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The Divine Projector: How Human Motivations and Biases Give Shape to Gods' Minds

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"Behold, God is exalted, and we do not know Him"

—Job 36:26

Introduction

Many believers, like the biblical character Job, believe that gods transcend human knowledge, and that human minds cannot grasp the true nature of the divine. But this has not stopped us from guessing what gods may look like, how they may behave, where they may live, and what they might think of our choices and behaviors on earth. From the Epic of Gilgamesh and the ceiling of the Sistine Chapel to the *Book of the Dead* and the great Pacific Island totems, humans have conceptualized gods on countless occasions, in countless mediums.

Human views of gods have also been tremendously diverse. Some gods are perceived as malicious and cunning, such as the Hindu God Badi Mata who attacks children during puberty. Others are benevolent and kind, such as the Navajo (*Diné*) fertility god Estsanadehi who sends gentle rain to help crops grow during the summer, or the Inuit god Ignerssuak who helps to guide mariners home when they are lost at sea. Some gods possess physical desires and flaws, such as the blind Norse god Hoder or the drunk Chinese war god Zhang Fei. Others transcend worldly sensation, such as Greco-Roman god Chaos, whom the Roman poet Ovid styled as an unformed mass of elements. Some gods are emotional and expressive—such the Celtic god Aengus who fell deeply in love or the Polynesian god Ruamoko who flew into rages that caused earthquakes. Others are unbound by feeling, such as the unknowable Ugandan creator god Bunyoro.

We still do not have a full grasp on why gods' minds—defined here as their character traits and thoughts—vary as much as they do. Nearly a century ago, Floyd Allport (1937) outlined a framework for studying human psychological variation when he combed through a dictionary and documented English-language personality traits (Allport 1937). However, we are only beginning to develop methods of capturing divine minds with survey and ethnographic data (Bendixen and Purzycki, present volume; Purzycki

and Jamieson-Lane 2017; Watts et al. 2021), and there are still wide disciplinary differences in how scientists of religion estimate this variation. Psychologists have developed methods of dimension detection and reduction in survey data and applied these methods to the study of religion and spirituality (Gorsuch 1968; Johnson et al. 2015, 2019; Johnson, present volume). However, these studies have predominantly focused on Western Christian samples. Anthropologists have been much more devoted to studying religious diversity through fieldwork and ethnography, but this research seldom uses quantitative methods that can identify the broader dimensions of gods' characteristics and test the socioecological correlates of these dimensions. These disciplinary divides have been barriers to a broadly accepted approach to studying gods' minds, and by extension, unifying theories of gods' minds in the social sciences.

If there were a comprehensive theory of gods' minds, however, it would surely place the role of human psychology front and center. The human mind not only allows us to envision and communicate information about divine minds, but it also allows us to modify this information based on our cognitive biases and motivations. A surge of research on cognition and culture is beginning to shed light on exactly how we shape and reshape our views of gods, and why religious beliefs vary so much across cultures. The goal of this chapter is to gather much of this evidence in one document that cohesively describes (a) how humans can perceive gods' minds, (b) how these perceptions are influenced by cognitive biases, and (c) how ecological and cultural context interacts with human motivation to change how people view gods. Taken as a whole, this research paints views of humans as "divine projectors" of gods' minds.

While the term "projection" has a long history with different connotations in psychology, we use the word to describe the process in which humans' personal biases and motivations (e.g., a motivation for attachment, a bias toward egocentrism) and awareness of collective pressures and ecological features (e.g., the pressure to cooperate, the salience of natural hazards) explicitly or implicitly influence how they perceive gods' minds. Not all divine projections are self-serving, but they often arise from people's motivations to preserve cognitive control, well-being, and to address their concerns about society. In this chapter, we begin by describing the human capacities to conceptualize and communicate about gods. We next describe how cognitive and motivational factors can influence these conceptualization and communication processes, and we close by describing future directions that can broaden and refine how we think about the complicated relationship between human and supernatural psychology.

Cognitive and Cultural Mechanisms Underlying Conceptualizing Gods' Minds

As it was, every time that the parasol slightly moved, the dog growled fiercely and barked. He must, I think, have reasoned to himself in a rapid and unconscious manner, that movement without any apparent cause indicated the presence of some strange living agent, and that no stranger had a right to be on his territory.

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The belief in spiritual agencies would easily pass into the belief in the existence of one or more gods.

