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Todd Tremlin
Minds and Gods

The Cognitive Foundations of Religion

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The Cognitive Foundations of Religion

TODD TREMLIN

Foreword by E. Thomas Lawson

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For Dicksie, who waited patiently—and believes.

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Preface

Thankfully there is no need to use this preface—as is so often the case—as an apology for yet another book on a given topic. The field today being called the “cognitive science of religion” is indeed yielding a number of scholarly monographs and collections, but the field is too young and too expansive to have yet been adequately represented or summarized. If anything, there is an under abundance of available reports for people wishing to become familiar with this fruitful new approach to human religiosity. Furthermore, the best and most revealing work currently informing the field is found in the form of experiment summaries, conference papers, and journal articles—a rich yet disparate body of material seldom seen by any but the most committed professionals.

These first words, then, invite students and scientifically literate readers to encounter the cognitive science of religion at a level that is, hopefully, both clear and engaging. This book is meant as an introduction to some of the field’s major themes, theories, and thinkers as well as fresh analyses suggested by ongoing research. No doubt those already well versed in the cognitive science of religion or its many tributaries will find much here to criticize (coverage that is too brief, analogies that are too rough, generalizations that are too broad), but the discussion purposely aims at outline and implication rather than erudition and novelty. The story told here is about everyone, so it ought to be easily followed by anyone. Likewise, it ought to provoke not only interest but also introspection. Toward that end, the style of presentation is deliberate: the cognitive perspective on religion is best communicated through instances

of common human behavior rather than through complicated theory and jargon.

Take as an example one impetus for this book: Dick Miller, my father-in-law, is remarkable in a number of ways, but one frequently noted by acquaintances is how, in his mid-seventies, he continues to operate a one-man tree-trimming service. While Dick's work and mine are worlds apart, it is obvious (I've had occasion to assist him on several jobs, carrying equipment and chipping brush) that tree trimming—and, more to the point, Dick himself—presents a perfect example of the type of mental abilities featured on the following pages. In the course of cutting branches or falling trees, Dick has to calculate such difficult vectors as the fall line of the trunk: the direction based on cut angle and structural balance, the distance based on height. Getting these measurements right is rather crucial when nearby homes and property are at risk. Dick manages this consequential task with nothing more than vision and intuitive judgment; no elaborate instruments, no trigonometry carefully worked out on paper.

Yet trigonometry certainly is being done, and with great speed and accuracy (Dick has had no more than a couple near misses in over thirty years of falling trees). Just how such mental work is so efficiently—and so *naturally*—carried off is precisely the type of question those of us studying the mind find worth asking. Experience alone is clearly not the answer. In Dick's business there is no allowance for trial and error. Moreover, no two jobs are the same; a new set of variables must be weighed each time. So the answer must be related to the operation of the brain itself. Dick's skill illuminates one of many innate processes of human cognition, in this case an arithmetic (based on spatial relationships) as effective as the explicit procedural formulas learned in school. Similar illustrations will color this book's discussion of "minds."

As to the talk of "gods," Dick serves as an exemplar as well. For just as Dick looks upward and calculates the dimensions of a tree, so too he looks upward and concludes that there is a divine being that cares about life on earth, knows what we humans think, and makes specific demands on our behavior. For Dick, the existence and characteristics of a supernatural being (in his case, a supernatural being expressed in Christian terms) come as naturally to mind as does the trajectory of the limb he is about to cut. Dick's basic understanding of god is as automatic, as intuitive, and, it turns out, as innate as the mental math that supports his livelihood. The point of this book is that knowledge of tree trimming and knowledge of gods are not unrelated; both have natural cognitive foundations. Unearthing these foundations is our project.

Concentrated focus on the processes and products of human thought, an enterprise today engaging the efforts of a broad group of researchers, is a noteworthy academic development. The recognition that the brain lies at the center of the human world—as organizer and interpreter of incoming information, as constructor and communicator of outgoing ideas—is revolution-

izing the humanities and social sciences. In fundamentally restructuring traditional understandings of human thought and behavior, cognitive science is bringing provocative new insights and methods to traditional areas of specialization, including anthropology, archaeology, linguistics, philosophy, psychology, sociology, and others. It also offers a powerful theoretical framework for compiling a truly interdisciplinary knowledge.

The scholarly inquiry into religion is no exception. Cognitive science has begun to impact this field of study with equal force—and just in time. Old and largely unsatisfying approaches to the uniquely human phenomenon of religion are being replaced by testable explanatory techniques adopted from the natural sciences. As a result, we now have powerful new answers to long-standing questions about the origin and persistence of religious thought, the processes governing the acquisition and transmission of religious ideas, and the relationship between religion's ubiquitous features and its cultural variations.

