

## CHAPTER 4

# *Examining the Minds of Gods*

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Consider for a moment how you would answer the following question: what does God know? Regardless of your religious background or what you personally believe, the most likely answer is “everything.” This response is a common perception among people immersed in cultural contexts where monotheism is dominant. Could you, however, pinpoint a specific source from which you learned this information? If your answer wasn’t “everything,” do you at least appreciate that most people would give that response? Why do most people answer this way? What does it even mean to know everything?

Now think for a moment about how you would answer these: What does God care about? What does He want? What does He like? What does He dislike? Surely, some readers might think, “Nothing, because He doesn’t exist!” Others, however, will readily claim He likes generosity, kindness, going out of your way to help people, and loving your neighbor. Some will say He dislikes cruelty, theft, and murder. Again, can you point to where you learned this and why you think this answer is true? Note the distinction between what you think God knows and what He cares about. Why couldn’t it be that He cares about everything but knows little or even nothing?

The contemporary cognitive and evolutionary sciences of religion are shedding light on the answers to these questions by examining how minds and religious traditions function and change. As is often the case, the reasons people give to explain why they think that they believe the things they think they believe turn out to be far too simplistic. In this chapter, we review current evidence and debates about how and why people think about what gods know and care about, why beliefs about gods’ and other unseen spiritual agents’ (e.g., ghosts and spirits) minds vary from culture to culture, and what future efforts can do to help resolve some of the debates.

## TINBERGEN’S FOUR QUESTIONS

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Many theories attempt to explain aspects of humans’ social lives. Successful theories at least partially explain some phenomena, but one theory cannot possibly explain social life entirely. Reality—especially social reality—is far too complex for any one simple theory

to handle. Being human is multidimensional, so studying humans should be multidimensional as well.

A helpful way to organize our thinking here is Niko Tinbergen's (1963) four-fold explanatory model. It offers four harmonious, interpenetrating, and complementary levels of explanation. To illustrate, take the commonly used example of why a mother might breastfeed her child. One simple explanation is that she is breastfeeding because her infant is hungry. However, there are other levels of explanation that are perfectly compatible.

#### PROXIMATE EXPLANATIONS

The first kind of explanation is the mechanistic explanation, which accounts for the most immediate, directly causal explanation for behavior. So, perhaps a mother is feeding her child because the child started crying and her pituitary gland produces the prolactin hormone. This chapter discusses cognition—how minds work—as the mechanistic level of explanation. The second kind of explanation is the ontogenetic level, which examines how an individual develops a specific trait (i.e., a trait's ontogeny, or development). So our hypothetical mother is breastfeeding her child because prolactin production triggered by pregnancy allows her to feed her child. We'll discuss findings from the developmental literature that seek to unravel how human minds produce perceptions and beliefs about the minds of gods. Together, these explanatory levels are often called proximate explanations.

#### ULTIMATE EXPLANATIONS

What are called ultimate levels of explanation include the phylogenetic and distal explanations. The phylogenetic level of explanation investigates the deep history of a trait. Like the phylogenetic tree with animals branching out throughout deep, evolutionary history, phylogenetic explanations seek to understand how a trait evolved through time. In the aforementioned example, that a mother is a mammal and that her ancestors for millennia upon millennia had mammary glands provides a phylogenetic explanation for why she might be breastfeeding. The distal explanation is often how a certain trait alters the chances that an organism reproduces or has its genes replicate (i.e., fitness). Feeding babies increases the chances that those babies grow up to produce grandchildren. That is one distal explanation. Note that none of these explanations needs to involve people's conscious motivations. We breathe because it increases the chances we reproduce, but we rarely think about breathing and probably think about its adaptive benefits even less.

When we think of religion, however, the portrait becomes more complicated because there is an often-made distinction between our biology and culture. The belief that "God loves you" is clearly not the same kind of thing as breastfeeding a child. A mother can learn a certain technique or pattern of breastfeeding from her peers or family, but her ability to breastfeed is not transferred across minds (or at least is entirely less obviously transferred across minds than saying "God loves you"). Nevertheless, some have adopted evolutionary approaches to cultural matters. So, people can study the phylogeny of a cultural trait (e.g., when did the saying "God loves you" become prevalent? or how has it changed or spread through time?) or how that trait alters the chances that it is replicated across minds (e.g., think of why a catchy tune is more likely to be remembered than a really complicated song).

