

Chapter 1

Religious Evolution

On June 27, 1844, a man named Joseph Smith died at age 38 in the prairie town of Carthage, Illinois. Fewer than fifteen years earlier, he had experienced visions and subsequently established an obscure religious movement. Smith's movement was just one of hundreds of new religious movements that sprouted in nineteenth-century America and actively competed for adherents. This was a time and place of great religious innovation and fervor. When he died in 1844, Smith could not have known that he had founded what was going to be one of the most enduring religious movements in American history. Initially, the Latter Day Saints Movement had just a few dedicated followers. In the ensuing years, the church moved its headquarters to Utah and grew by leaps and bounds.¹ The Mormon Church, as it is known today, is one of the fastest growing religions not just in the United States, but in the entire world. From its unremarkable origins as an obscure sect, and within a short time span of 170 years, the Mormon Church has spread to all corners of the globe, from Argentina to Zimbabwe. Its membership now exceeds 15 million worldwide. Back-of-the-envelope calculations suggest a phenomenal growth rate of 40 percent per decade, which, in one estimate, approximates Christianity's expansion rates in the early Roman Empire. If the past trend continues, this growth will continue to increase exponentially, reaching the 100-million mark in just a few decades.²

The rise of Mormonism is just a recent example of a broader pattern of history. Pentecostalism, a once obscure Christian "charismatic" sect es-

tablished in Los Angeles in the early part of the twentieth century, has over 125 million followers worldwide and is fast becoming a contender to be the “third” force in Christianity, just behind Catholicism and Protestantism, soon displacing the venerable but demographically stagnating Orthodox branch. Like Mormonism, it is also one of the world’s fastest growing religions. On the whole, there are today nearly 2 billion self-proclaimed Christians. Islam, with 1.3 billion people, is thriving too, and fundamentalist strains are making fresh inroads into all three Abrahamic faiths. Christian fundamentalism in particular is spreading like wildfire in places like China and Southeast Asia, and most of all, in sub-Saharan Africa.³ The United States—the world’s most economically powerful society and a scientifically advanced one—is also, anomalously, one of the most religious. Over 90 percent of Americans believe in God, 93 percent and 85 percent believe in heaven and hell, respectively, and close to one in two Americans believe in a literal interpretation of Genesis.⁴ These facts and figures point to our first observation about religious evolution: despite many predictions of religion’s demise in the last 200 years, most people in most societies in the world still are, and have always been, deeply religious.⁵

The second observation about religious evolution is equally important: religions have always been multiplying, growing, and mutating at a brisk pace. In one estimate, new religions sprout at an average rate of two to three per day. “Many are called, but few are chosen,” says the Gospel according to Matthew (22:14). This “Matthew Effect” might as well refer to the iron law of religious evolution, which dictates that while legions of new religious elements are created, most of them die out, save a potent few that endure and flourish.

By one estimate, there are 10,000 religions in the world today.⁶ Yet, the vast majority of humanity adheres to a disproportionate few of them: just a handful of religions claim the vast majority of religious minds in the world. This is the third observation that flows from the first two: that most religious people living on the planet today are the cultural descendants of just a few outlier religious movements that won in the cultural marketplace. In the long run, almost all religious movements end in failure. Anthropologist Richard Sosis looked at the group survival rates of a representative set of 200 nineteenth-century utopian communities,⁷ both religious and secular. He found a striking but overwhelming pattern. The average life span of the religious communes was a mere 25 years. In 80 years, nine out of ten

religious communes had disbanded. Secular communes (mostly socialist) fared even worse: they lasted for an average of 6.4 years, and nine out of ten disappeared in less than 20 years.⁸

This cultural winnowing of religions over time is evident throughout history and is occurring every day. It is easy to miss this dynamic process, because the enduring religious movements are all that we often see in the present. However, this would be an error. It is called *survivor bias*. When groups, entities, or persons undergo a process of competition and selective retention, we see abundant cases of those that “survived” the competition process; the cases that did not survive and flourish are buried in the dark recesses of the past, and are overlooked. To understand how religions propagate, we of course want to put the successful religions under the microscope; but we do not want to forget the unsuccessful ones that did not make it—the reasons for their failures can be equally instructive.⁹