—Charles Darwin ([1871] 2008: 118)

Humans have most likely believed in supernatural agents since the dawn of our species. According to archeological evidence, humans have been ritualistically burying their dead, creating religious iconography, and making sacrifices to gods and spirits for tens of thousands of years (see Rossano, present volume). The historical and cross-cultural prevalence of human religious belief has led many scholars to suggest that ancient evolutionary mutations predisposed humans to religious belief. In the *Descent of Man* ([1871] 2008), for example, Darwin compares human religious belief to his dog's distrust of a parasol moving in the wind.

In the early twenty-first century, these intuitions blossomed into a cognitive science of religion (CSR), in which scholars investigated how evolutionary adaptations in human prehistory may have predisposed people to supernatural beliefs (Atran and Norenzayan 2004; Barrett 2004; Boyer 2001). CSR continues to provide interesting hypotheses about the early development of belief in gods. However, these claims are now complicated by a growing realization that religious beliefs are the product of at least two interactive evolutionary systems: biological evolution and cultural evolution (Acerbi and Mesoudi 2015; Boyd and Richerson 1985; Jablonka and Lamb 2007). To understand the mechanisms that allow people to conceptualize gods' minds, we must therefore recognize both the basic psychological capacities that allow humans to perceive minds and the cultural processes that allow us to transmit religious beliefs across time and place. We begin by briefly reviewing these two sets of processes.

Mind Perception, and the Capacity to Conceptualize Divine Minds

All people appear to have access to their own minds but not to the workings of other minds. We cannot even be certain that other agents have minds at all, a dilemma that philosophers call the problem of other minds, or "Descartes Problem" (Overgaard 2006). The problem of other minds does not stop people from detecting minds in surrounding agents, and inferring the preferences, values, and beliefs of these minds (Epley and Waytz 2010; Waytz et al. 2010; Wegner and Gray 2017). Children as young as three months of age will show preferential treatment toward other people, animate objects, and biological motion (Bertenthal, Proffitt, and Cutting 1984; Crichton and Lange-Küttner 1999; Legerstee 1991). By age five, children will show evidence of understanding that agents have separate minds that can hold information beyond the child's awareness or can fail to grasp something that the child knows, an ability that is measured through the false-beliefs task (Dennett 1971; Wimmer and Perner 1983).

These mind perception abilities are important building blocks for perceiving supernatural minds. Belief in supernatural agents such as gods requires attributing agency to a mind, acknowledging that this mind has unique capacities and contents, and inferring that the contents of a supernatural mind are guiding the behaviors of that supernatural agent. The complexity of these processes may be an important reason why religious beliefs appear to play an outsized role in human life compared to the life of

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other animals There are famous examples of animals attributing agency to inanimate objects, other than Darwin's dog. For example, Jane Goodall described chimpanzees who would break sticks to scare away a passing storm (Goodall 2000) and other studies have observed velvet monkeys making eagle calls after seeing falling leaves (Cheney and Seyfarth 1988). However, there is still debate about the nature of agency detection in nonhuman animals or the extent that these animals infer psychological qualities in the agents they detect, let alone supernatural qualities.

Cultural Transmission, and the Evolution of Religious Diversity

Basic mind perception capacities can help us understand why religious beliefs are universal, but they do not explain the tremendous scope of religious diversity. Cultural evolutionary models are therefore critical for understanding how shared religious beliefs can emerge in populations, how these beliefs are transmitted and modified over time, and how events in the environment can shape the cultural transmission of supernatural agents.

Cultural evolutionary models arguably date back to Darwin's *Descent*, but they were popularized in the 1970s and 1980s in population genetics as a framework for understanding how behavioral differences could arise in groups without genetic variation (Boyd and Richerson 1985; Cavalli-Sforza and Feldman 1981). According to these models, cultural information can be transmitted and modified as in Darwinian evolution, meaning that cultural transmission is defined by variation, inheritance (social learning), and competition (between groups, and between sources of cultural information). In the years since these early contributions, cultural evolutionists have pointed out similarities between cultural and biological evolution (e.g., both cultural and biological variation can frequently be traced along evolutionary phylogenies) (Gray and Watts 2017), and crucial differences between these evolutionary systems (e.g., cultural evolution is subject to higher rates of nonrandom modification than genetic evolution) (Jablonka and Lamb 2007) that make cultural evolution worth studying as a unique process.

