The Neurobiological Origins of Primitive Religion: Implications for Comparative Mythology

Abstract

This paper describes a testable model of the neurobiological origins of anthropomorphism, which can be said to lie at the roots of primitive myth and religion. Reflecting the aims of this conference, the paper pays special attention to the model's implications for comparative mythology. The paper is divided into four parts. Part one focuses on why a neural model of myth is needed. Issues discussed include the help such a model can give in distinguishing similarities in myths due to shared ancestry or transmission from those due to parallel invention; in helping establish the maximum time depth of reconstructions of ancestral myths; in estimating the age of the earliest mythic thought, which neural evidence suggests is older than anatomically modern man (placing the earliest myths well before ca. 200,000 years BP); in explaining how myths were transformed in manuscript traditions to help generate major religious, philosophical, and cosmological systems; and in explaining the remarkable persistence of mythic thought in modern technological societies.

Sections two and three discuss naturalistic theories of primitive religion and myth. After reviewing earlier theories, the paper introduces a testable model of these phenomena. The model builds on recent studies of neural development that picture high-level models of the world as high-dimensional elaborations of lower-level perceptual systems biased to detect socially relevant data; in humans, the emergence of these models can be traced from infancy through adulthood as they unfold in the so-called social brain. The paper provides evidence that the anthropomorphism expressed in myth is a predictable nonadaptive side-effect of the emergence of those models, which are critical to our survival as social animals.

Section four discusses empirical tests of the model involving pathological conditions that impact the social brain. Data are drawn from recent studies of one remarkable form of synesthesia linked to exaggerated anthropomorphizing tendencies and of autistic disorders in which those tendencies are absent or badly attenuated. The importance of testing the model is critical: the view that anthropomorphism is linked somehow to the so-called social brain is expressed or implied n recent naturalistic theories of myth and religion in studies by Guthrie, Boyer, Atran, Harris, Dennett, Dawkins, and many others; but in the absence of any proposals to rigorously test these theories, none can presently claim scientific status or provide a consensual base for future research in comparative mythology.

The conclusion of the paper briefly discusses how joint studies in neurobiology, philology, and history can explain emergent cross-cultural parallels in the ways that myths were transformed in later literate traditions to generate major religious, philosophical, and cosmological systems. The result is a global cross-cultural model of the evolution of "higher" human traditions whose predictions can be tested not only against historical data but in computer simulations as well. The general aim of the talk is to suggest that by combining studies of comparative mythology with these fields we can build predictive models of the evolution of major human traditions that are no less rigorous than similar models used in the physical and biological sciences.