



Religion and its evolution: signals, norms, and secret histories

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Religion and its evolution: signals, norms, and secret histories

The papers in this special edition arose from a 2017 workshop at the Australian National University with a broad theme: the evolution of religion across the disciplines. It was organized by the ANU's School of Philosophy and Centre for Philosophy of the Sciences, a center whose title contains a deliberate pluralization. This field has always been diverse. Foundational figures in anthropology, psychology, and sociology, such as Edward Tylor, William James, and Emile Durkheim took the study of religion as fuel for immensely productive but only partially-overlapping lineages of enquiry, with religions variously seen as primarily social institutions; as patterns in individuals' activities and social interactions; or aspects of individual cognition and motivation. Additionally, the differences between distinct religions are considerable; so is there a unitary phenomenon to explain? Dan Sperber thinks not, see his response to Sterelny (2018a). Little wonder that the differing scientific approaches to religion are so divergent, and that is before considering how religion looks through the lens of economics, archaeology, philosophy, etc. This heterogeneity of topics, approaches and examples made it a challenge to assemble a workshop (and its products) that was both genuinely interdisciplinary but with some productive cross-fertilization. We think there was cross-fertilization, and we hope this special issue shows that. What follows is a road map of the special issue, with a glance at the main intent of each paper, identifying some common themes of cost, honesty, normativity, and the nature and role of religious belief.

The workshop itself was a two-day meeting with eight long presentation and discussion sessions covering overlapping topics from the social psychology of religiosity (McNamara & Purzycki, 2020; Seabright, 2020), religion and normativity (Handfield, 2020; Stich, 2020), the costs of religion and the social, psychological, and economic mechanisms that might make sense of them (Brusse, 2020; Handfield, 2020; Seabright, 2020; Sterelny, 2020), and deep time evolutionary narratives (Hiscock, 2020; Sterelny, 2020). There was a mix of conceptual and theoretical argument, leavened by the presentation of empirical and historical evidence (Bulbulia et al., 2020; Hiscock, 2020; McNamara & Purzycki, 2020; Sterelny, 2020). In general, the material presented was broad in scope and theoretically ambitious, and while the papers in this issue, descending from those presentations, have been both developed and revised, they retain the ambitious theoretical scope of the workshop. Let's now move to specifics.

McNamara and Purzycki's (2020) paper, like that of Stephen Stich (2020), pursues the links between normative and religious cognition, but builds on previous work on moralizing god beliefs and their ecology (e.g., Norenzayan et al., 2016; Purzycki & McNamara, 2016). McNamara and Purzycki begin by reviewing the literature surrounding the psychology of belief in punitive gods, and outline a theory of their causal role in the light of social normative psychology and cognitive science. At the heart of their discussion is the apparently discordant evidence for harms and benefits of punitive god beliefs. While it is plausible that these beliefs are adaptive at the level of the group, they also often appear to be pathological to the individual, in the sense of motivating behaviors which are contrary to their interests. However the evidence here is not homogenous; and it suggests a curious degree of contextual variance with respect to the expression of these behaviors. What McNamara and Purzycki propose is a mechanism of action whereby beliefs in punitive gods interact with perceptions of threat, to alter the balance of type-1 vs type-2 thinking in certain conditions. As a consequence, the capacity to engage in considered, pragmatic behavior is swamped and overridden in favor of impulsive reaction. The observed variations might therefore be explained by differences

in enculturation, with social and moral norms influencing which interventions are perceived as threats, and the default/expected responses to them. As the authors argue, this approach has the benefit of generating testable behavioral predictions with regard to how norms are internalized from inside Leung and Cohen's (2011) cultures of face, honor, and dignity, understood as social-cognitive ecologies. This is therefore a big-picture hypothesis about the relationship between social and religious cognition, and one that calls for further research linking cognitive science, social psychology, and cultural evolutionary theory. One important contrast here is with the approach typified by Paul Seabright in this collection (Seabright, 2020): how important to religion and religious cognition is religious belief: buying into the official ideology of the religion? His paper is at the other end of the spectrum, suggesting that belief plays very little role in motivating or sustaining membership of religious communities. In any case, testing this theory calls for cross-cultural methods to empirically tease apart both normative psychological regimes and religious beliefs, and investigate their correlations with other aspects of cognition and social behavior.

