

---

## Common Criticisms of the Cognitive Science of Religion—Answered

---

Emma Cohen, Jonathan A. Lanman, Harvey Whitehouse

Institute of Cognitive and Evolutionary Anthropology

University of Oxford, 51 Banbury Road, Oxford OX2 6PE, England

emma.cohen@anthro.ox.ac.uk, jonathan.lanman@anthro.ox.ac.uk, harvey.whitehouse@anthro.ox.ac.uk

Robert N. McCauley

Center for Mind, Brain, and Culture

Emory University, Atlanta, Georgia 30322

philrnm@emory.edu

Although not an exhaustive list of criticisms directed at research in the Cognitive Science of Religion (CSR), it is our impression that the following are among the most commonly repeated. We hope that by answering these objections succinctly we can encourage our critics to move forward with us into more fertile territory intellectually.

1. The CSR is guilty of reductionism.

Anything we know is potentially relevant to assessing the truth of any new theory or interpreting any new empirical discovery

in science. This moral is no less true for all other forms of human inquiry, but nowhere is new evidence more rigorously pursued than in the sciences. Whenever inquirers abandon this principle, they indulge in special pleading that insulates their endeavors from possible sources of insightful criticism (Fodor 1983). Special pleading attempts to forestall checks-and-balances but it inevitably cuts off opportunities that will arise for integration with other related inquiries as well.

Scientists have traditionally attended mostly to reductionist checks from the bottom up, because of the greater generality and precision of theories and because of the greater evidential

rigor that typically accrues to what are usually more mature programs of research carried out at lower levels of analysis in science. This is not motivated by ideology, but rather by an exemplary track record of explanatory accomplishments. No heuristic of discovery has been more effective in the history of modern science than the search for mechanisms at a lower level of analysis to explain patterns that we have discovered at a higher level of analysis, whether it is explicating the patterns of inheritance that Mendel discovered in terms of the machinations of DNA in meiosis or deploying psychological mechanisms for the purposes of explaining recurrent religious forms. The idea that reductionism is always a vice is simply mistaken.

Taking a pragmatic view of science and of scientific opportunism and attending to the wide range of problem solving strategies, including such considerations as consilience and the origins of evidential support, hypothesis generation, triangulation of evidence, experimental techniques, and more, the cognitive science of religion is just as apt to welcome top-down research as research carried out from the bottom up, research on dynamical modeling of systems' operations in context as on idealized pictures of the mechanisms (in isolation) that make those systems up. As practiced, the cognitive science of religion has been concerned to safeguard spaces for such investigations at all levels of scientific inquiry.

2. The CSR is just another (culturally constructed/ethnocentric/male/heterosexual/middle-class/Protestant/colonial/insert as desired) ideology.

Those who argue that scientific theories are merely ideologies fall broadly into two broad categories. First, *hardline epistemological relativists* assume that all truth is relative to the conceptual framework of the thinker's community. Aside from the risk of being hoisted by one's own petard (if all truth claims are relative that applies to those of the relativist too), this position induces intellectual apathy, preventing any serious theory-building from ever getting off the ground. Scholars in the second category don't have a widely recognized label but let's give them one: *power polemicists* assume that efforts to get at truth are persistently contaminated by ideological agendas and subverted by asymmetric power struggles (between men and women, rich and poor, white and black, state and citizen, imperialist and colonial subject, and so on). The problem with power polemicism is not its general thesis (undoubtedly science is affected by politics) but its methodology. If any scientific hypothesis can be linked (even by the loosest of analogy) to some politically dominant coalition or ideology, that is taken by the power polemicists as sufficient reason to abandon the hypothesis. A cultural anthropologist was once heard to exclaim at a crowded conference that theories postulating dichotomies should be dismissed on the grounds that dichotomies of various kinds are common in the history of Western thought, a tradition dominated by white male thinkers. Perhaps less patently absurd, however, would be the claim that a particular hypothesis in the CSR (e.g. that certain modes of religiosity are widely recurrent in human societies, past and present) would seem to be inspired or heavily influenced by models of Western origin (e.g. European Protestant Christianity) and, were that not the case, might have been formulated rather differently. In order to carry any weight,

however, such a criticism would require close scrutiny of relevant evidence. Simply pointing to a similarity between certain theoretical models and the cultural systems in which their originators were nurtured is not enough.