One reason why cultural evolution models are useful for explaining religious differences is because of the attention they give to environmental differences. Just like the environment shapes the traits that genetically evolve in species, it will also shape the traits that culturally evolve in gods (Bendixen and Purzycki 2020). Some of these traits are more mundane: human groups living along the banks of rivers may be more likely to believe in river spirits or bathing taboos. But other environmental influences on cultural evolution can be more nuanced. For example, theories of "big gods" suggest that people developed beliefs in gods who monitor human behavior and punish defection because these religious beliefs helped humans live in large agricultural societies without large-scale free riding (Johnson 2016; Norenzayan et al. 2016; Norenzayan and Shariff 2008; Purzycki and McKay, present volume).

Cultural evolutionary models are also useful because they help explain why some religious belief systems have evolved to be so similar. One reason for this similarity can be ancestral interdependence: Islam, Christianity, and Judaism share very similar views of God as monotheistic, all-knowing, and moralizing, but this is because these

religious belief systems share a common Abrahamic ancestor (Gray and Watts 2017; Watts et al. 2015; White et al. 2021). Another reason for similarity can be because of forces of cultural "attraction" that lead people to remember and transmit some religious beliefs at the expense of others (Sperber 1996). For instance, theories of "minimal counterintuitive" transmission suggest that people will remember information about supernatural agents who violate key principles of lay physics (e.g., walking on water) or lay biology (e.g., living without food) more than supernatural agents who violate none of these principles (e.g., an ordinary human) or agents that violate all these principles (e.g., a spirit with an unintelligible name who can neither be seen nor heard) (Boyer 2007). Theories of minimal intuitive transmission are controversial (Purzycki and Willard 2016), but we use these theories as an example here because they illustrate a typical CSR approach to studying why some aspects of religious belief have proliferated at the expense of other aspects.

Forces of cultural evolution are constantly interacting with individual-level preferences and beliefs. For example, humans may have a common bias toward viewing their gods as sharing their environment and appearance (see below), but ecological and cultural variation in ecology, clothing, and adornment will interact with these biases to produce diverse religious beliefs (McNamara and Purzycki 2020; Purzycki and McNamara 2016). Similarly, people may believe in gods that are well-suited to address collective threats. However, each community will face a different set of collective threats to survival and resource availability, which will result in widespread variation in how people conceptualize gods' concerns and capacities (Bendixen and Purzycki, present volume; Lightner and Purzycki, present volume). In these cases, and other cases described below, properties of gods' minds emerge from the interaction of common psychological mechanisms and differentiated regional ecologies and cultural norms.

How Human Cognitive Biases Influence Gods' Minds

> If cows and horses had hands and could draw, cows would draw gods that look like cows and horses would draw gods that look like horses.
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> —Xenophanes

Humans are a unique species in part because we share much of the same cognitive hardware. Whereas many nonhuman animals have speciated to adapt to their environments, human cultural adaptations have allowed us to settle the globe with a relatively universal genome (Collins, Morgan, and Patrinos 2003; Henrich 2016). The universality of our hardware means that many of our religious beliefs may be affected by the same cognitive tendencies, even in diverse religious groups from different world regions.

Anthropomorphism

As Xenophanes pointed out long ago, one of these biases may be to perceive gods as humanlike. In religions around the world, people appear to anthropomorphize the bodies,

minds, and familial histories of their gods. The cross-cultural scope of anthropomorphism is still debated, and some religious groups do not appear to personify their gods as much as others (Medin and García 2017b, 2017a; Ojalehto et al. 2015; Ojalehto mays, Seligman, and Medin 2020). However, hundreds of religious groups across world regions show at least some tendency to anthropomorphize gods (Murdock 1967), and new theories of anthropomorphism suggest general mechanisms that could encourage such anthropomorphism (Epley, Waytz, and Cacioppo 2007). The first of these mechanisms, elicited agent knowledge, proposes that human beliefs are constrained by what people already know. Since people know more about humans than any other kind of agent, they are most likely to ascribe humanlike traits and capabilities to a nonhuman mind. Studies on "theological correctness," for example, find that people implicitly assume that God shares human limitations (e.g., answering prayers one at a time) even though they explicitly claim that God is limitless (J. L. Barrett 1999). Even when humans ascribe nonhuman traits to their gods, they tend to borrow traits from animals in their local environments: Whale cults can be historically traced to religions in Japan and Alaska (Lantis 1938), whereas cattle cults arose in Southern Asia and Northern Africa (Brass 2003; Di Lernia 2006), near where humans may have first domesticated cattle.