Bulbulia et al. (2020) demonstrate how quantitative methods that can be brought to bear on typing and analyzing religious psychologies. Their study uses latent profile analysis to identify five "faith signatures" among a large surveyed sample of contemporary believers in New Zealand. These signatures are statistically discernible clusters characterized by descriptors based on validated measures of religious group narcissism/humility and fundamentalism. They crosscut with denomination, but provide insight into the psychological attractions of institutional religion, and its competitive internal dynamics within populations. In particular, the make-up and distribution of these types is consistent with the predicted cyclical dynamic of church-sect theory, which defines a "life cycle" for religious organizations from novel, charismatic movements to bureaucratic institutions. Of course, as the authors note, church-sect theory is just one of many ideas which imply dynamic/narrative arcs for religious institutions. To speculate for a moment, frequency dependent effects alone should greatly influence the efficiency with which religions provide trust-assurance or social gate-keeping functions (as touched on by Handfield, Brusse, and Seabright). Such frequency dependent effect should make the conditions of insurgent success highly volatile and dynamic. Sterelny (2020) too suggests a similar life cycle, though on a much longer time frame, with a focus on the social and selective context of the shift into the bureaucratic mode of doing religious business. Bulbulia and colleagues' methods have impressive statistical power: power enough to make interesting discrepancies visible in the general model, hinting, as the authors describe, at future directions for researching the ebb and flow of religious affiliation within a cultural evolutionary framework. In many ways, the descriptive models and methodology are as intriguing as the results, as they are largely content-neutral and apt for extension and application to (for example) variance in religion vs normative psychology.

In a step toward the abstract, but one that continues to explore the social ecology of religions and their relations to norms more generally, Handfield's contribution (Handfield, 2020) considers the characteristic social norms of religion, specifically sacred values, within a broadly strategic, game-theoretic framework. Though many such approaches focus on a single putative mechanism, Handfield attempts a more diverse assessment of the logical space of strategic explanations. His paper distinguishes three strategic roles that might constitute the selected effects of sacred values and norms: deterring transgressions, facilitating coalitional coordination, and supplying assurance, each of which are crucial in the evolution of social institutions. Though the three roles can overlap in given contexts, it is important to recognize their independence both conceptually and at the level of formal representation (a philosophical theme common to Brusse's [2020] contribution). For each might act without the others. The discussion here is cumulative in that it develops these roles at different levels of description from the abstract to the applied: i) at the level of cost-benefit model analysis, ii) with respect to proximal psychological mechanisms, and iii) together in a reasoned evolutionary narrative based on plausible interactions between strategic costs and benefits and cognitive biases. Given the causal and explanatory power of deterrence, coalition-building, and assurance, Handfield argues that sacred values could be central to making them work together to generate

strategic advantage, by manipulating and calibrating the costs and benefits associated with signaling, coordination, and compliance. Handfield therefore sees sacred values as integral in powering a synthetic explanation of religion and behavioral norms evolving together.

Brusse shares with Handfield (as with Sterelny and Seabright) a broadly game theoretic approach to the explanatory puzzles posed by religion, targeting the signaling explanation of costly religious action, an explanation which generally sees those costs as guarantees of honesty. However, his paper (Brusse, 2020) is framed at a more abstract and general level than those three other contributions. The paper lays out three arguments, each building on its predecessor. First, it argues for a “core”, adaptationist characterization of religious signaling theory that is independent of both the usual “costly signal” characterization (where honest signals are either unfakeable or have lower differential costs, and hence are affordable to the honest but not the dishonest), and specific assumptions about proximate cognitive mechanisms (for example, of the kind discussed by McNamara and Purzycki). This model-neutral characterization allows a clear contrast between religious signaling theory and its near neighbors in the literature, such as CREDs theory (Henrich, 2009), and a principled way of recognizing its genuine variants. Second, it differentiates the modeling choices which define the logical space for those variants. Families of variants need to be evaluated separately, as they have different theoretical and empirical commitments. Differential-cost signaling explanations of religious commitment are one such family of related explanations among several, rather than a single model (this is a theme of Sterelny’s paper, too). Moreover, mapping out the modeling space explicitly highlights modeling choices which are less well explored. Finally, after considering how this taxonomy treats some foundational positions in the literature (e.g., Irons, 2001; Sosis, 2003), Brusse outlines several “templates” for matching modeling-level variants onto classes of religious phenomena, from ritual content to temporally extended behavioral strategies, norms, and institutions. This illustrates how heterogeneous and multi-faceted signaling explanations of religion can be, and their potential to compliment other explanations. In re-approaching this oft-cited but oft-rejected theory, the paper shows it to be more versatile than is generally appreciated, while raising additional questions concerning its empirical tractability and ease of application.

