What Is God?

Can Religion Be Modeled?

THOMAS B. SHERIDAN

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PRAISE

“It is rare to see the ultimate question of God as prime mover examined as a problem open to rigorous scientific inquiry. Thomas Sheridan has now done it with admirable clarity.”

—Edward O. Wilson, Pellegrino University Research Professor Emeritus, Harvard University, Two-time Pulitzer Prize winner, and author of the *The Meaning of Human Existence* (2014).

“Sheridan's argument supporting atheism is different and unique. It is a scholarly, scientific argument, rather than an emotional one. It should be included in every library collection focused on human belief systems.”

—David G. Gil, Professor Emeritus of Social Policy, Brandeis University.

“The book is well written, well-organized, comprehensive, informative, and unique. I am not aware of similar books in the literature."

—Victor Stenger, Author of *God, the Failed Hypothesis*, Professor Emeritus of Physics, University of Hawaii and Visiting Fellow in Philosophy, University of Colorado.

“A novel addition to what one might call 'quantitative theology', raising some interesting ideas about the relation of science to religion. It also provides a concise summary of the history of religion and ideas, and an excellent summary both of scientific method and scientific modeling."

—Neville Moray, Professor Emeritus of Applied Cognitive Psychology, University of Surrey, UK.

“Prof. Sheridan's work provides a new and interesting perspective from which to view this topic. The section on Modeling (what it is and how it works) is an achievement of clarity.”

— Jay Reuscher, Professor Emeritus, Department of Philosophy, Georgetown University

About the author

Thomas B. Sheridan is Ford Professor Emeritus of Engineering and Applied Psychology at the Massachusetts Institute of Technology. His research and five previous books have focused on human behavior in interaction with complex systems. He is an elected member of the National Academy of Engineering of the National Academy of Sciences.

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PREFACE

Why another book on God? What I am offering is what I think is a different approach, one based on *modeling*. Modeling is effort to characterize a thing or process in language that is specific, unambiguous, denotative and can be understood by interested parties. Modeling is widely employed in science, engineering, medicine, business and government.

Our linguistic difficulty in coping with the idea of God is hardly novel. But abandoning the effort to examine God and religion because of insufficient language seems inexcusable, much as it is inexcusable to abandon effort to cope with the many other "imponderables" of life and love and being for which written language falls short.

Some scientists and some philosophers claim that denotative modeling is a *sine qua non* for asserting what is real, at least real in the sense that a thing or process can be understood publicly, i.e., not confined the private subjective thoughts of one person, and communication is limited to metaphor such that interpretation of meaning is arbitrary.

The question of God has bothered me for many years, both because the idea is so incompatible with science, but also because throughout history God has been the justification for killing and mayhem on a grand scale, and that same tradition is alive and well today. What has also frustrated me is that people, especially those who make a profession of religion, refer to God as though they know what God is, and imply that others know what is meant by the term.

I hope it will be shown to the reader's satisfaction that the abstract concept of God is not amenable to modeling but the human practice of religion is.

Modeling is what I have done in the context of human performance and human-machine interaction for my entire academic career. As with religion, modeling human-machine interaction involves people's beliefs and faith in computers and technical entities that are non-human, though nowadays computers may be called "intelligent", but often are not well understood by the people using them. Traditionally those same properties are attributed to God. There is an interesting parallel relationship between God and "intelligent" machines.

I have not been unchurched. I was raised in a Midwestern Presbyterian church. Since marriage my wife and I have been active in a New England Congregational church, where she has been a deacon and Sunday school teacher. I have also been a deacon as well as serving two stints as moderator, or lay leader of the congregation, and I have lectured to meetings of the World Council of Churches. For several years I convened a monthly discussion group on the subject of God and religious belief, but then we discontinued that group because it seemed that it was becoming uncomfortable for participants to probe their religious beliefs too deeply.

