

# One Species under God?

## Sorting through the Pieces of Religion and Cooperation

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In studying the evolution of religion, one misstep to avoid is treating “religion” as a seamless whole. Religions are complex. More than that, they are complexes, stitched together from many elements that have evolved at different times for different reasons. Some aspects of religion may be, or may have been, individually or culturally adaptive, whereas others may be more analogous to viruses. Asking whether religion, as a whole, is adaptive is a misleading question. For an answer complex enough to do justice to the packages of memes<sup>1</sup> called religions, one needs to look under the hood.

### Memes within a meme

In an attempt at unpacking religion into its composite parts, I will outline three classes of memes which prove useful in understanding the evolution of religion. These are *foundation memes*, *social utility memes* and *scaffolding memes*. Following their brief description, I will use the example of how the fear of supernatural policing agents encourages cooperative behavior to demonstrate how these classes of memes interact and how understanding them can add to discussions in the area.

*Foundation memes* are aspects of religion that follow directly from the structure of the human mind. Our biologically evolved brains lead us to these inventions, making them exceedingly likely, almost inevitable (Atran & Norenzayan 2004) have called this *canalization*). Two examples that I explore below are belief in life after death and the tendency to imbue agency to natural phenomena. Though technically cultural ideas, these memes are expected to emerge quite naturally for all people in all cultures. Most importantly, foundation memes provide the canvas material upon which the more elaborate aspects of religion are drawn.

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1 The concept of memes has been used extensively as a cultural analog to genes, but has also attracted much criticism (e.g., Atran & Norenzayan 2004). There is no consensus on what exactly fits the criteria of a meme, therefore it is unclear where one meme ends and another begins, or even at what level of analysis do memes exist. Is religion a meme? Is Islam? Is praying five times a day? Is each prayer? The imprecision of the definition leaves considerable freedom in its usage. As a consequence, the concept of meme can be useful as a low resolution word for a unit—any unit—of cultural information. At least for this essay, this soft definition suits my purposes.

*Social utility memes* are aspects of religions that serve an adaptive purpose to social living. Ultimately resulting in benefits to the viability of societies, these types of memes are most likely the product of random cultural group selection. Groups that stumbled upon these memes had selection advantages over groups that did not. Food taboos and hygiene rituals that have become codified into religious frameworks may qualify as social utility memes, as would the fear of omniscient, punishing supernatural agents.

The effectiveness of these social utility memes, however, depends upon the level of religious observance. Universal participation is best, with effectiveness falling steeply as noncompliance increases. Therefore, to preserve the utility, belief would need to be preserved as well. *Scaffolding memes* are those whose primary function is to keep afloat the religious package that hosts them. Developments that incentivized piety and disincentivized doubt (and doubters) would have supported the effectiveness of any social utility meme that relied on religious conformity. These memes are any that are primarily devoted to ensuring the 'stickiness' of the collection of memes that made up a religion.

### **The evolution of punishing supernatural agents: An example.**

#### *Foundation Memes*

Guthrie (1993) has argued that humans have naturally evolved hyperactive-agency detection devices that liberally interpret natural phenomena as being authored by agents. As a direct consequence, humans developed a tendency to ascribe anthropomorphic characteristics to these phenomena, turning them, in the absence of any countering evidence, into supernatural agents. This is an example of a foundation meme; one would not say that humans had a biological, modular adaptation for imagining supernatural agents, but adaptations that do exist make such cognition extremely likely.

Another edifying example is the belief in a life after death. Conceptions of a life beyond death seem to come quite readily to the human mind, and are certainly easier both to grasp and to swallow than the reality of death's finitude. Bering (2006) has suggested that imbuing the time after death with living-like characteristics is a consequence of the cognitive constraints of the mind's ability to represent a complete and interminable unconsciousness. Unable to conceive of 'what it's like' to be dead, people work with what they know. Again, though belief in an afterlife is not, itself, a biological adaptation, our minds come heavily inclined to create one. Human biology has pulled out the chair for such beliefs.

The products of foundation memes, like supernatural agents and conceptions of a life after death, are the starting points of religion. The elaboration of these concepts turned otherwise personal beliefs into communal religions. Certain variations would have proved more conducive to replication. For instance, Morewedge (2007) has demonstrated what he calls a negative

agency bias—a tendency to attribute negative events to external agents more so than neutral or good events. As a consequence of this mental bias, bad fortune would have been more intuitively attributed to supernatural agents than good, and cultural conceptions of a punishing supernatural would have been a more easily formed and apprehended meme.

### *Social Utility Memes*

Other elaborations would have been spread not only because of their conduciveness to the structure of the human mind, but because of the utility that they offered. For example, many have speculated that certain aspects of religion evolved due to the benefits they provided to social cohesion. If elements of religion increased cooperative behaviour—especially that between unrelated strangers—this would have minimized defection among large groups of people, thereby allowing the massive population densities that have emerged in the last ten thousand years.

A recent spate of empirical evidence supports this hypothesis. Sosis and Bressler (2003) have shown that religious communes historically lasted longer than their secular counterparts. Sosis and Ruffle (2003) found members of religious, rather than secular, Israeli kibbutzim to exhibit more cooperation in cooperative-pool economic games. Shariff and Norenzayan (in press) showed that participants exposed to even implicit cues of religion behave more pro-socially towards anonymous strangers than did control participants.

While Sosis suggests that these cooperative effects derive from the costly signaling involved in religious rituals, Shariff and Norenzayan credit these effects to the imagined presence of supernatural policing agents. These two explanations are by no means mutually incompatible. However, I will maintain current focus on the punishing supernatural watcher.

