



The fish that got away? Human behavioral ecology and the study of religion

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The fish that got away? Human behavioral ecology and the study of religion

During the growth phase of any academic field it is worthwhile to pause and consider the ways in which the field has developed. There are many reasons to attempt a stock-take: to gauge progress, diagnose problems, consider position relative to other disciplines, identify big challenges, spot opportunities, strategize, or simply to celebrate the field's many achievements. Our previous editorials have variously attempted to address each of these tasks. Here, though, we would like to do something a little different. Instead of asking what actually happened to the field, we consider what might have happened: were there alternative, potentially more fruitful pathways in which our field, the biocultural study of religion, could have progressed? Were there missed opportunities during the field's development? Rather than contemplating the fish in hand, how big was the fish that got away?

By most accounts our field consists of at least two major subfields—the evolutionary study of religion and the cognitive science of religion. For at least a decade, numerous projects, conferences, books, and academic programs have been marked by successful collaborations between evolutionary and cognitive scholars of religion. This journal, of course, is also an example of the productive conjoining of these subfields.

Nevertheless, it is fair to say that the evolutionary study of religion and the cognitive science of religion have not always been happy bedfellows. The evolutionary-cognitive division within the biocultural study of religion is reflective of the wider division that exists within the evolutionary study of human behavior in general. Historically, the evolutionary study of human behavior consisted of three main approaches: human behavioral ecology, evolutionary psychology, and dual-inheritance theory, more commonly referred to today as gene-culture coevolutionary theory. These approaches are still alive and well, but their boundaries have become increasingly blurred, and many younger evolutionary scholars no longer feel the territorial tensions of their mentors and are seeking integration across these fields.

The cognitive science of religion, at least in its early formulations, was not evolutionarily oriented. Although some writers, such as Guthrie (1993) paid some conceptual respect to evolutionary dynamics, theoretical models lacked substantive evolutionary analyses. The publication of *Religion Explained* (Boyer, 2001) and *In Gods We Trust* (Atran, 2002) brought the cognitive science of religion one step closer to an evolutionary psychology of religion, but the speculation of those books lacked the reverse-engineering perspective of the biological sciences. This move toward evolutionary psychology paralleled similar moves within the cognitive sciences generally.

The evolutionary study of religion, in contrast, has been firmly entrenched in gene-culture coevolutionary approaches since Wilson's seminal work *Darwin's Cathedral* (2002). The attention of evolutionary scholars of religion has been markedly on cultural rather than genetic factors, which is also reflected in the parental field, with increasing weight given to models of cultural selection. The newly formed Cultural Evolution Society is of course emblematic of this focus on culture rather than genetics.

This brief account raises an obvious question: What happened to human behavioral ecology? Behavioral ecology remains a major contributor to the human evolutionary sciences in general, but within the biocultural study of religion it remains largely ignored or misunderstood. Has the

sidelining of behavioral ecology been a missed opportunity in the development of the biocultural study of religion? It is worth considering.

Some of the earliest adaptationist writings on religion were offered by anthropologists—Irons (2001) and Cronk (1994)—who employed signaling models derived from behavioral ecology. Yet, the extensions of these models by subsequent theorists, notably two *RBB* coeditors (Bulbulia and Sosis), struggled to apply classical signaling models to religious signaling. Bulbulia (2004) and Sosis (2003) independently incorporated supernatural beliefs into their models in order to account for the perceived and experienced costs of religious behaviors. In doing so, their models focused on the adaptive nature of religious cognition or offered proximate psychological explanations for why individuals would engage in costly religious rituals, taboos, and obligations. While these models have advanced our understanding of religious commitments, they did not capture the ultimate-level selection pressures on religious behaviors of primary interest to behavioral ecologists. Indeed, with the exception of Eleanor Power's recent ethnographic work in South India (2017a, 2017b), signaling theory has been employed to test psychological hypotheses, with the behavioral ecological origins of signaling models seemingly lost in the process.

Similarly, the behavioral ecological origins of gene-culture coevolution models are also not widely recognized in the biocultural study of religion today. In the early days of human behavioral ecology, it appeared that gene-culture coevolutionary approaches would be incorporated into human behavioral ecology. Richerson and Boyd (1992), for example, published an important chapter on cultural inheritance in what is universally considered the bible of human behavior ecology, Smith and Winterhalder's *Evolutionary Ecology and Human Behavior*. And many of the pioneering researchers within human behavioral ecology (e.g., M. Borgerhoff-Mulder, K. Hill, and E.A. Smith) published works employing gene-cultural coevolutionary models. Likewise, Wilson, Richerson, Boyd, Henrich, and other cultural evolutionary theorists all have extensive training in behavioral ecology, which is consistently reflected in their modeling of social phenomena and reliance on optimization and ESS analyses. This training in behavioral ecology, however, is not prominent among those currently studying the cultural evolution of religion.

Are behavioral ecological models, which are largely agnostic with regard to psychological design, simply ill-equipped for the study of something like religion, which seemingly demands psychological explanation? We do not think so. Indeed, behavioral ecological models, with their focus on phenotypic plasticity and socioecological context appear to be essential for understanding how humans respond to rapidly changing religious environments. Behavioral ecologists model short-term adaptive phenotypic change as responses to local socioecological variations and focus on the shortest temporal scale of any of the evolutionary approaches to human behavior (Smith, 2000). Moreover, behavioral ecological attention to fitness remains essential for understanding the evolution of religion. Unfortunately, our understanding of the fitness consequences of religious commitments, historically as well as currently, remains surprisingly limited. The failure of the biocultural study of religion to develop sustained research programs on the behavioral ecology of religion has come at a significant cost.

This is not to say that human behavioral ecology has been entirely ignored in the study of religion. There are a number of high-profile behavioral ecological publications on religion (e.g., Fincher & Thornhill, 2012; Peoples & Marlowe, 2012; Strassmann et al., 2012). Yet it should be noted that these publications have evidently failed to capture the imagination of scholars studying religion, as they have not generated follow-up studies by other researchers.

Of course, the biocultural study of religion is far from complete. Though a big fish has got away, it is not too late to chase after it. And indeed, there are encouraging signs. For example, in addition to Powers' work, there have been recent calls to employ behavioral ecological models of cooperative breeding to understand religious fertility (Shaver, 2017). Moreover, there have been some attempts at developing theoretical models that incorporate models from human behavioral ecology, cultural evolutionary theory, and the cognitive science of religion. This issue offers one such example.

This issue is highlighted by a target article written by philosopher Kim Sterelny. Sterelny presents an evolutionary model of religion that draws upon the rich cross-cultural ethnographic literature on religion. Using these anthropological writings, he evaluates, critiques, and ultimately incorporates aspects of cognitive models of supernatural belief, behavioral ecological models of signaling, and gene-culture co-evolutionary models of cultural transmission into an evolutionary model of religion. Commentators have mixed reactions to Sterelny's critiques and model. Many reemphasize the importance of explaining supernatural belief, which remains central to cognitive accounts of religion. Others raise concerns about the definitional category of religion itself, a topic that has been part of our field's discourse from the very beginning. Regardless of one's assessment of the content of Sterelny's argument, we believe this type of integrative analysis, which incorporates all three approaches to the evolutionary study of religion, holds much promise. We might have missed an opportunity, but efforts such as Sterelny's will hopefully inspire the incorporation of behavioral ecological approaches fully into the biocultural study of religion.

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