I am deeply indebted to those who introduced me to the cognitive science of religion, as well as to those who have since become my colleagues in the field. First among the former is Tom Lawson, who not only ushered me into the world of the mind and its implications for religious studies but also many others working in the field. That a cognitive science of religion now exists is due in no small part to Dr. Lawson's profound scholarly vision. The foreword he has graciously contributed to this book commends itself, and I am honored by its presence. Individuals who fall into the latter category include Justin Barrett, Pascal Boyer, Brian Malley, Luther Martin, Bob McCauley, Ilkka Pyysiäinen, Jason Slone, and Harvey Whitehouse.

I also thank those individuals who read and commented on early versions of this book, in particular Tom Lawson, Tim Light, Luther Martin, Jason Slone, and Brian Wilson. Special appreciation is extended to Staci Doty, who worked tirelessly on the manuscript and provided invaluable assistance with formatting and other irksome tasks. Finally, I thank Cynthia Read, executive editor at Oxford University Press for her many kindnesses, Julia TerMaat, and all of the folks at OUP for their diligent work on my behalf.

Note: Portions of the discussion laid out in chapter 6 (including the tables found therein) were first presented in a short essay titled "Divergent Religion: A Dual-Process Model of Religious Thought, Behavior, and Morphology" in *Mind and Religion: Psychological and Cognitive Foundations of Religion*, edited by Harvey Whitehouse and Robert N. McCauley (AltaMira Press, 2005).

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Foreword

The cognitive science of religion is no longer a gleam in the eye of its earlier visionaries. It is now established as an increasingly substantial program of scientific inquiry rigorously pursued by cognitive scientists in both Europe and North America. As with any successful scientific program, it not only involves individuals pursuing specific theoretical and experimental work, but it also means finding support in new institutional forms. The most significant of these are academic programs such as the Institute of Cognition and Culture at Queen's University in Belfast and a similar program at Aarhus University in Denmark, as well as a group of scholars associated with the Institute for Advanced Studies in Helsinki. There are also a number of scholars in the United States who have played a major role in the development of this discipline. In addition, the *Journal of Cognition and Culture* (now in its sixth year of publication) has proved to be a major venue for the publication of theoretical and experimental studies in the cognitive science of religion. Furthermore, a number of conferences focusing on the many issues and problems involved in connecting cognitive and cultural forms in both the United States and various European countries have already been held, bringing together the ever increasing number of cognitive scientists now working in this field of inquiry. More such events are in the planning stages. The number of publications, both books and journal articles, is accelerating and is beginning to make an impact in associated fields such as cognitive, developmental, and evolutionary psychology. It is, therefore, with a great deal of pleasure

that I welcome *Minds and Gods* by Todd Tremlin as a fine addition to the literature of the cognitive science of religion.

Tremlin calls our attention to an interesting fact: Religious ideas and the practices associated with them are ubiquitous. Scratch beneath the surface of any society and you will find religious ideas and practices in spades. The long view back and the wide view sideways highlights the presence and persistence of religion. This fact is, no doubt, irritating to those intellectuals who have always treated religion with suspicion, if not outright hostility, and hoped for its immediate or eventual demise. But as an ancient Greek philosopher has said: The world is full of gods. What *Minds and Gods* proceeds to show is why this is the case. Telling the story right takes knowledge, focus, imagination, cleverness, and hard work. These qualities can be found in abundance in this book.

The cognitive science of religion has been a long time coming. Many obstacles to a deep scientific understanding of religious behavior have slowed the growth of our knowledge about religious ideas and the practices they inform. This is not because scholars have had little interest in religion. The history of western thought shows that from its earliest days philosophers have wrestled with the problem of making sense of the reference of religious ideas, their truth-likeness, their origins, and their causes. Religious practices, too, have been embraced and decried. Since the Enlightenment, the status of religious belief has come under severe scrutiny. Religious belief has also found its apologists who were willing to pull out every logical trick in the book to preserve its intellectual status. What was missing from this long intellectual encounter with religion was a serious, dare I say objective, analysis and explanation of the origin, structure, and causes of religious ideas and the way that such structures inform religious practices. To understand the significance of Tremlin's contribution to the resolution of these difficulties we need a clearer picture of the obstacles.