3. The CSR is irrelevant to the work of scholars who study particular religions.

Numerous scholars in the CSR have found cognitive approaches useful for explaining particular forms of religious thought and practice e.g., Cohen (2007) with Afro-Brazilian spirit possession, Malley (2004) with North American fundamentalist Baptists, Whitehouse (1995, 2000, 2004) with the Pomio Kivung movement in Papua New Guinea, Vial (2004) with the Reformation, and Beck (2006) and Martin (2004) with the ancient Roman cult of Mithras. At root, this objection presumes either that cognition operates in a vacuum, or that CSR scholars *think* that cognition operates in a vacuum. The first is a (false) assumption about the objects of study. The second is a (false) assumption about the practitioners of one approach to the study of those objects.

CSR offers explanations of both patterns of recurrence *and* variation in religious thinking and behavior in terms of the interactions among cognitive processes and environmental variables. Such explanations necessarily entail the position that just as culture does not hover above cognition, so cognition is not somehow insulated from culture. Certain conditions of our social and physical environments are broadly similar across all human populations and throughout much of human history, and activate and tune cognition in similar ways cross-culturally. The incidence of recurrent features of religion may be explained, in part, in terms of the activation and tuning of species-typical cognitive capacities by regular features of the environment. Patterns of variation, and the form and incidence of highly localized features of religion, are potentially explainable in terms of the same sets of tools. By beginning to consider the myriad, complex and variable interactions among brain, mind, body, and environment, CSR has offered testable hypotheses concerning the variable incidence and particular forms of god beliefs, spirit possession practices, high-arousal rituals, complex theologies, and more across cultures (see Barrett 2004, Boyer 2002, Cohen 2007, and Whitehouse 2004). Some variable features of particular religions may not be amenable to such kinds of explanations, but without systematic investigation of the complex ways in which human minds interact with one another and with their environments, we risk mistaking predictable particulars for arbitrary idiosyncrasies.

4. The CSR treats people as emotionless computers.

While emotion plays a minimal role in the epidemiological account of minimally counterintuitive agents (and there is no reason why it must), emotion certainly plays a significant role in the CSR. The theories of both Whitehouse (2004) and McCauley and Lawson (2002), for instance, stress the mnemonic and cohesive effects of emotional arousal in some religious rituals. Atran (2002) emphasizes both the emotional commitment required by some ritual displays as well as the anxieties that such practices can assuage, while Bering's theory of an

intuitive supernatural social contract centers on the behavioral effects of fear of supernatural punishment (2006).

The CSR's fascination with emotion by no means makes it unique amongst the cognitive sciences, as numerous scholars (Tooby and Cosmides 2000, Fessler and Haley 2003, Fiske 2002, and Damasio 1994) stress the importance of emotions in human cognition. Consequently, by criticizing the CSR for treating people as "emotionless computers," one may be revealing more than a lack of familiarity with the CSR; one also may be revealing an impoverished view of the nature of computation. Taking a cognitive approach to human thought and behavior is not to argue that our brains closely resemble the quite limited computers with which we are familiar but to acknowledge that the mind-brain is a computational organ, taking in information, performing a plethora of operations in response to that information, and producing behavior. There is no doubt that emotions are quite an important part of our computational architecture and that they are involved in religious belief and behavior.

5. The CSR is just socio-biology/social evolution/diffusionism/functionalism/insert supposedly passé and defunct "ism" as desired, in a new wrapper.

There are important similarities between many of the hypotheses currently being pursued in the CSR, on the one hand, and those of major figures and intellectual schools in the history of the social sciences. This is a good thing. There are few (if any) "isms" in the history of the social theory that entirely lack merit and few (if any) of the hypotheses that those "isms" are capable of supporting have ever been comprehensively tested or developed in all the new directions that might fruitfully be possible. If the social sciences are to generate cumulative bodies of knowledge it is vital that they learn from and build on the theories and discoveries of earlier generations. Those who think that the less a theory is grounded in preceding intellectual traditions the better, are really advocating that we must continually wander off at tangents to any already-established direction of travel. This will get us nowhere fast.

