passionate contexts (e.g., pentecostal or jihadi). And although "one can see how valuable the possible force of prayer is to the more or less helpless individual suffering from severe pain," most prayer—indeed, most religious ceremony—occurs in ritualized social settings that coordinate the congregation's body states (chanting, swaying, displays of submission, etc.) and that arguably promote an emotional consensus that can trump even the most logically compelling and evidence-based beliefs.

If religion is, as Wolpert suggests, a special form of causal belief—immune to logic and evidence—about how things are in the world, then it is true that "science is basically in conflict with religion." But if religion is primarily about what ought to be, including moral framing that convinces people to commit to others beyond the logic and evidence for advancing self-interest, then conflict is not inevitable. Understanding and manipulating causality, though key to science, is only one integral component of religion and other aspects of human brain development, knowledge, and belief that bind us to one another and the world.

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