Distal explanations for religion remain contentious. Many argue that religion has no distal explanation; thus it is not adaptive, as it does not increase the chances that one survives or reproduces. Some even argue that it is maladaptive; religion decreases the chances that one reproduces. However, evidence suggests that religion can be adaptive, in fact, and

can solve problems that otherwise impair an individual's ability to successfully survive or reproduce. An adaptive trait does not have to be morally good and it certainly does not have to be true; it just has to increase fitness.

In fact, it is really easy to come up with distal explanations for all sorts of things, so we have to be careful. That is why evidence is necessary to show that something confers a fitness benefit rather than merely relying on compelling hypotheses alone. Moreover, it's helpful to keep in mind which level of explanation is or isn't under discussion, otherwise things can get fairly confusing. For example, many people enjoy junk food because humans have adapted a preference for high-calorie foods. In the evolutionary past, people took what they could get. Now, there is an abundance of sugar and carbohydrates everywhere and many people overindulge. If someone were to counter this argument and claim that people have no self-restraint and that's why so much sugar is consumed, it would not be a counterargument; both are fine, compatible arguments. Picking one or another simply requires different kinds of evidence. As always, evidence is key.

### NATURE VERSUS NURTURE

Currently, some approaches focus on the biological foundations of religion and argue that we have what approximates to a religious instinct (Bering 2011). Others emphasize the cultural, and focus on how religion is a learned pattern of beliefs and behaviors. Of course, debates such as these are ancient and ongoing. What better explains religion: nature or nurture? Many still maintain this distinction. We cannot pretend to resolve such debates and will refrain from taking a side beyond saying that when it comes to humans little—if anything—is only cultural or biological. We think a better method is to dissect a trait into smaller, more manageable parts, and then proceed from there. Breaking things down into smaller, measurable components is a process called *operationalizing*.

Think about, for example, human language. Take the word *apple*. Germans might call it *apfel*, whereas Russians might call it яблоко. It's easy to chalk up these similarities and differences to culture, because the word is learned and has a cultural phylogenetic history: *apple* clearly resembles *apfel*. These two words have common "ancestors." But we have the biological basis—specialized cognitive systems—to learn and remember what to call objects, the ability to associate, break down, reassemble, compute, and reproduce specific sounds and their patterns, the biological capacity to discern between human language and random noise, and so forth. All of these biological components to language are as necessary as the words themselves when considering how human language operates.

These abilities of course have to interact with a social context in order to develop, and many theories attempt to make sense of these remarkable features of our species. The moral of the story is: the closer you look, the more difficult it is to tease apart the biological and cultural aspects of social life, but it is a fascinating pursuit, especially when it comes to how the human mind works (Barrett 2015). So the question of whether religion is biological or cultural is the wrong question. Religion is often treated as obviously cultural, but recently people started to operationalize the components of religion in order to investigate its biological basis as well.

### COGNITION AND BIOLOGY

The human brain is a wonderfully mysterious organ, and there are a variety of ways philosophers, cognitive scientists, psychologists, and others conceive of how the mind and the brain's functions work. Many used to view the mind as a general-purpose system.

According to this view, the primary function of the human mind is to learn. Think of how often people use the sponge metaphor to describe children's minds. Although this position remains common, extreme versions of this view have largely fallen out of favor in recent decades because this *tabula rasa*, or "blank slate" view of the human mind has many problems.

For instance, if minds were empty general-purpose learning systems, humans would be profoundly different animals. Imagine having to learn what human language is before learning one (Pinker 2002). Imagine having to *teach* another human what language is. We enter the world somehow knowing the difference between human speech and, for example, the sound of a bird. It's a good thing, too, because otherwise people might just "parrot" random sounds.

The linguist Noam Chomsky famously argued that the human capacity for language must have some biological basis because if children had to learn the complexity of language by sheer memorization, language use could neither be as flexible nor as ordered as it is (1965). Specific languages have grammars that emerge from biologically grounded systems that specifically compute and produce linguistic information. A commonly used example illustrates how children effortlessly regularize irregular verb forms (e.g., "he goed to the bus stop" or "she seed it at the store" are overgeneralizations of the "add -ed" rule to verbs to put them in the past tense). Children seem to inherently understand the rules so well that they often make the language more consistent. Building on centuries of thought, Chomsky and many others' work paved the way to look at language and the human mind in a new way.

