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## Why add the supernatural?

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### ABSTRACT

A theme common to many of the essays is that of identifying the unique contribution that religion (specifically, supernatural thinking) adds to human social life. We argue that the contribution may have been efficiency. Supernatural thinking may have made cooperation easier to implement in human social groups. We explore this possibility in two areas: partner choice and parenting.

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We are grateful to the editors for the opportunity to comment on these essays. As to be expected, they are diverse. Whenever confronted with such variability, it is only human nature to seek some underlying pattern. Lurking beneath the specifics, we detect at least one theme common across many of the essays; that is, identifying the unique contribution that religion (more accurately “supernatural thinking”) makes to human social life.

Another way of putting this is to ask: why add a supernatural level of explanation or involvement to the human social world? Many of the essays can be understood as posing this question in particular contexts. For example, Bağçekapılı and Yılmaz’s essay asks this in dealing with morality. Bulbulia et al. ask this in regard to the use of state-sanctioned homicide for purposes of social control or social organization. Similarly, a number of essays ask about the secular/naturalistic or brain basis of some religion-relevant issue, behavior, or cognition. Such is the case in Carney and David-Barrett’s essay dealing with theological interpretation of text, and similarly with Lenfesty and Fikes’ essay on pro-social behavior, Galen’s essay on well-being (and prosocial behavior), and Robinson’s essay on the experience of transcendence.

All of these presume (rightly, we think) that there is some non-religious, non-supernatural core at the heart of these activities to which something “religious” (or supernatural or spiritual) has been added. So if we can subtract out that natural core, we can see what, if anything, the “religious” component adds. McCaffree’s essay on social networks appears to directly confront this question by asking how religious social networks are different from non-religious ones. Social networks are “natural” to humans given that we are a highly social species. What does supernaturalism add to one’s network? (Aside: we wonder if the answer might be related to the question raised in Shaver’s essay concerning higher fertility among religious vs. non-religious people or the similar issue raised in Van Slyke’s essay about the usefulness of religion in mate selection.) The supernatural add-on question also seems salient in White, Baimel, and Norenzayan’s essay dealing with karma. A perfectly secular, rational theory of karma is certainly a viable option. Doing good engenders positive regard for oneself among others, who are therefore more likely to aid you later, while doing bad has the opposite effect. Why develop this into a spiritual force?

Assuming our analysis is roughly correct, then what might the answer to this be? What does supernaturalism add? As a working hypothesis, we offer the following: the supernatural enhances efficiency.

It does this by providing an authoritative, unfalsifiable set of normative customs. It tells people, “we do things this way (the particular custom) for this reason (the appeal to supernatural authority).” This simple formula, however, allows a community to circumvent potentially paralyzing disagreements about the specific form normative behavior should take and get on with the business of collective action. In other words, the supernatural enhances cooperation by making it easier to implement.

There is a subtle distinction here between efficient and better. It may not have been the case (either today or back then) that “supernaturalized” social groups were (are) populated with qualitatively “better” individual cooperators. Instead, what we are suggesting is that “supernaturalized” groups were (and today may continue to be) more able to reap cooperative rewards with less energy expenditure because cooperation is more effectively implemented.

How do you implement cooperation? There are at least two important mechanisms here, both of which are affected by supernatural thinking. The first is partner choice. A recent study has shown that cooperation can stabilize over time in chimpanzee communities if chimpanzees are allowed to freely choose partners (Suchak et al., 2016). This complements computer modeling studies that produce similar results relevant to human evolution (Gavrilets, 2012). Studies show that chimpanzees (and by extension early hominins) use(d) two criteria when choosing cooperative partners: (1) rank – preferring similarly-ranked partners over dominants; and (2) past history – preferring other chimps with whom they or others have had successful collaborations (Melis, Hare, & Tomasello, 2006). But if social hierarchy was substantially leveled over the course of hominin evolution (which seems reasonable given that all hunter-gatherers are egalitarian), then only past history would remain as a criterion upon which selection could be based.