The first of these is the overemphasis on the *interpretation* of religious ideas and practices and the paucity of work developing an *explanatory understanding* of why religious ideas arise in the first place and why such ideas and the practices that attend them persist no matter what the social and cultural conditions are. Given the Enlightenment project and its assumptions about human rationality, one would have expected religion to disappear from the human scene or at least be hidden in little isolated villages of irrationality in the backwaters of the earth. As we well know, that did not happen. While the attendance at religious observances might have diminished in some religions, the fact of the matter is that religious ideas and practices are not only alive and well but also increasing across the globe. This successful persistence of religion needs to be explained.

This need for explanation, however, points to the second obstacle to a more penetrating understanding of religion. Resistance to developing an explanatory

understanding of religion by both the humanities and the social sciences is endemic to both of these noble enterprises but for different reasons. In the case of the humanities, the focus has never been on identifying the causal factors that precipitate religious ideas. Rather, it has involved either a positive or negative evaluation of these ideas, according to some assumed norm and according to some cultural context or other. Certainly many of these interpretations of religious ideas and practices heighten our sensitivities to the intricacies of religious belief. They do not, for all of that, explain why the ideas are there in the first place. Novelists have been particularly adept at pointing to the cultural role that religious ideas play in the human story. But even powerful imaginative stories are not enough in the quest for knowledge of the intricacies of human behavior.

While I do not wish to call into question the scientific aims of social scientists, nor, for that matter, their methods, I do think that some of the underlying methodological decisions that mark the history of these sciences has unnecessarily cut them off from the genuine contributions that the natural sciences, particularly biology and psychology, can make to their putative explanations. Ever since Durkheim, insistence on the methodological autonomy of the social sciences has retarded the power of social scientific explanations because this has forced social scientists to look only to socio-cultural variables for explanations of the phenomena in question. Surface correlations between social and cultural forms, while interesting, are not enough to assuage the scientific drive for ever deeper causal explanations and the search for the specific mechanisms involved. However, sufficient critique of the standard social science model has been presented not to cover this territory again. I would point out, however, that some social scientists have themselves rebelled against the strictures imposed by the standard model and have begun to seriously explore the interface between the natural and the social sciences to the benefit of both areas of scientific inquiry. The discipline of evolutionary psychology has been particularly important in building bridges between, for example, anthropological and psychological inquiry.

Evolutionary psychology has taken a hard look at the surface variability of cultural forms and begun to identify significant regularities that underwrite such variability. This discipline has aided and abetted the work of cognitive scientists who have focused upon the problem of how the mind works, what the processes are in such working, and what products these processes construct. Evolutionary explanations of why the mind is able to engage in such construction are particularly relevant to our understanding of how and why the cognitive and the cultural are connected. Obviously, humans differ from each other in significant ways. However, despite their significance, the importance of such differences is not sufficient to exclude the search for regularities across human minds. One way of getting a grasp of these regularities is by paying attention to the constraints that both limit and enable human minds to produce

the kinds of concepts that they typically do. And there is no better way of focusing upon the constraints that play a role in the production of such concepts than starting with the cognitive development of infants. Here developmental psychology has done yeoman work in transforming our knowledge of “the scientist in the crib.” The literature on the subject is already vast and compelling.

Crucial to cognitive development is the very early recognition of agents and agency as well as the recognition of the difference between agents and everything else in the world. From an evolutionary standpoint, such knowledge has significant adaptive value. The forces of natural selection are unkind and the ability to distinguish between rocks, trees, and animals was important in ancestral environments and remains so today. Cognitive scientists have developed both interesting theories and designed clever experiments in order to uncover the various forms of intuitive knowledge that come very quickly in the development of the human mind as it strives to figure out and understand its environment. One way of describing these forms of knowledge is via the notions of folk physics, folk biology, and folk psychology. These forms of knowledge appear to be “domain specific” and independent of each other in both structure and development. That means that they are sensitive to particular environmental cues specific to the form of knowledge being acquired. They have been called “modes of construal.” I will leave it to the reader to search the literature for references to folk physics (what are the material properties of things in the world made and how do they typically interact with each other) and folk biology (what are the properties of animate things and how do they reproduce, grow, and die). Folk psychology, however, requires our attention.

Folk psychology is a theory about how human beings and other animals represent their cohorts and cousins in their environment in terms of desires, beliefs, intentions, expectations, intuitions, and so on. Scientific psychology takes these features of commonsense knowledge and theorizes about their relationship to brain states, their role in cognitive development, their biological origins through the processes of natural selection, and their function in human reasoning. Of particular interest to cognitive scientists is the deep-seated nature of folk psychology in our commonsense knowledge and its resistance to more abstract concepts underlying human behavior. This resistance has been the bane of philosophers who would like human beings to grasp the significance of scientific theorizing for providing better understandings of human behavior than those delivered by common sense. What these philosophers sometimes forget is how useful such common sense knowledge is in our commerce with the world in which we live and especially with the people and other animals that populate that world. For example, attributing desire to a leopard on the ancestral plains of Africa is a very useful notion to possess if you spot that animal looking at you from some distance away. Who can deny the importance of such an attribution to the carnivore in question?