#### COGNITIVE SYSTEMS

Much like in the case of language, people at an early age naturally infer all sorts of things about the world as though they already know it. People often use the word *innate* to characterize this knowledge, but they tend to not satisfactorily define what this means. Nevertheless, another important component to this shift in thinking was the view that instead of a general-purpose or domain-general mind, the human mind is domain-specific. That is, the workings of the mind are distributed across a host of specific functions, each handling a certain domain of information. In this view, the human mind is more like a biologically defined Swiss Army knife than a sponge (Cosmides and Tooby 1992). In other words, the mind is equipped with a host of various abilities that perform specific functions under the right circumstances. So, for instance, the biological foundations for language learning are not the same systems responsible for predicting that when you let go of a ball, it will fall to the ground. One such domain-specific ability central to religious thought is the mentalizing ability.

#### MENTALIZING AND THEORY OF MIND

*Mentalizing* is the ability to attribute perceptions, beliefs, and desires to other things, including people. How does mentalizing occur? Consider this baffling question: how do you know that someone else actually has thoughts? Can you really truly ever know? Someone might talk to you, and those chatterings might indicate that something "mental" is at work behind them, but they could just be automatic outputs from a completely mechanical being.

Humans owe the ease with which they mentalize to our evolutionary history. Some researchers have argued that this capacity for reasoning about other minds emerged as the result of an evolutionary arms race. Individuals who were better able to process, track, and later manipulate the minds of others could outsmart, or out-mentalize, competitors for

resources (Baron-Cohen 1999). Other researchers have argued that mentalizing capacities were channeled from the pressures of joint action and cooperation. The more able we came to figure out what was going on in other people's heads, the better we could learn from and teach each other whatever was necessary to better survive (e.g., how to make better tools). Regardless of its ultimate explanation, the cognitive mechanism that theorizes about the mental workings of other people's minds, aptly named the *theory of mind*, has spurred decades of research.

### EXPLICIT VERSUS IMPLICIT COGNITION

How does this ability develop? Let's say you are taking a stroll through the park with a small child. You both see a squirrel, and you ask her why the squirrel is climbing a tree. She might say, "It wants to get up there." It is effortless for children to think in terms of other things' mental states. It is as though humans come prepackaged to think in mentalistic terms.

However, children do not come to explicitly (verbally, consciously, and flexibly) reason about other minds until some time shortly after their fourth birthday. Indeed, overwhelming evidence suggests that only in their preschool years do children start to make predictions about others' behaviors based on the contents of other minds, a feat exemplified by an understanding of false-belief (i.e., knowing that someone believes an incorrect thought). Explicit reasoning is built up from a more reflexive, unconscious, or implicit mentalizing system (Apperly and Butterfill 2009). The evidence for this second system emerges from studies in which infants as young as fifteen months demonstrate seemingly correct reasoning about false-beliefs, as long as they are not explicitly asked. Implicit thoughts can often be radically different from explicit thoughts. How, then, does this distinction relate to how we make sense of gods' minds? Aren't gods and spirits radically different from humans?

### WHAT GODS ARE LIKE

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Even though various forms of the argument have cropped up over the past few centuries, the anthropomorphism hypothesis of religion continues to influence contemporary researchers. Anthropomorphism is the process of attributing human-like mental states or physical features to nonhuman entities. So, for example, when we say, "Oh, man, my car is being stubborn. It just doesn't want to take me to class today," we're anthropomorphizing our car. When we say, "The government wants us to behave," we're anthropomorphizing an institution. As it turns out, this process has a lot to do with the gods.

Anthropologist Stewart Guthrie (1993) argued that, at its core, religion is a form of anthropomorphism. Because mentalizing systems are in operation so often, various mysterious things are explained in agentic (i.e., mentalistic) terms. Guthrie argued that the ability to detect agents—even when no agents are around—was evolutionarily advantageous. It was better for our ancestors to be really sensitive to the presence of agents (such as the kinds of predators ancestral humans faced regularly) because not detecting an agent at the wrong time meant becoming an animal's dinner.

Imagine that you are trying to get some sleep in an otherwise empty house. Sometimes the bumps and creaks of a house shifting give us the impression that a human or an animal (or ghost?) is making the noise. Now, imagine a world in which cougar home invasions are a usual occurrence. Sometimes, the creaking is just your insomniac roommate. Sometimes,

however, it is a large, stealthy cat looking for some food. Rather than shrugging off every sound as mere noise, having a cognitive device that makes you think it could be a cougar each time makes you more likely to get away and hide should it actually be a cougar. It is better to be wrong a hundred times and be safe than it is to be wrong once and be lunch.

Think of how often we mentalize things that probably do not have minds. This activity might be one of the biological foundations of religious thinking: we often explain the unknown in terms of mental states. In fact, one study showed that believers in the supernatural were more likely to interpret ambiguous animations as agentic (van Elk 2013). The more mysterious the phenomenon, the more mysterious the cause, and we often default to explaining the mysterious in terms of agency. Of course, we tell stories about mysterious things all the time, and gods are often the central characters in our narratives that are behind them all.