The functionality of religious belief is sometimes defended by seeing it as a vehicle for secular or social information (see for example Kelly, 2015). Hiscock (2020) skeptically analyses one version of this idea. Stich (2020) discusses another: the idea that religion and its evolution acted as a scaffold for the evolution of a norm-governed social life. Stich distinguishes three easily conflated versions of the idea that religion and its evolution influenced the evolution of moral norms. Appealing to a growing body of evidence that “moral” and “conventional” categories of norms are not cross-culturally robust, Stich first argues that religion could not have been responsible for any innate, absolute moral faculty, because no such faculty exists. On his view, distinctively moral norms are a feature of a subset, perhaps even a small and recent subset, of human cultures. A more interesting question is whether religion played a role in the evolution of norm *psychology*, i.e. the capacity for norms to be intrinsically motivating rather than instrumental behavioral guides. It is standardly claimed of genuinely norm-governed action that choices are avoided not just to avoid punishment or other undesirable social consequences. Here too Stich is skeptical, arguing that if consequences for conventional norm violation (such as punishment) pre-date recognizable religious practice, then they alone would be sufficient to explain an adaptive function for norm psychology. Intrinsic motivation would efficiently regulate optimal social behavior in ways sensitive to cultural norms. If this sequencing is plausible, which it appears to be, then an intrinsic respect for social norms had already evolved before religion established in human life. So the evolution of religion could hardly help explain the evolution of that respect (though perhaps its evolution might strengthen the mechanisms which generate that respect). Stich’s final version of the norm-religion connection concerns the cultural transmission of particular norm packages. Here it is uncontroversial that religious life sustains norm uptake. No-one doubts that in many cultures, specific norms are taught or reinforced through children being drawn into the religious lives of their community. If it is indeed true that religion established relatively late in human life, evolutionary narratives involving religion and morality

should therefore focus on specific cultural contents, or perhaps explore their coevolutionary interaction after their independent origins.

Sterelny, in his contribution (Sterelny, 2020), builds an account of the emergence and change of religious practice into a broader evolutionary narrative about the evolution of social life as a whole. Following on from earlier work (Sterelny, 2018a, 2018b), Sterelny grapples with explaining the strange, seemingly maladaptive content of much religious belief and practice, such as dangerous ritual mutilation, or beliefs/norms which impose other costly, unproductive demands. In that previous narrative, Sterelny theorized that maladaptive religious content originated more innocently in group traditions of verbal, musical, or physical displays (such as dance) which had a similar role to grooming; bonding individuals into social relationships of cooperative familiarity. These packages of “embodied” activities only became religions as more discursive and narrative elements were added, and the social role of these packages expanded to include signaling cultural identity and local rights to other communities. This paper extends and clarifies the mechanisms putatively responsible for these transformations and extends the analysis to consider the evolving nature and role of these packages with changes in social scale, complexity, and economic organization. In doing so, the paper positions Sterelny’s view in relation to those of Harvey Whitehouse and others. The paper endorses a broadly costly signaling approach to the increasing costs of religious life, arguing that both the nature of those costs and their functions change, as human communities become more hierarchical, and more densely networked.