Humans have evolved to be hyper-vigilant towards their reputations. With the emergence of indirect reciprocity as a viable support for cooperation, one's reputation became of critical concern. Defection—still a reality—was hidden in deception and anonymity. Reputations could be maintained, and costs of social distrust avoided, so long as one avoided 'being caught'. Hidden defection was still a viable option for the individual, and therefore still compromised the stability of the group.

The development of all-seeing, supernatural policing agents circumvented these problems, allowing wider and more complete cooperation. The fear of supernatural agents not only extended one's vulnerability to 'being caught' to everywhere visible by omniscient beings, but raised the price of being caught' to that of divine punishment, either in this life or the next.

Punishment, it should be noted, is more powerful than reward for these ends (Johnson & Bering 2006). A large body of research demonstrates the utility of the stick over that of the carrot, at least with regards to promoting

cooperation. Therefore, a meme that exploited people's fear of divine punishment, rather than their want of divine reward, would be the more effective.<sup>2</sup> In support of this hypothesis, Shariff and Norenzayan (in press) found that the same implicit religious cues that increased prosocial behavior aroused feelings of guilt, but not empathy, charity or positive affect. Taking into account Morewedge's negative agency bias, these findings suggest that punishing agents emerged as both an intuitive and useful meme.

Though the means might exploit negative emotions, the benefits of a cooperative society are manifold and palpable for its members. The difficulty is achieving such cooperation when it is within everyone's short-termed interests to defect. If the belief in supernatural watchers successfully curbed these selfish behaviors in most people, most of the time, then groups that had stumbled upon this belief would have enjoyed a level of cooperation beyond those without comparable beliefs. Groups with more internal cohesion, and thus larger potential populations, would have had comparative survival advantages leading to cultural selection for these groups and the memes they hosted.

Like with any selection process, cultural group selection does not demand that individuals understand or are even aware of the adaptive qualities of their cultural traditions. A moral tradition which fostered cooperation would remain and flourish among cultures because it *worked*, regardless of whether or not its adherents sought or even recognized these benefits. Hayek captured this well:

[Cultural] group selection thus does not primarily choose what the individuals recognize as serving their own ends, or what they desire. It will elect customs whose beneficial assistance to the survival of men are not perceived by individuals. The group thereby becomes dependent for the very survival of its increased numbers on the observance by its members of practices which they cannot rationally justify, and which may conflict with both their innate instincts on the one hand, and their intellectual insight on the other. (Hayek 1984, 324)

Religious fear and guilt may have thereby promoted a sense of harmony better than any attempt at an intelligently designed moral system has managed, either before or since. Precisely by bypassing rational thinking, memes regarding omniscient, punishing supernatural agents fomented religion's initial social utility.

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2 Using this logic, Heaven and Hell could be seen, not as flip sides of the same memetic coin, but as independent memes serving independent functions. Heaven might be better conceived as a comforting 'perk' of belief, with Hell serving the more utilitarian function of ensuring cooperation through fear of punishment.

*Scaffolding memes*

Certainly the irony will not be lost to those currently decrying the divisive, intolerant, and violent aspects that are associated with today's sectarian strife. More than irony, however, there may be explanation.

If people are driven to moral behavior because they fear the punishment of omniscient supernatural agents, they can assume that those who fear these same gods will face the same fears and be concerned with the same transgressions. That is, people with the same beliefs can be both predictable and trustworthy. People with different beliefs, or worse, *no* beliefs become highly suspect.

The success of most social utility memes depends on the ubiquity of belief. Scaffolding memes that ensure these beliefs also ensure that noncompliance and defection are kept to a tolerable minimum. The dogmatic elements of religion – resistance to alternate explanations for the way the world works, the indoctrination of the young, and the severe punishments for doubt – are all examples of scaffolding memes that serve to maintain the functioning of religions. So too are the attempts to minimize social interaction with those who hold different beliefs. Without the assurance that these people will cooperate, they should be treated with wariness, converted, ostracized, or worse.

This distrust of atheists and members of other religions is evident in both scripture and attitude polls. The Bible shows little love for pagans. Though the Qur'an demonstrates a notable tolerance for other People of the Book (Jews and Christians, who, after all, fear the same God as Muslims), idolaters face hellfire.

Ancient scripture is corroborated by modern surveys. Using a 10-nation poll of over 10,000 people and representing all the major world religions, Hansen and Norenzayan (in prep) found that people believing that their god was the only god were considerably more likely to blame members of other religions for the world's problems than those who believed in a god, but made no claims to exclusivity.

In a 2003 poll of over 2,000 Americans, 33.5% of the representative, predominantly Christian sample, said they would disapprove if their child wanted to marry a Muslim—a “standard measure of group prejudice” (Edgell, Gerteis, & Hartmann 2006, 217). In accordance with the theory presented here, the number was even higher —47.6%—for an atheist. In open-ended interview responses reproduced by the authors, most mention a connection between atheists and immoral behavior. The following response is typical of this long-held association:

...prisons aren't filled with conservative Republican Christians. The prisons are probably filled with people who don't have any kind of a spir-

itual or religious core. So I don't have to worry about...a conservative Christian, you know, committing a crime against me, chances are. (228)

## Conclusion

Some, though not all, aspects of religions may have, and may continue to serve socially beneficial ends. Social utility memes may have found ways to encourage prosocial behavior that individual reason could not, then or now. However, some, though not all, aspects of religion may serve ends that from the perspective of both the individual and group may be counterproductive. The existence of scaffolding memes brings with it the danger that religions may be sustained in absence of, or even when at odds with, adaptive ends. Although these aspects become tethered together in a collective, they evolved at different times for different reasons. Keeping these differences in mind will result in a nuanced and appropriately complex understanding of where religion came from. God, after all, is in the details.

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