As a typical case of high expectations but disappointing cultural resilience, consider the Perfectionists of Oneida, New York. The Perfectionists believed that Jesus Christ had already returned in the first century CE, which made it possible to enjoy God’s Kingdom here on Earth. They practiced complex marriage, such that every adult man was married to every adult woman. Postmenopausal women introduced young men to the pleasures of sex. However, such hedonism was tempered by the practice of mutual criticism, in which every member of the community was regularly subjected to public criticism by a committee, or sometimes by the entire community. The commune lasted about 33 years, splintering soon after its leader, John Humphrey Noyes, unsuccessfully attempted to pass on the leadership of the commune to his son. The Perfectionists certainly could have done better! They did not last very long, although their exacting standards survive on dinner tables to this day: some of their members established what became the giant silverware company Oneida Limited (their motto: “Bring Life to the Table”).¹⁰

While the overwhelming majority of religious movements in history share the fate of the not-so-perfect Oneida commune (and are forgotten by everyone), a few have stood the test of time, and even prospered at the expense of their less successful rivals. There is a deep puzzle lurking behind these winning religions. How is it that, for thousands of years, human beings have been able to organize themselves into large, anonymous, yet cohesive and highly cooperative societies?

The Puzzle of Big Groups

Precise estimates are hard to come by, but if all human beings on the planet represented a crowd of spectators at a soccer match, only one or two of them would be hunter-gatherers. Close to all of humanity—indeed, it is safe to say more than 99.9 percent—lives in very large-scale communities of anonymous strangers.¹¹ Total strangers regularly depend on each other for livelihood, economic exchange, shelter, and defense. Going backward through time, we see that this feature of modern societies is a remarkable development that begs for an explanation. Its origins can be found in the earliest towns and villages that arose on the Fertile Crescent and the Nile, at the start of the Holocene period. This is the time marked by the agricultural revolution a mere 12,000 years ago, a blip in the vast timescale of human evolution. These communities of a few thousands, not to mention the mega-societies of today numbering in millions, contrast sharply with most of human existence, characterized by the comparatively smaller bands of foragers and hunters tied to each other with the tight bonds of blood and brotherhood driven by face-to-face interactions, and occasionally, some forms of limited interactions with strangers.¹²

Alarming, the remaining few hunter-gatherers and foragers are on the verge of extinction. When their way of life vanishes completely, a vast store of knowledge about human origins will disappear with them. While they exist, they give us important, though imperfect, clues about human origins. While many of these groups have fluid memberships and do trade and interact with other groups under some circumstances, suspicion toward most strangers is, and has been common. But at the dawn of the Holocene, and likely starting even earlier, there has been a remarkable and sustained “scaling-up” of human groups over time. In the process of this transformation, human beings have radically altered their own ecological niche, exchanging a hunting and foraging existence of face-to-face societies with an agricultural one of dense populations, followed by an industrial age of machines and mass production, and culminating in an information age of instant and mass communication. To appreciate how strange this is, consider the two explanations from evolutionary biology for the origins of cooperation. These principles can be discerned in how we relate to the two kinds of people we care deeply about—*kith* and *kin*.

First is kin selection. *Hamilton's rule* specifies that genetically related individuals cooperate with each other—and by doing so favor the spread of their shared genes. From social insects to social apes, individuals help others to the degree to which the recipient and the helper are related and the benefits of helping outweigh its costs. This logic also applies to us humans. It should come as no surprise to you that, the world over, a large share of blood, body organs, money, food, and time, are donated between close family members in a manner proportional to the degree of genetic relatedness.¹³

Second is friendly behavior among kith. There is nothing evolutionarily puzzling about genetically unrelated individuals cooperating with each other, as long as these acts are mutually beneficial, individuals can track each other's reputations over time, and cheaters are detected and socially excluded, or threatened with punishment. This is known as *reciprocity*, which governs much of our lives defined by friends, neighbors, and allies. Reciprocity, as long as certain conditions are met, is a building block of human social life. Make your first move a cooperative one, then do unto others what others do unto you, and you will go far in your social life (this is the "tit for tat" rule, one of several successful reciprocity strategies).¹⁴

In economic game experiments that model everyday interactions, total strangers are placed in cooperative dilemmas, where they are given a certain amount of money, which they can decide to keep or share with others. Mutual cooperation means profit for everyone, but how do you avoid being the sucker who cooperates but never receives anything in return? In such experiments, participants are typically found to cooperate more when they expect to interact with the same person repeatedly in the future, and this occurs right from the first round. That is, people respond to reciprocity incentives; they do not learn to cooperate by trial and error. But it's not just the expectation of future interactions that makes strangers more cooperative. Knowledge of a partner's previous play, even with a different player, or *reputation*, dramatically affects cooperation levels, and so does the threat of punishment. What makes friendships and alliances work, therefore, are reputation, expectations of future interactions, and the opportunity to retaliate selfish acts if necessary. The social imperative to cooperate requires that people eagerly and regularly assess the reputations of others, and be choosy about their interaction partners.¹⁵