It is, however, in the social situations that humans typically find themselves from the day of their birth that the commonsense knowledge delivered by folk psychology becomes particularly important. And here the notion of agency plays a crucial role. What distinguishes agents from everything else is their intentionality. Intentionality is the notion that human minds have representational states. To have a representational state is to possess the means for conceiving of something in a specific way. For example, when I have a concept about something is the referent of our notion about something actual, possible, or impossible? To be an agent means that the concept under consideration is something that is capable of knowing something about something, intending to do something about something, and can evaluate, upon the basis of the evidence provided in the immediate context, whether that agent in fact did know and do something as conjectured. Of course, these processes can end up being wrong. I could misinterpret the glance, the movement, the sigh, the turning of the face. But I could also be right and being right makes a difference in my relationship to that other. Sometimes my very life might depend upon my being right, whereas if I am wrong there is no great loss. As the saying goes: It's better to be safe than sorry.

Tremplin has seized upon this recognition of the importance of the attribution of agency to others in *Minds and Gods* and runs with it in intriguing new ways. In order for human beings to develop god concepts, we need first to understand how agent concepts emerge from our mental basements. The easy way out would have been to start with a notion of the mind as a blank slate and simply argue that such concepts are nothing but the consequence of the process of socialization. Ultimately, of course, socialization does not really explain very much because it ignores the problem of what capacities a person needs to possess in order to be the subject of socialization. In other words, it simply postpones the explanation. Tremplin has taken the harder route, first, by paying very close attention to the evolutionary story that has produced such significant knowledge about why we have the bodies and minds that we do and why we perceive and conceive of the world in the way that we do. He has also focused on the work already accomplished in the cognitive science of religion and provides an excellent introduction to that literature. In addition, he shows not only that religion is about gods, but also that god concepts are fascinating by-products of mental processes that, in turn, can be accounted for by the processes of natural selection. Most importantly, however, he has persuasively shown that because the concepts of agents with some counterintuitive properties so easily take hold in human minds and, in fact, play a central role in religious systems, they should be understood as providing an impetus for the development of religious systems. As if this were not itself significant enough a contribution to the cognitive science of religion, Tremplin has also introduced the notion of what is known in cognitive science as dual processing. Dual processing involves two different cognitive processes that operate at different

levels of mental representation. The first of these is a rapid, inference-rich mode of processing that points to the fact that our minds are quick responders to environmental stimuli. The rapidity with which we make judgments on the basis of fleeting cues from the surround is astounding. This mode of reasoning is inferentially rich. It does not take much for a young child to infer further relevant properties of an object when presented with either the representation of that object or the object itself. Knowing that something is an agent rather than a rock permits the child (and, therefore adults as well) to make all kinds of additional judgments about the agent.

There is also a slower reflective process where we can think about our rapid judgments. This is a meta-level of reasoning. When I think about what I just did, did I do the right thing in this instance? Why do I hesitate when I should not? What is the nature of thought? Why is there religion anyway? Did the universe have a beginning? Unlike the inferences I make when I know that I am perceiving an artificial object, for instance that clocks don't breathe but they are reasonably good indicators of the time of day, higher order reasoning provides no quick and dirty inferences for answering such questions. Some higher order forms of reasoning take years of training before we are provisionally satisfied with the conclusion we reach. Some even require the language of mathematics in order to provide solutions. And some forms of reasoning end up with nonsense.

What can we learn from this idea about the levels of thought? For one thing, the more abstract the notion the more difficult it is to deal with. In religious contexts this means that appeals to the quick and dirty notions that so easily populate our minds tend to be more successful in contributing to the persistence of particular religious systems than those theological systems that require sustained abstract reflection. This attitude has proved to be the bane of theologians who are always ready to argue for the elimination of "superstitions" and the curtailment of ritualized behavior. This does not mean that such models of abstraction will die out. Theology has a long and sometimes distinguished intellectual history. But the institutionalized forms that provide the playground for the manipulation and development of such abstractions never succeed in playing the decisive role that the theologians constantly hope for as they dream of bettering the thoughts of typical religious participants. It is sometimes all too obvious that the religious system works quite well without depending to any significant degree upon such theological notions. Sometimes theology seems to do little more than provide soothing background noise. Even if this is an unnecessarily harsh characterization of theology's place in religious systems, at least it must be said that such notions are not the motor that drives religious ideas and the practices these ideas inform, nor does it play any significant role in the growth and decline of religious traditions. In fact, the picture that is emerging in the cognitive science of religion is that there is not one motor, even when we focus on the quick and dirty processes, but that there

are *many* motors. It all depends on the level of analysis involved. What Tremlin has accomplished lies in his identifying the role that god concepts play as part of the complex causal story that is now being told in the cognitive science of religion. That is a considerable achievement.