### GODS' PERSONALITIES

Gods' personalities vary. Anyone acquainted with Greek or Roman myths will appreciate how fickle, eccentric, and bizarrely motivated the gods can be. Although the reasons for their behavior may seem arbitrary, the gods tend to have relatively consistent and distinct personalities across stories. For instance, Dionysus, the Greek god of wine and revelry, liked to get people drunk. Among the many American Indian traditions of the Great Plains, there are tales of amorous spiders who like to trick people and other animals into feeding them or having sex with them (Erdoes and Ortiz 1985). Such characters' personalities are recurrent across stories, which convey the general motivations for such characters to the audience and, in turn, the audience comes to expect certain behaviors among the recurrent characters. Likewise, gods that punish people for misconduct are of central importance to religious traditions around the world. Such memorable stories and narratives establish a moral consensus within a community.

Many in the Abrahamic traditions endorse the view that God is dominant, punitive, and jealous and that He likes to legislate people's sex lives, how they should interact with other people, and whom they should befriend. This view is virtually identical with the way dominant, alpha males function in nonhuman primate societies (Garcia 2015). Perhaps gods are partly a projection of our evolved psychology and its deep phylogenetic roots. It isn't difficult to find such parallels, especially in regard to those who have power over us. Dominant natural agents so often resemble supernatural agents. As discussed in the following, some evidence suggests that our minds process the minds of dominant agents such as gods and governments similarly.

### SUPERNATURAL PUNISHMENT

What has become known as the *supernatural punishment hypothesis* predicts that holding the belief that gods will punish people for misconduct can be beneficial for individuals. This hypothesis comes in at least two primary forms (Johnson 2005; Schloss and Murray 2011).

One version investigates the idea that when people are under the impression that a god will punish them for misconduct, they are more likely to behave. Let's say you decide not to rob a bank because you think it is wrong or that you might be punished for it (by either a god or government). From an evolutionary perspective, you keep yourself in the reproduction pool by not ostracizing yourself from your community and spending time in jail during a time when you could be having children. In terms of religion, the biological basis for fear (a susceptibility to alter your behavior due to agency, or religious thought, and

so forth) is selected for naturally in such a scenario because doing otherwise (e.g., not being afraid of being punished, robbing the bank, and going to jail) would impact the likelihood that you reproduce (Johnson 2005). In small-scale societies with no formal judicial institutions, gods might function to prevent incurring social costs from others and thus religion might solve a cooperation problem. People rely on each other for survival and reproduction, but it is often difficult to maintain those relationships. Gods might help maintain those relationships by hanging supernatural threats over people's heads.

Another version posits that gods' punishments increase prosocial behavior; people are more inclined to cooperate with others. If fear of supernatural punishment boosts prosocial behavior even beyond the individual's own social circle, then this motivation may have contributed to making the kinds of societies of today with millions of people treating each other fairly on a regular basis (Norenzayan 2013). Such predictable forms of prosociality, then, also might reduce the aforementioned forms of costly punishments from others as well. Through time, believing in and promoting a god that punished wrongdoing became an effective response to social complexity while also contributing to making a society even more complex. If more people can appeal to moralistic, punishing deities, and such appeals work to alter others' behavior, then such gods may be an important factor in explaining social complexity.

## REWARDS VERSUS PUNISHMENT

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Some evidence suggests that those who view God as more punitive are less likely to cheat in experiments than those who view God as more forgiving (Shariff and Norenzayan 2011). This research tested cheating by employing a commonly used task in social psychological research. On a computer, people were asked to solve various arithmetic problems without a calculator or scratch paper. Participants were told that the program had a little glitch in it, which would reveal the correct answer. If they saw the answer, they were told to proceed without answering the question. If people entered in the revealed answer, that would be counted as cheating (i.e., taking credit for something they didn't really do). As it turned out, those who rated God (in a separate survey) as more forgiving, loving, and compassionate were more likely to take credit for answers revealed by the computer than those who said that God is harsh and terrifying. Another study conducted in Fiji used a game where people could cheat with money and got to keep the winnings. Among other findings, Fijians cheated less to favor themselves the more they thought the Christian God punished wrongdoing (McNamara, Norenzayan, and Henrich 2016).