If *freeriding*—the act of receiving benefits without reciprocating—incur a reliably hefty punitive cost, potential freeriders may restrain their selfish

urges. Punishment of selfish acts is an effective strategy that stabilizes cooperation, but it pushes the problem further back: monitoring and punishing freeriders itself can be costly, which means that individuals would rather see someone else punish selfish individuals and enjoy the fruits of cooperative groups. It creates opportunities for people to freeride on their punishment duties.¹⁶ One solution to this problem, of course, is *third-party* punishment—that is, policing institutions. A study done in Switzerland, for example, found that in cantons with genetically homogenous populations, where kinship ties are strong, people rely on the police less. However, in cantons with greater genetic diversity, reliance on police increases, exactly as would be expected if policing institutions were designed to enforce cooperation among strangers.¹⁷

But in the absence of modern, reliable policing institutions, who will punish those who fail to punish? It is easy to see how this leads to an infinite regress problem. How did human societies find effective (though far from failsafe) punishment mechanisms before the emergence of effective modern institutions such as police and courts? Was belief in supernatural policing an early social tool that provided a solution?

The rise of large cooperative groups is, therefore, a double conundrum. With ever-greater chances of encountering strangers, genetic relatedness subsides geometrically, and without extra safeguards, reciprocal altruism also rapidly reverts to selfishness. Neither kin selection nor reciprocal altruism can explain the rise of large cooperative societies. The puzzle deepens further. This process of “scaling up” of the cooperative sphere has occurred only very recently in human evolution—in the last 12,000 years, and in only one species—no other animal species other than humans is known for such ultra-sociality. No doubt, there is altruism among close relatives in social insects such as ants and bees, and some instances of limited cooperation among strangers under some conditions—for example, reciprocal food sharing among vampire bats, and cases of empathy-driven altruism in chimpanzees such as adoptions.¹⁸ Still, human beings are the only known species that underwent a radical transformation from small, tight-knit groups (*Gemeinschaft*, or community) to large, anonymous societies (*Gesellschaft*, or civil society), which practice sustained cooperation toward anonymous genetic strangers on a massive scale.¹⁹ This is the puzzle of large cooperative groups.²⁰

As I shall elaborate in this book, it is a puzzle that gives us important clues about the reasons behind the spread of religious beliefs and practices that reflect credible displays of commitment to supernatural beings with

policing powers. It turns out that a big force leading from *Gemeinschaft* to *Gesellschaft* was prosocial religions with Big Gods.

Back to the Puzzle of Prosocial Religions

Now let's go back to the first puzzle that I started with: the worldwide spread of prosocial religions also during the Holocene, the same historical period that saw the rise of large groups. If you are Christian, Muslim, Jewish, Hindu, Buddhist, or even an agnostic or atheist descendant of any of these traditions, you are heir to an extraordinarily successful religious movement that started as an obscure cultural experiment. To appreciate why these two puzzles are fundamentally connected, it is important to take a look at that hallmark of all religions—belief in supernatural beings such as gods, ghosts, and devils.²¹ These beliefs and their dramatic cultural evolution in the last 12,000 years both reflect a puzzle in its own right and contain the seeds of a solution to the puzzle of large cooperative groups.²²

A startling fact about the spirits and deities of foraging and hunter-gatherer societies is that most of them do not have wide moral concern. At first glance, this seems absurd—people steeped in the Abrahamic faiths are so accustomed to seeing religion tied up with morality that it is hard to recognize that this association is a peculiar cultural innovation of the recent ages, and present only in some places. But anthropologists tell us that in small bands resembling ancestral human groups, the gods may want to be appeased with sacrifices and rituals, although they are typically unconcerned about moral transgressions such as theft and exploitation, which preoccupy the Big Gods of major world religions. Many gods and spirits are not even fully omniscient to be good monitors of moral behavior—they perceive things within village boundaries but not beyond; they may be tricked by humans or be manipulated by other rival gods. Religion's early roots did not have a wide moral scope.²³

We gain appreciation for why this is so when we realize that in these intimate, transparent groups, encountering kin is common, and reputations can be monitored and social transgressions are difficult to hide. Perhaps that's why spirits and gods in these groups typically are not involved in the moral lives of people. Nevertheless, despite their relative infrequency in the supernatural panoply of hunter-gatherer societies, powerful, omniscient,

interventionist, morally concerned gods, or as I call them in this book, the *Big Gods* of prosocial religions, proliferated in the last 12,000 years of the Holocene period through cultural diffusion, population expansions, and conquest.²⁴ Why did these Big Gods colonize the minds of so many people? Were these beliefs part of the network of causes that ushered the worldwide expansion of prosocial religions? Why is it that the majority of believers in the world today worship this particular cultural flavor of supernatural agents?