Our guess is that past experience was probably adequate for a good stretch of hominin evolution. However, this strategy has some drawbacks that may have become increasingly acute over time. First, past experience entails the cost of failed cooperative ventures. The more failed cooperative ventures one (or the group in general) endures, the more fitness is compromised. Second, as hominin evolution moved forward, cooperative breeding became increasingly essential to survival (Burkart et al., 2014; Hrdy, 2009). Failure in this arena would have been particularly intolerable. Thus, it may have been that reliance on past experience to choose cooperative partners involved ever-mounting risks. Any group that replaced or supplemented past experience with a reliable cooperative signaling mechanism may have stood to reap fitness benefits. But what form should that signaling take?

A couple of recent studies have demonstrated some rather unexpected and potent characteristics of religious signaling. First, it is effective for signaling cooperatively-relevant character traits such as trustworthiness, generosity, being a hard worker, and overall “good character” (Power, 2016; Purzycki & Arakchaa, 2013). Second, it is relied upon, above and beyond other signaling mechanisms, even among people who are highly familiar with one another (as our ancestors certainly would have been). Yet, at the same time, it effectively cuts across tribal and cultural boundaries (Hall, Cohen, Meyer, Varley, & Brewer, 2015; Power, 2016). Finally, for the purpose of establishing “good” character among one’s peers, routine religious practice is more effective than dramatic displays (i.e., going to church weekly beats the occasional walk over hot coals). Thus, if we see someone scrupulously following their supernaturally mandated daily rules of conduct, we tend to trust them and think well of them, even if they are practicing a foreign religion. If something similar was true of our ancestors, then the supernatural might have had important utilitarian value as a broadly recognizable basis for cooperative signaling.

Any group that could quickly settle upon a clear consistent method of cooperative signaling would seem to have an advantage over other groups where signaling was more varied and potentially confusing. Given its ubiquity among traditional societies (and its veiled but undeniable persistence in more modern contexts), we suspect that the routine adherence to taboo may have been one of the earliest means by which cooperative partners were chosen in our ancestral past. If taboo-observance enhanced the efficiency with which group members could identify cooperative partners, then taboo-using groups may have had an advantage over others in our ancestral past.

A second way in which cooperation is implemented is in the inter-generational transmission of cooperative norms. Numerous studies show that we are more likely to abide by cooperative norms if we think we are being watched (e.g., Krátký, McGraw, Xygalatas, Mitkidis, & Reddish, 2016). Thus, the supernatural can play an important role in rearing children to be “reflexive” cooperators. It is also striking how most traditional hunter-gatherers tend to be rather *laissez faire* in parenting style (Konner, 2010). This suggests (to us) that what our ancestors may have discovered is that off-loading the developmental inculcation of cooperative norms to the supernatural was a highly efficient, energy-conserving parenting strategy. As an illustrative example, consider the Batek, a traditional people of the Malay Peninsula. The Batek are highly cooperative and nearly entirely non-violent. The major mechanism used to both inculcate children into this ethic and enforce it upon adult members is fear of supernatural punishment (Endicott & Endicott, 2014). The Batek are somewhat extreme in this regard, but to varying degrees employing the supernatural through rituals, myths, and taboo as a means of both transmitting and enforcing a cooperative, egalitarian ethic is nearly universal among traditional societies.

If the critical fitness contribution of the supernatural was efficiency, then that would help to explain what appear to be paradoxical research findings on the effects of religion. At the large scale, it is often the case that religious effects are present and consistent. For example, at larger scales of analyses, religion often has reliable prosocial effects (Norenzayan, 2014; Shariff, Willard, Andersen, & Norenzayan, 2016). However, isolating the specific contribution that religion makes to prosocial behavior is often opaque and illusive (as Galen points out in his essay). This would be expected if the supernatural fitness advantage was (and to some extent continues to be) as an organizational scheme rather than a discrete, cognitively or socially separable factor.

## Disclosure statement

No potential conflict of interest was reported by the authors.

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