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Minds and Gods

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Introduction

In the sprawling shrine complex of Kataragama on the island nation of Sri Lanka, men and women from different religions come together each year to fulfill vows to this ancient Hindu god by offering him baskets of fruit, rolling on hot sand, walking over burning coals, piercing their bodies with metal lances, even hanging themselves from hooks impaled in their backs. Unlike some other gods in the Hindu tradition, Kataragama identifies with common people and has the power to answer worldly petitions, from cures for illness to help in passing government exams. He does not expect sacrifice in advance, but once a favor is granted, he demands his due.

Throughout the Gulf region of the Arabian Peninsula, Muslim men and women not only have faith in Allah but also believe in beings named jinn, malevolent spirits, and demon possession. In order to safeguard their families from such beings and the misfortune or illness they bring, Bedouins and townspeople alike have long employed a rich tradition of charms, decoys, and disguises. One of the most common methods of deflecting malevolent forces is the use of amulets, small containers or pieces of jewelry stuffed with passages from the Qur'an believed to shield the owner from harm. Many spirits, while dangerous, can also be fooled. A traditional method of protecting infants, for example, is to purposely speak ill of them, or even give them disparaging names, in order to trick evil beings into thinking them unworthy victims.

In the Pomio Kivung, a popular cargo-cult movement among the Baining peoples of East New Britain Island, Papua New Guinea, many hours are spent each day preparing elaborate meals to feed

the spirits of ancestors who come to feast in special thatch-roof temples. The most important of these ancestors is a heavenly assembly of spirits known as the "Village Government." While the ancestral spirits of deceased kin are also given food offerings, cultivating relations with the Village Government is especially important because it is this divine assembly that, after judging the Baining peoples worthy, will one day return to earth in the bodies of white people, bringing with them the technological knowledge and material resources to turn the Baining's land into a utopia of Western-style industry and wealth.

At the baptism of a teenage girl in a Pentecostal church in Los Angeles, the pastor invokes the triune nature of god—"Father," "Son," and "Holy Spirit"—as he immerses the young lady in a pool of water. Unlike many other deities around the world, this being is to be worshiped and prayed to, but no sacrifices are required. In this case, god is said to have offered *himself* for sacrifice, and lifelong devotion to this being is the salvific exercise of his followers. Across the street, members of a Roman Catholic church worship the same god, yet they also spend a great deal of time offering prayers to a woman named Mary, *theotokos*, "Mother of God," as well as to a wide range of saints possessing special powers of their own.

Across the Japanese landscape, simple wooden arches called torii mark sacred sites—groves of trees, rocks, waterfalls, and mountains—where nature deities, or kami, reside. Kami are the energies that animate nature. They created the world; they embody the sun, moon, wind, sea, and fire; they gave birth to Japan's first human emperor; they prompt rice to grow in fields and lava to flow from volcanoes. In order to honor or engage the power of kami, these beings are treated as persons and given names. In large public shrines and at small altars in private homes, the kami are regularly revered with offerings and plied with prayers for personal health, success at work and school, and other worldly affairs.

Around the world and throughout history, in cultures as diverse as Mesopotamia and Mesoamerica, among people as different as the Yamana of Tierra del Fuego and present-day New Yorkers, religion shares at least one feature in common—belief in gods. These beings come in many forms. They may be the absolute, all-powerful deities of monotheistic religions like Judaism, Christianity, and Islam, or beings with very human behavior, such as certain gods in Roman and Hindu religion. They may play important roles in maintaining human or cosmic harmony, like the Wakan Tanka of the Lakota Sioux in America and the Orisa of the Yoruba in Africa, or they may be dangerous or foreboding forces to be avoided or placated, like the Pöört hozjin, a Scandinavian spirit that lives under fireplaces and floors. Thus the term "god" can be misleading, as it is usually understood, at least in the West, to designate some eternal, supreme deity rather than the ghosts, ghouls, spirits, minor gods, or any of the seemingly endless possibilities found in cultures, communities, and