### WHAT ABOUT OTHER KINDS OF GODS?

Not all gods directly punish people, however. Some gods are considered to just be out there somewhere in an ambiguous relationship with people and their activities. People may make ritual devotions to them, but the gods do not get nasty if people do not pay respect. Instead, one's luck might change, and sometimes severely so. Research suggests that gods who punish contribute to beneficial behaviors differently from gods who are vaguely associated with luck or from gods who do not interfere at all. If a perceived god predictably punishes people for misconduct, this kind of god might actually be more effective in curbing the behaviors that harm others and the person who perceives that kind of god. However, if gods boost prosociality rather than merely curb antisocial behavior, then the punitive god—assuming he cares and knows about such things—will also likely be more effective.

This dynamic does not necessarily mean that people with punitive gods are better behaved or have more effective religions in terms of individual action or social well-being; cooperation can lead to conflict as well. This phenomenon needs further investigation. Nevertheless, there is evidence that punitive gods crop up in specific contexts, suggesting that gods' concerns might correspond to specific social and environmental problems. Before turning to what gods care about, let's first consider what gods know.

## WHAT GODS KNOW

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For millennia, philosophers, theologians, poets, and pundits alike have reflected on (or at least asserted their own attitudes toward) what God knows. Indeed, many continue to argue about whether or not God could really know everything (i.e., whether or not He is omniscient). These concerns are not explored here. What we are interested in is: (1) why people claim that God is all-knowing, (2) what is happening in someone's mind when thinking about God as an all-knowing being, (3) how such mental processes and beliefs about omniscience develop throughout an individual's upbringing, and (4) what people around the world say about the breadth of their gods' knowledge and why.

### OMNISCIENCE

Explaining omniscience first requires unpacking what it is we are trying to explain. In one sense, omniscience is invoked when someone says "God knows everything." This type of explicit information is just a string of words put together. People might learn from their parents that the answer to the question is "everything," and this answer is what was learned from the parents' parents, peers, and so on. In another sense, understanding omniscience requires understanding how people reason about omniscience, which is an entirely different process. The former simply requires filling in the blanks: God knows \_\_\_\_\_. The respondent knows how to fill in this blank because he or she had this information encoded in his or her brain from childhood. The respondent may or may not believe it.

However, if the question was, "Does God know the average number of hairs that are on the front left ankle of all platypuses?" it requires a little more effort to answer, even if the answer is "yes." Because He knows everything, it can be assumed that He knows this information. So, someone thinking about this question takes a premise—God's omniscience—and uses it to conclude that yes, God knows this information. So, *saying* that God knows everything and *reasoning* that He is omniscient are two different mental processes. The former draws from pools of knowledge to replicate what is already in our heads, and the other uses what is in our heads to draw a conclusion using that information and logic. As with other processes, reasoning about God's omniscience is not nearly as easy as repeating such a claim.

**Development of Mentalizing Omniscience.** How do we develop beliefs about the breadth of gods' knowledge? The competing views—perhaps unsurprisingly—revolve around the traditional nature versus nurture dichotomy addressed earlier. Using false-belief tasks, some studies show that as children come to better understand false-beliefs, their estimation of God's knowledge stays the same. Before children's false-belief understanding develops, they typically assume everyone knows what they know. However, as children age, they come to appreciate the fact that other people can have false beliefs. Early on, children say Mom and

God know the same amount, but as children age, Mom will know less and less, and God continues to have unimpaired knowledge. One study found that children will claim their imaginary friends—much like God—know more than flesh-and-blood people (Wigger, Paxson, and Ryan 2013). One interpretation of these studies, the preparedness hypothesis, suggests that omniscience does not really develop as much as it is a reflection of cognition that arises early (Knight et al. 2004).

Another line of research demonstrates that explicitly reasoning about omniscience is difficult. As noted previously, thinking about the implications of an all-knowing being has stumped thinkers for millennia. Using completely different methods (in this case a survey with a lot of questions about a hypothetical being named Mr. Smart), some studies have found that it takes a long time before children can consistently think about the implications of omniscience (Lane, Wellman, and Evans 2014). Again, however, the developmental literature predicts that it is difficult to consciously reason about other minds, though infants do enter the world ready to detect them (see Heiphetz, Waytz, and Young 2016 for review).

#### HOW MUCH GODS KNOW CROSS-CULTURALLY

Although there is little in the way of evidence one way or another, it is doubtful that most people around the world actively engage in reasoning about spirits' breadth of knowledge simply because most people have neither the time nor inclination to reflect too deeply on such questions. Indeed, a large portion of the field of theology is devoted specifically to this task. Rather, most people may simply assume that spirits know more than normal people. Unfortunately, virtually nothing is known about what people think their gods know, and for now there is only casual ethnographies to give some sense of the variation around the world.