In a broad, provocative survey of the Australian archaeological and ethnographic record, Hiscock (2020) argues that the pace of cultural evolution is much faster and more dynamic than generally assumed. On one increasingly popular view, the religious mythology of each of the distinct Australian Aboriginal cultures is ancient, highly stable, canonical (indeed actively stabilized by transmission via long-trained elders), and thereby encodes precious ecological, historical and geographic knowledge: see for example (Gammage, 2013; Kelly, 2015). Hiscock argues that this conception is profoundly mistaken. He assembles ethnographic and archaeological evidence for the contested and variable nature of particular narratives, with different individuals and sections within a community telling their own versions of these narratives of foundation and proper conduct, and of rivalry between local experts for access to and control over esoteric knowledge. That rivalry is no surprise, for this control is a source of status and sexual access in Aboriginal society, as Ian Keen (2006) has shown. Hiscock cites examples of Christian fragments (and even stories of Ned Kelly and James Cook) being incorporated into nineteenth century Aboriginal myth-making as further evidence against the long-term stability and careful curation of these narratives. Their rate of turn-over was high, as the successful creation and launch of new narratives in response to a dynamic environment bought social rewards. Moreover, in Hiscock’s view, while it is often true that mythic narratives are set concretely in space and place, it is the listener’s intimate knowledge of their local geography that scaffolds their recall of these often complex narratives. The mundane codes the esoteric rather than vice versa.

Religion’s puzzling costliness is a unifying theme across these contributions. In taking up this question, Paul Seabright (2020) makes the economist’s case for a cautious corrective: that the real, often dramatic costs associated with resource sacrifice and counter-empirical beliefs might be straightforwardly explicable as investments in a better life. Moreover, he largely doubts that the counter-empirical beliefs associated with religion are, in fact, costly. He plays out this line of thought in two ways. First, in taking up the extraordinary tale of the Nicaean Creed and the Arian heresy, he argues that the distinctive theses of the Nicaean Creed about the coequal status of Jesus and God, and the character of transubstantiation, hardly count as beliefs at all, even for those who endorsed the Creed. Few understood the doctrines or cared to. For almost all, perhaps even all, of both the Arians and the Nicaean true believers, the distinct doctrines were like distinct football jerseys. They identified which side you were on, and helped you identify allies and enemies. Being in the Nicaean FC supporters team certainly had real costs, but the members of the club hoped and expected it would bring material benefits, and since they ended up winning the league, some of them were probably

right. The example is persuasive, but is it general? In many small scale societies, counter-empirical beliefs in sorcery seem like genuine beliefs (motivating quite specific behaviors, unlike a view on the metaphysics of transubstantiated wafers) and costly. Perhaps it does not matter. For Seabright argues that humans have lots of counter-empirical beliefs (he calls this “cognitive extravagance”) as a consequence of our undoubted adaptations for cultural learning. Many of our true beliefs are “counter-empirical” in the sense that we take them on trust, and with little or no personal knowledge of their evidential bases. A few false ones are just inevitable noise in the system (see also Sperber, 2001; Sperber et al., 2010). In general, Seabright argues that the costs of religion are overstated, and to the extent that they are real, they are either rational investments in the future, or the inevitable price of a more important boon.

Collectively, these papers illustrate the richness and diversity of the sciences of religion. But they have thematic unity in two important respects. As mentioned, explaining religion’s costs is a recurring problem: in what respects is religion costly? How are religious costs re-paid or mitigated? Who benefits? Several contributions illustrate novel developments in the formal modeling of religious costs, in which the complexity and subtlety of signaling and strategic dynamics are related, within an evolutionary framework, to the complexity and heterogeneity of the religious phenomena. A second thematic convergence pertains to the evolutionary dynamics of supernatural beliefs in social settings. An emerging consensus is that explaining supernatural beliefs requires attending to their use in specific religious communities. In some respects, supernatural beliefs resemble phobias (see McNamara and Purzycki’s contribution); in other respects, supernatural beliefs are more like avowals (like saying “I do” at a wedding ceremony). But supernatural beliefs rarely function as mundane empirical beliefs. Given an emerging consensus that a robust empirical science of religion requires detailed knowledge of specific and variable human ecologies, our pick is that the evolution of religion will likely remain a multi-disciplinary research project. Here, we are pleased to be able to present the results of our ANU workshop on evolution and religion as contributions to that ongoing endeavor.

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