6. The CSR is too narrow (the shaping/constraining effects of evolved psychological mechanisms are only at best one of many factors influencing religious innovation and transmission).

All worthwhile inquiries are inevitably narrow, because all methods for obtaining evidence are limited and all theories are selective (and, therefore, are incomplete). Moreover, all explanation is partial. There is no such thing as an exhaustive scientific explanation. What we are inclined to take as criteria for the comparative levels of explanatory sufficiency or adequacy are always relative to our interests and the problems that inform them.

Of course, cognitive inquiries will benefit from illuminating historical and ethnographic findings. The shaping/constraining effects of evolved psychological mechanisms are only some of many factors influencing religious innovation and transmission. The cognitive science of religion has never been about driving other inquiries out of business, but only about redressing an imbalance in the field and seeking empirically responsible general proposals.

7. The CSR mistakenly tries to answer questions of interpretation and meaning in terms of causal mechanisms.

No questions concerning human thought or behavior are a matter of interpretation *or* explanation but a matter of both. Interpretation and explanation cannot escape each other because every explanation depends on interpretations of data while every interpretation depends on the acceptance of multiple underlying explanatory theories (see Lawson and McCauley 1990 and Lanman 2007).

Nearly all interpretations of human behavior in everyday contexts, for instance, depend on an implicit, causal theory of human behavior, known in the literature as theory-of-mind (TOM). TOM posits that human behavior is the result of internal states of belief and desire; it is a universal intuitive theory of human persons that emerges in children cross-culturally on a predictable development schedule (Baron-Cohen 1995 and Callaghan et al. 2005).

Specifically in the matter of religion, Marshall Sahlins and Gananath Obeyesekere attempt to interpret historical evidence concerning Hawaiian rituals performed in response to the arrival of Captain Cook in 1779 (Sahlins 1995 and Obeyesekere 1997). Both of these interpretations depend on explanatory theories of human cognition. Sahlins' interpretation that the Hawaiians treated Captain Cook as a manifestation of the god Lono depends on his strongly determinist theory of "mythopraxis," while Obeyesekere's interpretation that the Hawaiians treated Cook as a powerful, but very human candidate to help them in a war effort depends on a much-altered version of Weber's "practical rationality" (Lanman 2007).

To claim that "questions of interpretation" can somehow be adequately addressed without considering the explanatory theories underlying them is to wish away, for whatever reason, this basic interdependence.

8. The CSR is just a passing fad.

The cognitive approach is a young one in the study of religion, but it is quite inaccurate to label it as a fad. The idea of a "fad" or "craze" evokes connotations of mindless imitation and conformity, the precise opposite of what we find amongst cognitive scholars of religion.

There are very real disputes amongst cognitive scholars of religion, such as the opposing ritual theories of Whitehouse (2004) and McCauley and Lawson (2002) and opposing views on whether or not religion is an evolutionary adaptation (see Boyer 2003, Bering 2006, and Bulbulia 2004). Moreover, there is empirical work being done addressing these disputes (Malley and Barrett 2003 and Sosis and Bressler 2004). Instead of conformity and imitation, we find controversy. Instead of fashion, we find persistent attempts to test the empirical merits of the competing theories, which is to say, instead of fashion, we find a nascent science.

Now, it may well be true that the current theories on offer from cognitive scholars of religion are "fads" in the sense that they may have a limited academic shelf-life. These theories, like all scientific theories, will have to prove their explanatory mettle over time through extensive testing, and it is virtually certain that they have not gotten the whole story right so

quickly. The CSR, however, is more than a set of specific theories; it is an enterprise attempting to utilize all of our knowledge in answering questions of human thought and behavior. If such an enterprise is ever dismissed as a "fad," in any sense of the word, it will be a sad day for the study of religion and for inquiry as a whole.