According to one account, one god of the Yānomami tribes of Venezuela awaits all people at the crossroads after death (Chagnon 1996). He asks all spirits that pass the crossroads whether or not they have been good or bad in life, and then he directs them to the appropriate place. Evidently, the Yānomami claim all spirits just lie to this god, tell him they've all been good, and they all get a good afterlife.

As discussed previously, the Abrahamic God is often attributed with knowing everything, but other gods are too (e.g., the African Nuer's god; Evans-Pritchard 1956). There are good practical reasons to claim that gods know everything. Claiming they know when you've been bad or good might be a particularly effective way of influencing others' behavior. We might hide from our parents and community, but we cannot hide from an all-knowing being such as God, Santa, or an omniscient government that watches its populace.

In really small communities, gods might not know everything, because people are not likely to get away with much of anything. If you are up to no good, people know it and will deal with you personally. Think about how many people city-dwellers interact with on a daily basis, including those they'll never see again. Being raised to think that an all-knowing agent such as God or the government can find out about misconduct may be a frequent occurrence in places with greater social complexity.

Cross-culturally, it may appear that gods' knowledge is limited to the breadth of knowledge conceivably knowable by people. So, globally minded people may have globally minded gods. However, some gods are localized in specific places, even though the people who live there are aware that there is a world beyond their borders. Still, a god might know everything, including all misbehaviors, but what might matter more to people is what that god cares about rather than what that god knows.

## WHAT GODS WANT

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A variety of methods can be used to determine what people think their gods care about. One method has been to come up with a list of questions in a survey format and to ask people whether or not their gods care about the items on the list or to ask people to rate how important various things are to the gods. However, there can be problems with this method. For example, many people around the world may find such scales difficult to answer. One way to elicit naturalistic information in ways that virtually anyone can use without leading to an answer one way or another is the free list.

### HOW TO TELL WHAT GODS CARE ABOUT

Getting free-list data is easy, and so much can be done with the results. You've probably heard of some version of this method. In free lists, participants are asked to list items that belong to a specific cultural domain, that is, a range of information in a specific category. So, you might have a lot of things in the domain of your mind regarding the category of "animals" or "things to do on Saturdays" or "favorite movies." The earlier things get listed, the more salient they are. Those first answers are a measure of what a person is most likely to be thinking about in terms of that domain. Plus, one can measure salience for things across entire groups of people. This measure provides a decent glimpse of how an entire sample thinks on average. So, if we ask people to list things that the gods care about, things that please the gods, and things that anger the gods, we can examine the cultural models people have regarding their gods' minds. We can use such methods to understand the contents of other people's minds to figure out what they believe to be in gods' minds (Purzycki 2011; Purzycki and McNamara 2016).

### HOW WE TREAT EACH OTHER

Someone might readily say that God likes peace, harmony, and generosity but dislikes hatred, murder, theft, and other acts that we might call immoral. One of the foundational tenants of the Abrahamic faiths is a code of conduct typically associated with morality. *Morality* is often defined as a set of rules for behavior directed toward other people. It is also often defined as how people think of what's good and bad in a way that involves some cost. So, bad stuff imposes costs on others, whereas good stuff might be a self-imposed cost that aids someone else.

**Morality and Virtue.** Of course, there are many ways to define morality, and even more debates about what ought to fit into that definition. Simply put, what Adam finds moral, Ben might not care about at all or might even find immoral. Likewise, Adam and Ben may share similar moral codes that are significantly different from another group of people living elsewhere.

Note that when thinking about moralistic gods (those that care about human morality) we need to be clear about whether or not we refer to *emic* or *etic* views of morality. *Emic* views are the views of the insider—the people social scientists interview. *Etic* views are outsider perspectives such as scientific theories. So, if someone says a god cares about morality, we should ask if morality means what that person says is moral or what we say is moral. Some people don't even have a word for morality, so that complicates things as well (though a conception of right versus wrong is a human universal). We use it here in the *etic* sense. Even though someone might not think of theft as a moral issue because it fits

a definition of morality that we constructed to include theft, we can call it a moral issue for the sake of clarity through *etic* means.

**Moral Biases.** Many studies suggest that when people are around indicators of agency, they are less likely to cheat in various tasks, and perform more socially responsible behaviors (e.g., helping others in need). One remarkable study found that after being told about a ghost that lives in a lab, children cheated less in a challenging game. Other research finds that if you, for example, put photos of people (rather than, say, potted plants) above a public coffee machine, people are more likely to clean up after themselves and donate to a nearby charity box (Powell, Roberts, and Nettle 2012). What this result suggests is that agency cues; in this case, a mere photo of human eyes, prime moral cognition and thus alters social behavior.