A second mechanism of anthropomorphism is effectance, the drive to understand one's environment. Effectance may be one reason why active high gods who intervene in human life are most common in regions of the world with unstable weather patterns (Botero et al. 2014; Skoggard et al. 2020), or why many agricultural societies believe in gods that regulate weather and crop yield. And a final mechanism for anthropomorphism is sociality, or the bias toward perceiving gods with whom we can have humanlike relationships. Some studies suggest that people develop attachment relationships with gods the same way that we develop attachment relationships with parental figures and romantic partners (Granqvist and Kirkpatrick 2013; Kirkpatrick 1998; Kirkpatrick and Shaver 1992; Rowatt and Kirkpatrick 2002). Since it is easier to conceptualize attachment with a humanlike figure than an unknown agent, people are biased to perceiving gods as humanlike.

Egocentrism

Elicited agent knowledge, effectance, and sociality may not only lead people to infer anthropomorphic traits in their gods but may also lead people to conceptualize gods' attitudes, preferences, and even physical appearances egocentrically (i.e., similar to their own). For example, Christians assume that God shares their views on social issues such as affirmative action and abortion (Epley et al. 2009). People even assume that God shares some aspects of their physical appearance. One study asked Christians to choose images that resembled their view of God, and then statistically aggregated these images into composites. Analyses revealed that younger participants produced composite images of God that appeared younger than older participants' composites (see Figure 3.1), African American participants produced composite images of God that had darker skin tones than white participants, and participants who identified as physically attractive produced more physically attractive images of God than participants who identified as physically unattractive (Jackson, Hester, and Gray 2018).

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Figure 3.1 Aggregates of the images that young participants (left panel) and old participants (right panel) associated with how they viewed God. Reproduced from Jackson, Hester, and Gray (2018).

Egocentric religious beliefs can have wide-ranging implications beyond religion. In the United States, for example, white men have disproportionate power in society, and this position of power leads many people to assume that God is a white man (Roberts et al. 2020). However, perceiving God as a white man perpetuates assumptions that white men are better suited to lead. One study tested this assumption with a creative design in which kids were taught that a foreign planet with two ethnicities was created by a God with "Hibble" ethnicity or with "Glerk" ethnicity. Results showed that children consistently believed that aliens with the same ethnicity as the creator god should be responsible for ruling the planet (Roberts et al. 2020).

This research has intriguing implications for the historical development of religious beliefs, and it may explain cross-cultural differences in how people perceive gods' minds. However, a major limitation of this research is that it has sampled nearly exclusively from Christians in the United States and Europe. Given evidence that anthropomorphism is not common in some religious traditions (Medin and García 2017b, 2017a; Ojalehto et al. 2015; Ojalehto mays, Seligman, and Medin 2020), we encourage future research to explore the kinds of biases that may influence the diffusion of gods in these other traditions.

How Human Motivations Influence Gods' Minds

Whatever your heart clings to and confides in, that is really your God.
—Martin Luther

Humans are constantly using their religious beliefs to manage their motivations. This process may take the form of behaviors such as prayer or ritual in which people

directly ask supernatural agents to act on the world. But in other cases, people will reconstruct their views of gods based on a motivation to overcome problems facing their groups. This process was perhaps best documented in fieldwork with the Tyvan people of Siberia. Across several studies, Purzycki asked Tyvan believers about the salient problems in their community, and then asked them to free list what gods care about (Purzycki 2013b). These studies showed that people commonly ascribed their salient communal concerns to their gods.

The Motivation to Punish Norm Violators

The motivation to outsource salient community concerns to gods may have broader implications for the cultural evolution of religious beliefs. The last several thousand years have been marked by a rise in punitive and moralizing high gods (cf. Purzycki and McKay, present volume), and many theories have now speculated about the origins of these gods (Johnson 2016; Norenzayan and Shariff 2008; Watts, Greenhill et al. 2015). Belief in punitive gods is also puzzling from a psychological standpoint, as it is unclear why people should believe in gods that punish them. Until now, the most popular theory of this trend has relied on "distal" mechanisms of cultural evolution, meaning that it has focused on the population-level functions of punitive gods for large-scale cooperation. However, distal explanations do not explain why individuals will embrace and share punitive religious beliefs. Some of our recent studies build on Purzycki's fieldwork to suggest that the motivation to regulate community norms and punish norm violators may be a proximal explanation of why people adopt beliefs in punitive and moralizing gods in the first place.

