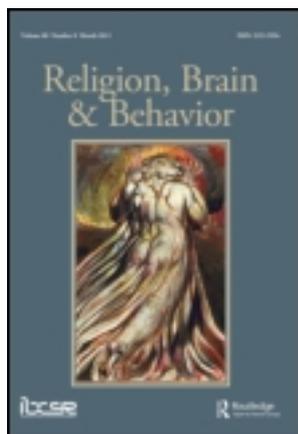


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EDITORIAL

Reductionism in the scientific study of religion

Reductionism is a complicated idea with several meanings and usages. It also carries a variety of implications, often more hinted at than clearly stated. When academic discourse crosses disciplines, as it does rather dramatically in the scientific study of religion, the questions surrounding reductionism become quite pointed. *Religion, Brain & Behavior* endeavors to publish articles that display accomplished work across the various levels of the emergent hierarchy of complexity from brain to behavior, so a word about reductionism in the scientific study of religion is in order.

Benign reductionism is the productive analysis of complex processes in terms of their component parts. Scientific understanding would be impossible without reductive forms of analysis in this sense. For example, when Galileo, Kepler, Newton, and Leibniz cumulatively analyzed the motion of our planetary system as the result of a force acting at a distance between massive objects, they reduced the number of forces that seemed relevant from many to just one, they eliminated the need for intentional agents to explain observed patterns and system stability, and they brought tremendous elegance and explanatory power to the modern scientific account of motion by unifying celestial and terrestrial mechanics. By itself, this grand reduction was not enough to guarantee an optimal understanding of motion, however; after all, the early twentieth century saw the emergence of a more accurate theory of gravitation that dispensed with forces acting at a distance altogether. From this we learn that successful reduction within a scientific research program probably pushes theoretical understanding in the right direction but that reductionism is only one consideration in finding the best theories.

In contrast with benign reductionism, what we shall call *invidious reductionism* conveys an aggressive or unreflective dismissal of something important. In the nature of the case, there is a lot of vagueness here: people prize a wide variety of characteristics of reality and thus can be bothered by a correspondingly wide variety of dismissals of such characteristics. The distinction between aggressively programmatic dismissal and carelessly unreflective dismissal is important, of course. It is one thing to have the features of reality that one prizes neglected or their importance not noticed. It is quite another for those features of reality to become the target of attacks as delusions or dangers to human welfare. But such attacks can be warranted at times so the invidious character of reductionistic analysis often lies in the eye of the beholder.

This vagueness in the concept of reductionism allows for rhetorical drama, and nowhere more than in the study of religion. On the one hand, it is not uncommon to see authors treat religion as “nothing but” one or another set of component processes, without presenting much of an argument for this view. On the other hand, it is also not uncommon to see criticisms of such views as “reductionist” – as if reductionism were always a bad thing and simply calling something you don’t like “reductionist” is enough to make a case against it. This type of rhetorical battle may

be socially important but there is little to be gained from it intellectually. People can generally discern when something is explained well and thus in the long run the quality of evidence and soundness of arguments usually weigh more heavily than the outcomes of comically desperate battles for rhetorical advantage and public influence.

To see how the rhetoric of reductionism works, consider human moral convictions. They can be analyzed (in the moral psychology of Jonathan Haidt, for example) in terms of evolutionarily stabilized moral intuitions activated within the behavioral patterns of human cultures. This reductive explanation is genuinely helpful because it yields abundant insights into the cross-culturally recurring features of moral judgment. Of course, it achieves its result partly by sidelining what philosophers would consider vital moral questions about what is actually right and wrong. As far as moral psychology is concerned, though, answering philosophical questions about right and wrong is actually beside the point – it is somebody else’s job. So long as no one goes further to assert that moral psychology shows that there is *no such thing* as moral values, the explanatory reduction can be considered a major intellectual achievement. When someone does take that further step, then a fight begins and charges of invidious reductionism start to fly. This type of problem is often avoidable so long as analysts exercise a basic level of courteous respect toward disciplines outside their area of expertise.

More intellectually compelling than violations of disciplinary propriety is reductionist analyses that commit *unnoticed errors*. This problem is especially likely to arise in multidisciplinary inquiries of great complexity. Consider Nathaniel Barrett’s review of Anthony Chemero’s *Radical Embodied Cognitive Science*, in this issue of *Religion, Brain & Behavior*. Barrett concurs with Chemero that the reductionist strategies of the computational theory of mind – representing the mind as a set of operations on mental representations of informational input to yield behavioral output – leads to serious errors that directly impact the cognitive science of religion. Because the explanatory reduction makes bad decisions about what is basic and what is derived in mental life, the analysis of cognition is deeply flawed. Philosopher Alfred North Whitehead used to call this “the fallacy of misplaced concreteness” and pointed out its operations in many academic disciplines. The scientific study of religion is particularly vulnerable to this type of error (which might well be called a species of invidious reductionism) because its subject matter is extraordinarily complex. This means that it is rarely obvious what theoretical price must be paid for treating one thing rather than another as explanatorily basic. Barrett and Chemero’s approach of comparing two reductionist explanatory frameworks with different ideas of what is basic in human cognition helps to clarify the relative advantages and disadvantages of each framework, and thereby makes it possible for experts to estimate the kinds of explanatory risks they take when they adopt either reductionist approach to analysis.