Outline of a Solution

There is a simple solution to each puzzle, which is that each answers the other.²⁵ In this book, I present an argument that solves both riddles simultaneously by considering that they gave mutual rise to the *prosocial religions* and *large-scale cooperation*. Prosocial religions, with their Big Gods who watch, intervene, and demand hard-to-fake loyalty displays, facilitated the rise of cooperation in large groups of anonymous strangers. In turn, these expanding groups took their prosocial religious beliefs and practices with them, further ratcheting up large-scale cooperation in a runaway process of cultural evolution.

Weaving the various conceptual threads together, we see the outline of an emerging picture. Religious beliefs and rituals arose as an evolutionary by-product of ordinary cognitive functions that preceded religion.²⁶ These cognitive functions gave rise to *religious intuitions*—for example, that minds and bodies are separate entities and that the former can exist without the latter. These intuitions support widely held religious beliefs and related practices, such as gods, spirits, and souls of various types and characteristics.²⁷ Once that happened, the stage was set for rapid cultural evolution—nongenetic, socially transmitted changes in beliefs and behaviors—that eventually led to large societies with Big Gods.

Here is how: Some early mutants in this template were watchful Big Gods with interventionist inclinations. Believers who feared these gods cooperated, trusted, and sacrificed for the group much more than believers in morally indifferent gods or gods lacking omniscience. Displays of devotion and hard-to-fake commitments such as fasts, food taboos, and extravagant rituals further transmitted believers' sincere faith in these gods to others.

In this way, religious hypocrites were prevented from invading and undermining these groups. Through these and other solidarity-promoting mechanisms, religions of Big Gods forged anonymous strangers into large, cohesive moral communities tied together with the sacred bonds of a common supernatural jurisdiction.

Of course, Big Gods were a potent cause, but not the sole cause that led to the social expansion of some groups. Surely there are additional solutions to large-scale cooperation. Moreover, differential cultural success does not imply a moral hierarchy. But these groups would have been larger and more cooperative. These ever-expanding groups with high social solidarity, high fertility rates that ensure demographic expansion, and a stronger capacity to attract converts grew in size often at the expense of other groups. As they spread, they took their religious beliefs and practices with them, ultimately culminating in the morally concerned Big Gods of the major world religions.

And what about the secular societies of today? Only recently, and only in some places, some societies have succeeded in sustaining large-scale cooperation with institutions such as courts, police, and mechanisms for enforcing contracts. In some parts of the world such as Northern Europe, especially Scandinavia, these institutions have precipitated religion's decline by usurping its community-building functions. These societies with atheist majorities—some of the most cooperative, peaceful, and prosperous in the world—climbed religion's ladder, and then kicked it away.

Natural Religion

The idea that religions are shapers of human societies is of course not new. There is a short but illustrious history of thought in the social sciences, notably Emile Durkheim, Victor Turner, and Roy Rappaport. Durkheim, Rappaport, and others recognized the fundamentally cooperative functions of religion. But they focused on the social bonding functions of rituals, and downplayed belief in gods as tangential to religion's capacity to cement communal life and create *organic solidarity*. More recently in *Darwin's Cathedral*, evolutionary biologist D. S. Wilson placed religion's social functions in a modern Darwinian framework. My thinking in this book draws from these contributions, as well as from theorists of religion who see the study of religion firmly in the cognitive sciences. The cognitive perspec-

tive, whose intellectual origins go as far back as Hume, sees religious belief as an accidental side-effect of human cognitive architecture. It has provided the basis of a compelling account of how human minds conceive of gods. But this perspective has been mostly silent about the prosocial effects of religion. The argument in this book is an attempt at integrating these two perspectives—the social and the cognitive—which are currently seen as competing accounts.²⁸

I argue instead for a third way, which nevertheless retains key insights of these distinct views. Belief in certain kinds of supernatural watchers—Big Gods—is an essential ingredient that, along with rituals and other interlocking sets of social commitment devices, glued together total strangers into ever-larger moral communities as cultural evolution gained pace in the past twelve millennia. Thus, we do not have to choose between Hume and Durkheim. On the contrary, believing and belonging come together in religion as an integrated whole.²⁹