Our theory of punitive religious beliefs draws from tightness–looseness theory, which is a theory of why some societies have more restrictive cultural norms than others (Gelfand, Harrington, and Jackson 2017). A prominent finding in tightness–looseness theory is that societies typically become more restrictive after large-scale collective threats such as warfare or famine (Gelfand et al. 2011). Another crucial finding in this literature is that, as societies become culturally tighter, individuals living in these societies become less tolerant of people who violate community norms and more personally motivated to punish these individuals (Mu et al. 2015). The cost of third-party punishment makes it unappealing for individual people to themselves act as secular norm enforcers (Jordan et al. 2016; McAuliffe, Jordan, and Warneken 2015). For this reason, people living in tight societies may find norm-enforcing punitive gods and spirits appealing, since supernatural norm enforcers have the advantage of punishing norm violators at a minimal perceived cost to their believers (so long as believers think of themselves as rule-followers).

Following this theorizing, we made two basic predictions: punitive religious beliefs may be most common in culturally tight societies, and these beliefs may also be most common in regions of the world with high levels of socioecological threat. In many ways, these dynamics resemble the individual-level projections that we summarized earlier in this chapter. Just as people projected their disapproval about abortion to beliefs in gods who punished abortion (Epley et al. 2009), so too might they project their disapproval of selfish norm violators to beliefs in gods who punish people who refuse to follow cooperative norms.

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A range of studies have now provided support for each of these predictions. For example, an analysis of conflict over two hundred years of human history found that, during periods of intense intergroup conflict (measured through number of deaths due to warfare), literary corpora are most likely to contain citations to Bible chapters depicting God as punitive but were no more likely to cite Bible passages depicting God as loving (Caluori et al. 2020). Historical changes in cultural tightness within the United States over that same period closely mirrored shifts in how punitively people viewed God. A series of follow-up studies showed that historical levels of ecological threats, including natural hazards, resource scarcity, and pathogen prevalence, could explain regional differences in punitive religious beliefs across US states—effects that were mediated by state-level cultural tightness (Jackson, Caluori, et al. 2021). Even manipulating people's perceptions of—the value of—cultural tightness leads people to rate punitive traits of God as more important relative to loving traits (Jackson, Caluori et al. 2020).

Many of these findings have replicated in analyses of small-scale societies. Studies analyzing the distribution of moralizing gods in the ethnographic record have found that gods are most likely to have moralizing and punitive attributes in societies facing high levels of pathogen prevalence and natural hazards (Botero et al. 2014; Jackson, Gelfand, and Ember 2020; Skoggard et al. 2020), an association that appears to be at least partially mediated by variation in cultural tightness across societies (Jackson, Gelfand, and Ember 2020). These findings reflect how aspects of people's cultural groups can influence what they think is best for society.

The Motivation to Maintain Cognitive Control

People may be motivated to uphold societal norms and values, but they are also motivated to preserve their own well-being, and these personally focused motivations may also shape views of gods. One line of reasoning, dating back to Freud (1927) and Nietzsche (2005), is that the motivation for cognitive closure and control may explain why some people view God as all-powerful. Theories of compensatory control have experimentally tested this intuition by manipulating people's sense of personal control and testing for their views of gods (Kay et al. 2009, 2010). According to these studies, people who perceive a lack of control tend to view gods as more powerful, perhaps as a way of outsourcing control to a higher power. Replication efforts have failed to reproduce some of these findings, however, meaning that the true relationship between personal control and religious beliefs is an important area for future research (Hoogeveen et al. 2018).

The Motivation to Maintain Psychological Safety

Many people also appear to believe in gods that directly watch over them and ensure their safety, happiness, and prosperity (Johnson, Cohen, and Okun 2016). For example, many Christians appear to implicitly assume that God will protect their well-being when they take risks (Kupor, Laurin, and Levav 2015). These beliefs may stem from the motivation for psychological safety (Edmondson and Lei 2014). However, it can

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sometimes have negative consequences for ethical behavior. One such consequence involves "passive immorality," in which people perpetuate immorality by failing to correct unethical circumstances because they think that God has arranged for circumstances that benefit the individual. A series of thirteen studies found that, when Christians believe that God intervenes in everyday life, they are more likely to commit acts of passive immorality (e.g., failing to return a lost wallet to its owner) because they believe that unethical circumstances are God's will (Jackson and Gray 2019).