One study that measured response speeds to questions found that people answered “yes” to questions about whether or not God knows negative moral information (e.g., “Does God know that Ben hurts people?”) faster than positive moral information (e.g., “Does God know that Adam is kind to people?”) (Purzycki et al. 2012). This positive moral information was answered faster than neutral information (e.g., “Does God know that Lucy wears red shoes?”), which suggests that moral information is more intuitively associated with God, even though these participants all said He knows everything.

Another study found that although Tyvans (pronounced TOO-vins) of southern Siberia say their gods care primarily about the natural environment and rituals, Tyvans nevertheless rate their spirits’ knowledge and concern of moral information better than neutral information (Purzycki 2013). In other words, Tyvans do not explicitly associate morality with their gods, but they may implicitly. In the same study, American Christians who said God knows everything also largely claimed that He knows the moral information better than neutral information. Clearly, explicit claims about gods can be inconsistent with how implicit cognition works. Although it is too early to tell, this research may suggest that people have an implicit moralization bias of gods’ minds. This bias may stem from the same kind of bias shown toward human minds, but it is clear that asking the same questions about humans’ knowledge would yield different results.

**Moralistic Gods and Social Ecology.** Notably, not all gods explicitly care about morality; people do not always say their gods care about how we treat each other. In fact, many social scientists have tried to understand when, where, and why gods that care about morality develop. Using cross-cultural databases, gods that care about morality appear to pop up in a variety of places.

Many studies over the years have associated the emergence of moralistic gods with social complexity (Johnson 2005). The argument states that in small-scale societies people can police themselves because there are not as many people. However, in large-scale societies people can, for instance, harm other people and easily get away with it (see the previous discussion on supernatural punishment). Think of how often you see someone you will never see again. It helps to have a god around who can frighten people into compliance, so having a god that effectively acts like a big invisible cop may help sustain prosocial behavior or at least deter antisocial behavior. It obviously does not solve everything, and sometimes such a god might even create more problems. Every solution introduces another challenge such as maintenance, costs, and commitment.

However, other analyses suggest that such moralistic gods also pop up in other contexts as well. One recent study found that pastoralists (people who travel around with livestock) are more likely to have moralistic gods (Peoples and Marlowe 2012). People in herding communities often have to compete for land and livestock, and regularly engage in combat over both. Stability might be achieved if a moralistic god is around to prevent those costly engagements. Some of the most studied gods are the Abrahamic ones or those closely resembling them, so more research is required to determine what societal pressures or ecological factors might give rise to other gods, spirits, and deities.

#### HOW WE TREAT NATURE

Many traditions claim that their gods have special concern for the well-being of nature. This claim does not necessarily mean, of course, that people with such beliefs are somehow in touch with or closer to nature. Rather, when we look a little closer, the kinds of religiously motivated environmental concerns are practical.

For instance, religion and the preservation of nature may be linked because people really cannot adequately preserve the environment on their own and require supernatural agents as an effective motivator. Resources may face what is referred to as the tragedy of the commons: when not regulated, people often use up resources to the point of depletion (Hardin 1968). As we have already seen, gods can be good motivators, so regulating resources with appeals to the gods may be an effective strategy in curbing such problems. Note again that none of this motivation strategy need be conscious to work.

For example, the Australian Aboriginal Martu have coordinated field-burning sessions. Much like park rangers' controlled burning, Martu's controlled fires are far less destructive than the brush fires caused by lightning strikes and have the effect of increasing biodiversity. Interestingly, this biodiversity is what local monitor lizards eat, and the Martu eat the monitor lizards. The Martu explain that burning fires in this manner is consistent with the "Dreaming," or sacred law and the will of the ancestor spirits. If the Martu did not appeal to the Dreaming and ancestors, people might not do all of this short-term work for these long-term benefits (Bliege Bird et al. 2013).

#### HOW WE TREAT THE GODS

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Arguably, ritual is the central component to the vast majority of religious traditions around the world. Many Westerners often assume that faith or morality is a central feature of religion, but participation in tradition ranks above all others. Humans engage in rituals all the time, so what makes religious ones unique is that people say they are performing a ritual in dedication to a god. The gods like ritual devotions, and the question is why.