Drawing together evidence from across the evolutionary, cognitive, and social sciences, the argument in this book offers this third path that locates the origins of prosocial religions in a powerful combination of genetic and cultural evolution. This alternative has three foundations. First, it builds directly on the cognitive approach, which provides important clues about how certain intuitions and cognitive biases push human minds toward some recurrent templates that support supernatural beliefs. Second, it combines cognitive tendencies with cultural evolution to explain how some cultural mutants of these beliefs spread in populations at the expense of rival mutants. Third, understanding the forces of cultural competition³⁰ between groups helps us explain why groups that stumbled on such successful mutants spread and expanded. Therefore, one virtue of this “third way” is that it reconciles and consolidates important insights and observations from both social and cognitive approaches.

The Organization of This Book

Chapters 2 through 6 explore the psychology that explains the rise of prosocial religions. As the saying goes, “watched people are nice people.” In chapter 2, I explore how our basic social intuitions to monitor others’ reputations, and care about our own, makes people nice to each other. This lays

the foundation to discuss how these social intuitions give rise to supernatural watchers. Chapters 2 and 3 explain the process by which people play nice when they think God is watching. If so, it follows that belief in supernatural watchers encourages nice behavior even if no one else is watching, enabling stranger-to-stranger cooperation.

Chapter 4 delves into this connection between prosocial religions and trust. If thoughts of a watchful God make people cooperate with each other, then outward signs of commitment to God induce greater levels of mutual trust among religious believers. Where does this leave nonbelievers, who do not think that they are being watched by a supernatural police? Why are atheists distrusted in societies with religious majorities, even though they are not a cohesive or even a visible group? Chapters 4 and 5 build on the argument in this book and bring to light an overlooked but widespread prejudice tied to religion. In chapter 6, I ask, why are many religious behaviors and rituals so extravagant (from an evolutionary perspective), and how do they work to build trust and transmit passionate faith?

Chapters 7 through 9 explore the historical trends that have shaped the mutual rise of prosocial religions and large-scale cooperative communities over the last twelve millennia. By working upward from the mutually reinforcing sets of psychological mechanisms discussed in chapters 2 through 6, it becomes clear why such prosocial religious groups, by outsourcing social monitoring duties to supernatural watchers, built trust among religiously committed strangers and expanded and spread throughout the globe at the expense of rival groups. In chapter 7, I explore the connection between Big God prosocial religion and the puzzle of how large cooperative communities arose in the last 12,000 years. Chapter 8 explores how the forces of intergroup competition, including warfare, shaped prosocial religions. In chapter 9, I ask, what happens when people fall out of the moral community defined by religion? How does religion, by fostering sacred values, create intractable conflict? When does religious prosociality translate into intergroup hostility and violence? Can religion be co-opted for resolving conflict?

In the popular imagination, religion is the antithesis of secularism, yet history and psychology reveal unexpected continuities. The final great surprise of the argument in this book is the religious origins of secular societies, which is the topic of chapter 10. How did Big Groups manage to emerge and thrive without Big Gods in the last few hundred years? Largely atheist

social welfare states in Scandinavia give us striking clues as to the particular kinds of institutions, practices, and social conditions that can displace religion and build godless but cooperative societies.

Moving Forward

After a long period of stagnation, scientific progress in explaining religion has picked up pace. To be sure, the scope of our knowledge is very limited, and there are many missing pieces to the puzzle. Nevertheless, tantalizing clues are emerging from a variety of fields. But because of disciplinary specialization and academic fragmentation, these insights are considered in isolation and their connections often go unrecognized.

I am a fan of what biologist E. O. Wilson calls *consilience*, or the ultimate unity of all knowledge.³¹ In an age of knowing more and more about less and less, what is sorely lacking are efforts that help us see the forest for the trees. It is perhaps fitting that making sense of religion—the wellspring of the oldest, deepest yearnings of human beings—demand consilience. This book is a modest attempt, pulling together some of the key advances from these different fields to tell a unifying story. Undoubtedly, like other explanations, this account of religion will also be shown to contain flaws. If it has value beyond what is currently known, it is due to its ability to reconcile a wide range of observations about religious beliefs and behaviors derived from a variety of disciplines. The basic outline of an argument is emerging that simultaneously answers two of the biggest scientific enigmas about humanity: (1) Exactly how and why have some religious beliefs and practices galvanized the large-scale cooperative societies of the last ten millennia? (2) How did these processes in turn lead to the cultural spread of prosocial religions and colonize the minds of the majority of the world?