### References

- Atran, Scott  
2002 *In Gods We Trust: The Evolutionary Landscape of Religion*. Oxford: Oxford University Press.
- Baron-Cohen, Simon  
1995 *Mindblindness: An Essay on Autism and Theory of Mind*. Cambridge: MIT Press.
- Beck, Roger  
2006 *The Religion of the Mithras Cult in the Roman Empire: Mysteries of the Unconquered Sun*. New York, Oxford University Press.
- Bering, Jesse M.  
2006 "The Folk Psychology of Souls." *Behavioral and Brain Sciences* 29, 453–98.
- Bulbulia, Joseph  
2004 "The cognitive and evolutionary psychology of religion." *Biology and Philosophy* 19, 655–86.
- Callaghan, T. et al.  
2005 "Synchrony in the Onset of Mental-State Reasoning: Evidence from Five Cultures." *Psychological Science* 5, 378–84.
- Cohen, Emma  
2007 *The Mind Possessed*. New York: Oxford University Press.
- Cosmides, Leda and John Tooby  
2000 "Evolutionary psychology and the emotions." In M. Lewis and J. M. Haviland-Jones (eds.), *Handbook of Emotions, 2nd Edition*, 91–115. New York: Guilford.
- Damasio, Antonio  
1994 *Descartes' Error: Emotion, Reason, and the Human Brain*. New York: HarperPerennial.
- Fessler, Daniel M. T. and Kevin Haley  
2003 "The Strategy of Affect: Emotions in Human Cooperation." In P. Hammerstein (ed.), *The Genetic and Cultural Evolution of Cooperation*, 7–36. Dahlem Workshop Report. Cambridge, Mass.: MIT Press.
- Fiske, Alan Page  
2003 "Socio-Moral Emotions Motivate Action to Sustain Relationships." *Self and Identity* 1, 169–75.
- Fodor, Jerry Alan  
1983 *The Modularity of Mind*. Cambridge, Mass.: MIT Press.
- Lawson, E. Thomas and Robert N. McCauley  
1990 *Rethinking Religion: Connecting Cognition and Culture*. Cambridge: Cambridge University Press.
- Lanman, Jonathan A.  
2007 "How 'Natives' Don't Think: The Apotheosis of Overinterpretation." In Whitehouse, H. and Laidlaw, J. (eds.), *Religion, Anthropology, and Cognitive Science*. Durham: Carolina Academic Press.
- McCauley, Robert N. and E. Thomas Lawson  
2002 *Bringing Ritual to Mind: Psychological Foundations of Cultural Forms*. Cambridge: Cambridge University Press.
- Malley, Brian and Justin L. Barrett  
2003 "Does Myth Inform Ritual? A Test of the Lawson-McCauley Hypothesis." *Journal of Ritual Studies* 17/2, 1–14.
- Martin, Luther H.  
2004 "Performativity, Narrativity, and Cognition: 'Demythologizing' the Roman Cult of Mithras." In W. Braun (ed.), *Persuasion and Performance, Rhetoric and Reality in Early Christian Discourses*. Waterloo: Wilfred Laurier University Press.
- Obeyesekere, Gananath  
1997 *The Apotheosis of Captain Cook: European Mythmaking in the Pacific*. Princeton: Princeton University Press.
- Sahlins, Marshall  
1995 *How 'Natives' Think: About Captain Cook For Example*. Chicago: University of Chicago Press.
- Sosis, Richard and Eric Bressler  
2003 "Cooperation and Commune Longevity: A Test of the Costly Signaling Theory of Religion." *Cross-Cultural Research* 37, 211–39.
- Vial, Theodore M.  
2004 *Liturgic Wars: Ritual Theory and Protestant Reform in Nineteenth-Century Zurich*. London: Routledge.
- Whitehouse, Harvey  
1995 *Inside the Cult: Religious Innovation and Transmission in Papua New Guinea*. Oxford: Oxford University Press.  
2000 *Arguments and Icons: Divergent Modes of Religiosity*. Oxford: Oxford University Press.  
2004 *Modes of Religiosity: A Cognitive Theory of Religious Transmission*. Walnut Creek: Alta Mira.