#### RITUAL PARTICIPATION

One explanation is that rituals communicate one's commitment to a god to other people measured through rituals' costs. Reciting a prayer might cost you some time, whereas donating a lot of money to the church you attend clearly has a greater cost. However, cross-culturally, people do all sorts of things that we might find extreme or outlandish such as piercing their skin with eagle talons and ripping out the talons, walking on hot coals, giving themselves scars, and mutilating their genitals in order to please the gods. It should not be

too difficult to see why. Think of what Christians say about Jesus: he sacrificed himself for people.

What ritual participation conveys is commitment to the gods, but also to other people (Sosis and Ruffle 2003). In fact, a lot of research suggests that people view those who participate more frequently in religious activities as more trustworthy than those who do not. What rituals do is help convey how reliable a person is. When people trust each other, they are more likely to have lasting relationships that promote individual fitness. If this connection is the case, then ritual frequency, spatial distribution, timing, and costs should all vary according to features of our lives that threaten interpersonal trust. The gods should care about such rituals.

#### WHAT EXPLAINS GODS' CONCERNS

Many often say that gods care about what they do because people care about such things. So, what may be called the projection hypothesis of gods' concerns is the prediction that gods will care about what people care about, which opens up more questions. For example, why would they project in this way? Perhaps they do it because of some egocentric self-righteousness. Alternatively, perhaps they are trying to manipulate other people into behaving and it is especially effective to tell someone that God doesn't like a particular behavior.

**Projections of Our Own Concerns.** Why aren't gods hyper-personal, liking the same kind of music we like, the same fashions we like, and so forth? There would be little shared information between people, and there might be a lot more conflict over what God wants. Although the projection hypothesis may be a little helpful in explaining what the gods care about at a proximate level, it does not hold up in accounting for the consistency of the model of a god's mind within (and sometimes across) cultures, and why gods' concerns do not simply correspond to the things we care about.

**Responses to Social and Ecological Problems.** Humans have adapted both biologically and culturally to just about every environment there is on earth. Thanks to our ingenuity, we can create technologies that enable us to fish and hunt more efficiently as well as to vastly improve our abilities in storage, transport, and safety. Is it appropriate to think of religious traditions as technologies that have adapted as responses to specific social and ecological problems? Or are our beliefs merely the ends of long chains of cultural transmission? When thinking about Tinbergen's model, it becomes more difficult to chalk up anything as complicated as religion to any one thing. If religions are best thought of as systems, then our theories about why specific features of gods' minds are the way they are should not be too simplistic.

When we look at gods' concerns cross-culturally, they may correspond to specific challenges that people face. If gods are effective at triggering psychological systems that motivate us to behave in a certain way (mechanistic), then how people talk about their gods' concerns should reflect what it is they are doing in any given society. If you are from a community facing a serious threat, and the only way to combat that threat is to organize people, chances are the gods will be there to perform that function. They might even value the mistreatment of people who are perpetrating that threat. We have little direct, systematic cross-cultural evidence that examines the range of gods' concerns and how they correspond to specific adaptive problems. Given the centrality of gods and spirits to



*Hagia Sophia, Istanbul, Turkey.* Completed in 537 and now housing a museum, Hagia Sophia was previously used as a Byzantine Christian cathedral, an Islamic mosque, and briefly as a Roman Catholic cathedral. This sacred space for Christianity and Islam historically connected people to the all-knowing Abrahamic god. DANIELA WHITE IMAGES/MOMENT/GETTY IMAGES.

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religious traditions, and the increasing spread of Christianity and Islam at the expense of local traditions, now is the time to get a sense of the variation that's out there and what explains that variation.

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## Summary

How people come to make sense of gods' minds is made possible, in part, through the normal kind of cognitive systems that help us make sense of others' minds. However, what gods know appears to diverge considerably and early in our development from how we think about others' minds both explicitly and implicitly. We have yet to determine the nature and ubiquity of how much gods know, let alone the cognitive systems responsible for entertaining such assumptions, or whether or not the target of their concerns corresponds to behaviors that increase human fitness. What people claim gods care about, however, appears to be fairly discrete and corresponds to local problems.

Moving forward, we need clever ways of understanding and empirically examining human beliefs of what it is that gods know, what they care about, whom they care about, and what these beliefs mean for individuals. Such human beliefs form the foundations of religious systems around the world. Moreover, there is great interest in understanding how

these beliefs and practices then get transmitted across minds. Further, we must account for how this information interacts with our cognitive biases in specific (and across) ecological contexts. The systematic cross-cultural examination of the contents and concerns of the minds of gods can only enlighten (even while complicating) our understanding of the origins and consequences of religious beliefs and practices.

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#### *Chapter 4: Examining the Minds of Gods*

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