The target article in this issue of *Religion, Brain & Behavior* presents readers with an opportunity to ponder the merits and risks of reductionist forms of analysis in the scientific study of religion. In that article, Inzlicht, Tullett, and Good set out to analyze religion in terms of the powerful human need to make meaning. Operating within a social neuroscience framework, they postulate that religion creates meaning by allowing the world to seem orderly, thereby easing stress associated with cognitive dissonance and uncertainty. The consequence is superior mental and physical health

among those with the best developed capacities for the creation and sustaining of religious meanings.

The argument adopts the reductionist strategy promoted by the technical toolkit of social neuroscience. It is a rhetorically neutral form of reductionism in that the authors bracket questions of whether religious meanings refer to anything real or have any value on their own terms, apart from the health value such meanings possess within the limited terms of the analysis. For instance, the authors neither affirm nor dismiss the metaphysical beliefs attached to many religious meanings; the focus is on the functions of those beliefs not their truth. Because of this policy of neutrality, there is no basis for charges of invidious reductionism in the sense of aggressive dismissal of something valuable. But some of the commentators urge that vital considerations don't arise as they should because of the particular reductionistic strategy employed. If the charge is correct, the problem would be invidious reductionism in the sense of the fallacy of misplaced concreteness.

Interestingly, and in sharp contrast to the entire discussion of this issue's target article, in some corners of the traditional academic study of religion another framework for religious meanings is operative. In this strategy, every religious phenomenon is explanatorily reduced to sacred meanings – and not in the limited motivated-meaning-making sense of Inzlicht, Tullett, and Good's argument, but in the full-blown existential sense intended and felt by those who experience and appreciate those meanings. Many scholars operating within this theoretical framework might not immediately recognize the reductionist strategy at work because they usually position themselves as opposed to reductionism in the study of religion, but it is nonetheless a reductionist strategy in the formal sense of explaining complex phenomena in terms of simpler components taken to be basic for adequate explanations. Scholars employing this explanatory approach may refuse even to consider biological or neurological or evolutionary accounts of the construction of meaning in religion and culture because, within their framework of what is explanatorily basic, any form of inquiry that does not register meaning in the right way isn't coming to grips with religious beliefs and behaviors as they really matter and so hasn't earned the right to be taken seriously. If we could control the reflex to reject or ignore forms of inquiry into religion that don't fit one or another prevailing theoretical framework, the fight over the meaning of meaning in religion – on a scale even broader than that evident in this issue's target article and commentaries – could be profoundly illuminating.

We think this is exactly the right way for disputes over reductionism to be conducted – they should focus not on rhetoric but on side effects of choices concerning theoretical frameworks. Debating theoretical frameworks is an intellectually fertile task for the scientific study of religion because each dispute of this sort draws attention to the systemic complexity of the object of explanation and promotes greater theoretical and empirical adequacy. That is one way that we *advance* the scientific understanding of religion.

Because *Religion, Brain & Behavior* is centrally a science journal, we think many questions about what is really real or truly valuable can be bracketed – which is to say left undecided as irrelevant to the scientific explanations being discussed. This rightly acknowledges the complexity of essentially philosophical arguments about being and value both by saying that such questions should be taken up carefully in other venues and by insisting that cavalier answers to such questions have no place in a science journal. We find it alarming to see experts in the traditional academic study

of religion dismissing the scientific study of religion as unworthy of their attention because of different ways of valuing or discussing religious phenomena. It is equally alarming to see experts in the scientific study of religion implicitly assert their possession of philosophical and religious competence sufficient to take positions on complex questions surrounding the meaning and value of religious beliefs and practices when the quality of their arguments actually displays significant ignorance of the relevant subtleties.

We believe the way forward here is patient respect across disciplines. This involves properly estimating the scope of arguments, including carefully acknowledging their limits. It also involves avoiding rhetorical sleight of hand with reductionism. Most importantly, it reminds us to allow time for the scientific study of religion and the traditional academic study of religion to get to know one another. They are fated to be wed, it seems, and the subject matter of the two disciplinary worlds indicates that it must be an arranged marriage because there is no way they would have gotten together otherwise. But it need not be a disastrous marriage of disciplines. Give them time to get to know one another, and then we'll see whether the initial awkwardness eventually yields to something resembling romance.

Wesley J. Wildman, Richard Sosis, Patrick McNamara