

*Big Gods: How Religion Transformed Cooperation and Conflict*, by Ara Norenzayan. Princeton University Press, 2013. 264pp., 10 halftones, Hb. \$29.95/£19.95. ISBN-13: 9780691151212.

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*Big Gods: How Religion Transformed Cooperation and Conflict* is a major contribution to the evolutionary study of religion by one of world's preeminent experimental psychologists, Ara Norenzayan. With a tremendous balance of clarity and sophistication, *Big Gods* will be of interest to the general public and specialists alike. Norenzayan's goal in *Big Gods* is to simultaneously explain two puzzling features of modern societies: 1) modern people are organized into large and highly cooperative groups comprised of relatively anonymous strangers, and 2) the majority of the people in the world practice one of a few prosocial religions that include belief in high gods. His solution to each puzzle is that one solves the other; prosocial religions with big gods who were omniscient and who punished uncooperative behavior allowed for the emergence and stability of large scale cooperation. In turn, high levels of cooperation meant that groups with big gods were more successful than groups with other supernatural systems.

Norenzayan believes that religious beliefs are a byproduct of cognitive processes that evolved prior to religion. Although there have been many variants of supernatural belief, those groups that came to believe in omniscient big gods who intervened in human affairs and punished non-cooperators were more successful than groups who did not stumble upon big gods. Once in place, social groups with big gods outcompeted groups with other supernatural systems that did not promote cooperation as effectively. In *Big Gods*, Norenzayan synthesizes a tremendous amount of empirical research, much of it his own, and interprets it as support for his novel integration of theoretical perspectives from cognitive science and cultural evolution. His argument is structured around what he calls the eight general principles of *Big Gods*. After using these principles to explain the emergence of large-scale cooperation and the world religions, Norenzayan then turns his attention to explaining contemporary secular societies and the prevalence of atheism in these societies.

Norenzayan begins his argument with the first principle of *Big Gods*: watched people are nice people. He describes the cognitive processes that give rise to

belief in supernatural beings and the ability to make inferences about their minds (e.g., theory of mind, mind-body dualism, teleological thinking). He then provides evidence to support the first principle, showing that people are more cooperative under perceived social monitoring. According to the author, these results suggest that once they emerged, belief in big gods who monitored socially significant behavior were particularly “catchy” and thus spread at the expense of less cognitively appealing supernatural beliefs.

The author then effectively synthesizes the results of several lines of experimental research to support the second and third principles: 2) religion is more in the situation than in the person, and 3) hell is stronger than heaven. Norenzayan describes evidence that religious primes decrease cheating behavior and instead increase generosity and cooperation. To support the third principle, Norenzayan provides experimental evidence that shows that primes of a punishing god, as well as a belief in hell, prompt higher levels of prosociality than primes of a forgiving God or belief in heaven.

Norenzayan then turns to the fourth principle: 4) trust people who trust in God. Since watched people are nice people, it follows that these are the very people one should trust. In large anonymous societies, people are faced with a dilemma of who to trust, and belief in a god who punishes transgressions can be used as an indicator of who is trustworthy. In support, the author explains the results of economic games that demonstrate that religious individuals are trusted more than non-religious individuals.

In *Big Gods*, Norenzayan relies upon cognitive byproduct approaches to religion, and cultural evolutionary approaches, while dismissing individual selectionist accounts that suggest that religious behavior emerged and stabilized due to the net benefits it confers to individuals. Individual selectionists will find Norenzayan’s argumentation incomplete at best, especially in these parts of the book where the empirical evidence demonstrates substantial individual variation, variation that affects fitness. While members of religious groups benefit from higher levels of cooperation, it is unlikely that the costs and benefits of religious belief and behavior are equal for all group members. If some individuals within a population are seen as more or less trustworthy, then some are likely to benefit more than others, and this variance should differentially impact fitness.

Nonetheless, if watched people are nice people, then what is to prevent individuals from faking belief? Norenzayan uses Henrich’s notion of credibility enhancing displays (CREDs) to support of his fifth principle: 5) religious acts speak louder than words. CREDs are religious behaviors reliably associated with belief in Gods that people use to infer sincerity and veracity of stated beliefs. Norenzayan uses the concept of CREDs to explain both the costliness of

religious behavior as well how beliefs and behaviors are able to spread through a population. Because they are reliable indicators of belief, and they energize others, CREDS enjoy a transmission advantage over other belief-behavior complexes. Although he recognizes their similarity, Norenzayan dismisses costly signaling approaches as insufficient and instead uses the concept of CREDS which can be transmitted purely by cultural evolutionary processes.