These findings are striking because they show how the same gods can be reimagined depending on the needs and circumstances of believers. Christians can either view God as forgiving, loving, and benevolent, or as wrathful and vengeful depending on whether they are motivated to view God as an attachment figure or a dispenser of righteous justice. Collective motivations may have interacted with environmental factors to produce many current-day religious differences, but they also continue to produce variation and division within the same religious traditions.

Future Directions in the Psychological Study of Gods' Minds

The science of religious beliefs has a long history. Some of the first social scientists were fascinated with religious beliefs, ranging from James (1958), Durkheim ([1915] 2001), and Tylor ([1871] 2016), to Darwin ([1871] 2008) and Weber (1993). But an interdisciplinary study of religious beliefs has only truly accelerated in the last twenty years as cognitive scientists and anthropologists have begun collaborating. In the spirit of encouraging this interdisciplinary science, we offer two critical directions in the future study of gods' minds.

Building a More Inclusive Study of Gods' Minds

A vast majority of studies on gods' minds have studied people's perceptions of the Christian God, and most of the remaining studies have sampled other Abrahamic faiths (see McNamara, present volume). On the other hand, folk religions and polytheistic world religions are vastly underrepresented in the science of religion (Apicella 2018; Boyer 2020; Hartberg, Cox, and Villamayor-Tomas 2016; McNamara and Purzycki 2020; Singh, Kaptchuk, and Henrich 2021). A consequence of this disproportionate focus on Abrahamic believers is that many key findings in our field may only apply to a particular set of people. For example, people who worship polytheistic faiths may be less likely to project anthropomorphism onto their gods because these gods are more likely to be associated with specific animals or features of nature. Moreover, gods from smaller-scale societies may be more likely to be linked with specific collective action problems (e.g., managing flooding) rather than broad behavioral prescriptions that can apply to a range of diverse groups (e.g., to be charitable, to be honest) (Hartberg, Cox, and Villamayor-Tomas 2016).

A natural way to build a more representative science of religion is to increase the availability of data from non-Western religious groups. Databases such as Pulotu

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(Watts, Sheehan, et al. 2015), D-PLACE (Kirby et al. 2016), and the Database of Religious History (Slingerland and Sullivan 2017) now offer access to hundreds of world cultures but are relatively unheard of in the psychology of religion and spirituality. The "Human Relations Area Files" offers thousands of pages of carefully annotated ethnographic material that researchers can use to develop datasets that sample small-scale societies and extinct religions (Ember 1997). We are in the process of building a large ethnographic database of gods' characteristics across nonindustrial societies, which will hopefully facilitate research on diverse religious traditions. We also encourage research that examines whether the same religious traditions may vary across different cultural groups (White et al. 2021).

Forecasting the Future of Gods' Minds

Most studies of religious belief have used explanatory models, in which researchers explain differences between religious groups or differences over some period of the past. But we may soon be in a position where we can speculate about the future of gods' minds. Will people view gods as more personal or more distant figures in the future? Will people view gods as more punitive or more benevolent? How widely will these trends vary across cultural groups?

Methodological limitations have previously kept these questions out of reach, but new advances in time series modeling mean that predictive studies of religious beliefs are within reach. For example, autoregressive integrated moving average (ARIMA) models can decompose a time series into gradual trends, intertemporal dependences (autoregressive components), and errors in these dependencies (moving averages). With these components, ARIMA models can forecast future changes in a time series (Grossmann and Varnum 2015). For example, these models have been used to project a rise in religious "nones" in America, and a shift toward viewing God as more of a benevolent figure and less of an authoritarian figure (Jackson et al. 2021). Popular ARIMA models in cultural change research are still quite simple, seldom modeling nonlinear dynamics or incorporating exogenous variables. However, these models have great potential for studies that predict future changes in gods' minds based on the changing needs and preferences of religious individuals.

Conclusion

People's views of gods influence their moral values, beliefs about the world, and goals for the future, but the reverse is also true. Here we have reviewed a growing science of how believers' cognitive biases and motivations color their religious beliefs in general and their perceptions of gods' minds more specifically. We have argued for a multilevel approach to this science where basic cognitive and evolutionary theories of human mind perception are integrated with cultural evolutionary models. We have also reviewed several studies that exemplify this approach and encouraged future studies that build on these studies' findings with samples of non-Abrahamic religions

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and dynamical methods. This is an exciting time to pursue this work. Social science is growing more interdisciplinary, psychological studies are becoming more replicable, and methods of studying religion are becoming more sophisticated. With these advances, we are prepared to fully understand the capacities and limits of the divine projector, and to use this knowledge to predict the gods' minds of the future.

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