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# In Gods we Trust: The Evolutionary Landscape of Religion

By Scott Atran

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Every society has a religious system, in spite of the obvious costs that they impose on individuals and societies. What makes these religious systems appeal to individuals? How did they develop over evolutionary and historical time? Attempts to tackle these problems fall into three main groups.

The first looks for ways in which the religious system as a whole could benefit individuals, and is concerned solely with the ultimate factors on which natural selection has supposedly acted to maintain the system. As an example, Vernon Reynolds and R. Tanner (*The biology of religion* (London 1983)) suggested that some societies' religious systems were adapted to unpredictable environments, favouring a high reproductive rate: in such circumstances it pays to reproduce as fast as you can so that some young will survive. The religious systems of other societies were adapted to predictable environments where it would pay to limit reproduction to a few high quality young, for inter-young competition would be likely to be important (r and K selection). Unfortunately the data available to them scarcely merited the conclusion.

The second approach involves group selection at both societal and individual levels. As a recent example, David Sloan Wilson (*Darwin's Cathedral* (Chicago 2002)) suggests that religious systems enable people to achieve by collective action what they could never achieve alone. While his examples show that certain groups have done well because their religious system fostered appropriate collective action, he does not adequately consider why the systems appealed to the individuals involved or why it is possibly of adaptive value to them.

These latter issues are the foci of the third approach. Most, perhaps all, religions consist of a number of mutually supportive components—structural beliefs, narratives, ritual, a moral code, religious experience, and a social aspect. Robert Hinde (*Why gods persist* (London 1999) and *Why good is good* (London 2002)) regarded each of these elements as depending on pan-cultural psychological characteristics that may or may not be or have been adaptive, but can account for their appeal to individuals. The characteristics of the religious system, and especially of its moral code, are seen as shaped in each society by two-way, dialectical, transactions between what people did and believed, on the one hand, and what they were supposed to do and believe by the system on the other. Thus moral systems are seen as shaped both by natural and cultural selection in the social

and environmental contexts through which the society has passed. These transactions are seen as diachronic, occurring over pre-historical and historical time. However these books explored to only a limited extent the precise psychological mechanisms contributing to belief in improbable entities.

Closing this gap in previous studies is the achievement of this book by Scott Atran. It is one thing to ascribe the ubiquity of religious systems to their emotional, intellectual, social and survival consequences, but such explanations apply also to many other aspects of human social systems. They do not account for religious commitment to factually impossible and counter-intuitive worlds. How can it be that human minds, evolved to cope with the real world, can hold beliefs that are patently improbable? Scott Atran, who has wide experience as a cognitive psychologist, field anthropologist and philosopher, focuses on the properties of the human mind and human needs that lead to religion's appeal. Thereby he takes much further previous explanations of how religious systems make the acceptance of improbable entities possible. He shows how naturally selected characteristics of human cognition and emotion, in interaction with cultural beliefs and habits of mind, lead to religious belief and commitment. These characteristics include the ways in which humans process information, their emotional characteristics, their selectivity in attention to particular features of the external world, and communication abilities. Other authors whom he cites have focussed on some of these issues, but Scott Atran extends and integrates their work into a coherent scheme.

His approach is so multi-faceted that it is hard to pick a starting point, but the design-features of self-awareness, such as the ability to retrieve episodic memories and to travel in time, in association with 'theory of mind' (the ability to ascribe beliefs and intentions to other minds) are basic. The human mind is modular, and two are especially important for present purposes—namely modules that permit the interpretation of agency and classification.

We seek to attribute events to causes, and most causes are animate. At one level, therefore, there is nothing about deities that violates normal assumptions. However, as emphasized also by Pascal Boyer (*The naturalness of religious ideas* (Berkeley CA 1994)) souls and spirits appeal in part because they combine probable features, that can be readily assimilated, with improbable characteristics. The former make them acceptable to minds adapted to the material world, the latter make them interesting, memorable and able to satisfy certain human needs. The spirits can be either benevolent or malevolent, since hope and fear are cognitively allied.

The human capacity for meta-representation, mobilising networks of ordinary beliefs to build counterfactual entities, permits the representation of counter-intuitive supernatural worlds by parasitizing commonsense. Since religious systems depart only to a degree from the natural world with all its vicissitudes, the supernatural worlds they can represent, although unverifiable, can be made acceptable to human minds. As Scott Atran puts it, humans create cultural domains that ride piggyback on mental modules. The assumed truth of religious beliefs evoke further thoughts and beliefs that act as metaphors that are validated not by factual verification in the real world, but emotionally. Religious faith involves the

suspension of normal constraints, and is thus immune to falsification.

Humans live in more or less well-integrated groups through the action of natural selection acting over evolutionary time. However the benefits of group-living are partly offset by the need for a degree of self-discipline in the interests of the group. Religious rituals not only focus attention on the counter-intuitive assumptions and relate them to the world as intuitively perceived, they also contribute to the integration of groups. Religious beliefs also contribute to the maintenance of group-living: by postulating that the world is meaningful, they provide a cognitive basis for cooperation and trust within the in-group. Ritual furthers this by publicly displaying public conviction and dedication. Repetition of ritual enhances its effects in building mutual commitment by conveying individuals' willingness to undergo some degree of personal deprivation for the public good. Religious systems also provide monitors in the shape of ever-watching deities who will punish defectors. Unfortunately in-group coherence is associated with antipathy to the out-group. Stress and anxiety are both conducive to religious conversion and are ameliorated by religious practice.

The richness, complexity and originality of Scott Atran's approach cannot easily be conveyed in a brief review. There are only some issues over which he seems to stray. Although attachment theory is correctly described as concerned with the maintenance of physical closeness between parent and child, it is not 'a competing theory about religion' (p. 72). No reference is made to the extensive evidence in support of attachment (Jude Cassidy & Phil Shaver *Handbook of attachment* (New York 1999)), and Scott Atran's arguments against it are directed solely at its application to the understanding of religion, and in particular at the view that religion is an extension of the parent/child relationship. That is not a basic tenet of attachment theory, though attachment studies in Sweden have shown that the religiosity/non-religiosity of individuals who have had a secure relationship with their parents are likely to resemble that of their parents, to be relatively stable, to change only slowly with time, and to involve a loving image of god. By contrast, the religiosity of individuals who have had insecure relationships with their parents is independent of that of their parents, is susceptible to rapid changes, and is likely to involve a more distant image of god (Pehr Granqvist, *Attachment and religion* (Uppsala 2002)). Such findings are surely grist for Scott Atran's cognitive mill.

Again, the treatment of sociobiology and evolutionary psychology is hardly fair. Of course they fall short in cognitive analysis, but that is a tribute to the advances that Scott Atran's approach incorporates. The very term 'sociobiology' is now dated but, developing from ethology and behavioural ecology, it has given rise to new developments in behavioural ecology, and spawned evolutionary psychology, memetics and gene/culture evolution (Kevin Laland & Gillian Brown, *Sense and Nonsense* 2002). In any case, Scott Atran uses certain concepts from sociobiology and ethology, such as innate releasing mechanisms and reaction specific energy (concepts now discarded by ethologists, though this does not invalidate his argument) as well as inclusive fitness, kin selection and reciprocal altruism.

But these are minor issues beside the achievements of this book. Its approach must be incorporated into all future studies of the genesis of religious systems.