If belief in *Big Gods* arose from normal cognitive operations, then why is it that Gods but not widely known fictional entities with supernatural powers do not have legions of faithful followers? Norenzayan's answer to the "Mickey Mouse problem" is his sixth principle: 6) unworshipped gods are impotent gods. People do not engage in public displays of belief (CREDS) directed towards fictional entities such as cartoon characters, and this results in a prohibition of commitment to the entities without influencing the cognitive architecture that permits such supernatural concepts. Although cartoon characters have supernatural content illustrative of the cognitive origins of religious beliefs, cultural learning biases dictate that people adopt only those beliefs that are supported by cultural models which exhibit CREDS.

Norenzayan then turns to explaining why it is that over the course of human history only some groups held beliefs in *Big Gods*, while other groups came to believe in supernatural agents without omniscience or moral concern. His answer is the seventh principle: big gods for big groups. Although he notes the problems with doing so, Norenzayan uses the supernatural systems of modern day foragers to be characteristic of most of human history. These groups typically have supernatural systems whose Gods are unconcerned with the moral affairs of followers. Meanwhile large-scale, complex, agricultural societies are more likely to believe in *Big Gods* who are concerned with moral behavior. Norenzayan raises the provocative hypothesis that religions with *Big Gods* were a contributing factor in the rise of agriculture and large societies. While this is a hypothesis worthy of further elaboration and testing, Norenzayan's solutions to the puzzles of large-scale cooperation and the prosocial religions must also address the association of big gods with economic inequality and social stratification.

Norenzayan's final principle draws from David Sloan Wilson's group selection model of religious evolution and states: 8) religious groups cooperate in order to compete. Norenzayan assumes that some groups "invented" belief systems that more effectively promoted cooperation and were therefore more successful than other variants. However, it has never been sufficiently demonstrated that religious groups compete, nor has there been convincing evidence that group-level evolutionary processes have played a significant role in any

aspect of human evolution. Moreover, Wilson's models assume multi-level selection pressures, but Norenzayan questions any individual level accounts of religious behavior. He also does not specify the units of selection and thus he treats human religions as homogenous groups of beliefs and behaviors, which they are not. While many of the eight principles of *Big Gods* are supported by substantial evidence, there is comparatively much more speculation associated with his final principle, and this book is unlikely to persuade those who require more evidence that group level processes have been anything but a weak force in human evolutionary history.

In the remainder of the book, Norenzayan attempts to identify the aspects of religion that contribute to intolerance and violence, the processes that lead to secular societies with institutions that promote high levels of trust and cooperation, and the pathways to atheism. He argues that both gods and governments occupy the same cognitive niche and that "some societies with strong institutions and material well-being may have passed a threshold, no longer needing religion to sustain large-scale cooperation. In short: secular societies have "climbed that ladder of religion, and then kicked it away" (p. 172). He argues that big governments with strong policing institutions are able to motivate high levels of trust and cooperation without big gods and have thus made the prosocial religions dispensable. These are provocative suggestions that build upon Norenzayan's recent experimental work; however, one is left to wonder why no large-scale purely secular groups ever emerged in the course of human history. After suggesting that secular prosocial societies are a logical outgrowth of big god religions, the author then explains the pathways that lead to atheism in these secular societies, and convincingly demonstrates why atheists have grown in numbers in the recent span of human history.

In sum, *Big Gods* is a seminal book that offers a novel explanation for the evolutionary foundations of religion and the contemporary rise of secularism and atheism. Norenzayan's admirable writing style makes the book accessible enough to enjoy a wide readership among the general public, and yet offers enough theoretical sophistication that those in the field will find it a worthwhile and perhaps controversial read. Those among us who feel that modeling individual level processes are necessary for understanding the nature of contemporary religious behavior will likely take issue with some of the Norenzayan's theoretical assertions. However, regardless of theoretical orientation, the extensive synthesis of empirical data make this book required reading for anyone in the field. *Big Gods* therefore represents a major milestone in the evolutionary study of religion.