Following an introduction the first chapter of the book reviews the acceptable criteria for denotative modeling as contrasted to expression of an idea in connotative language such as metaphor. The second chapter includes some rather different perspectives on believing anything, but surely perspectives pertinent to the God question. A third chapter reviews what different well-known individuals throughout history have had to say about God: primarily philosophers and theologists, including all sides of the issue. A fourth chapter deals with belief demographics, answers to the question of what can be modeled, and proposes a redefinition of God. Finally, the fifth chapter is a summary and conclusion.

ACKNOWLEDGEMENTS

Several colleagues have contributed to this work in very significant ways. My huge gratitude starts with Neville Moray, a thoughtful critic and longtime friend who read several drafts and provided wise counsel in getting this oddball effort off the ground and challenging many of my assertions along the way. Alex Kirlik, Catherine Alexander, Jack Hunter, Ray Nickerson, Shelly Baron, David Gil, Michael Martin, Luis Fernandez, Victor Stenger and E.O. Wilson are also thanked for reading drafts and providing valuable comments. To Russ Ferrell, my coauthor in a 1974 book, the copyright to which we jointly own, I owe thanks for many of the model explanations in the Appendix here that closely parallel those in that earlier book. And of course my great love and appreciation to Rachel, who tolerated many hours of my head-in-the-computer.

INTRODUCTION

Purpose of the book

Juxtaposing the two terms *God* and *modeling* is jarring for most people. The two words seem not to fit together. As the term model is ordinarily used, it has to do with science, engineering, economics, business, and government. In those activities one strives to describe and explain things and relationships *objectively* in *denotative* language that is clear and concise, that refers to observable evidence, that will be widely accepted and understood, and will be useful. Ideally the logic of a model enables quantification and thus makes it easier to verify predictions.

With respect to *God* the book purposely avoids discussion of religious traditions, and deals with God only as an abstract concept and an entity usually believed to be a supernatural being. In any religious tradition God is an entity that has to do with subjective experience: feelings, faith and worship. The nature of God is normally expressed in *connotative* language such as metaphor, myth, poetry and music. These expressions might be called models, but surely they are of a different kind of model from the way this book uses the term. Connotation allows for personal interpretation as to meaning, which is its strength in a human society. Denotation seeks to be precise and unambiguous in meaning, which is its purpose. I purposely make a distinction, though one can cite examples that lie between the poles.

God language seems to lie as far from the language of denotative models in science, engineering, economics, business, and government as one can get. And surely metaphor, myth, poetry, music and other forms of connotative expression are all very important for enriching our lives. Life would be dull without them.

So does it make any sense at all to try connecting denotative modeling to the subject of God and religion? When it comes to human belief in an entity as something that is real I would contend that it does make sense to examine the challenge. Surely one can try to model the *behavior of people* who profess belief: the activities of worship, prayer, and participation in church activities by giving time, money and creative energies. But it is a different challenge to model God *per se*, to describe and explain what God *is*.

The book will deal with both challenges. Note that I am limiting the discussion to modeling God *per se* and to people's belief in God, so I am avoiding the facts of history and beliefs concerning human prophets such as Jesus and Muhammad.

My approach to these two challenges asks what can be accomplished with respect to God through denotative modeling, which can also be called *scientific modeling*. Scientific modeling means formulating a specific representation of something based on observable evidence and reason. The more of perceived reality that can be lumped together in this formulation the better. Further, It is better if the formulation involves some metric, if the resulting model is robust in its application, if it can find acceptance by many people, and if it is stated concisely to make it unambiguous. The book goes into detail on these modeling attributes.

This approach is clearly in the vein of positivist philosophy. However I do not go so far as to deny acquisition of any knowledge through introspection and intuition, or from metaphorical written or verbal communication (they surely are models of a sort). The important distinction is that metaphorical modeling *intends* to leave interpretation of meaning to the observer, whereas scientific modeling does not.

I believe the modeling approach is different from most writings on the subject of God. On the other hand the emphasis on modeling is consistent with a perspective on reality common in modern physics called *model based realism*. This is emphasized by physicist Stephen Hawking in his recent book *The Grand Design*[1]. This perspective assumes that the only way we know reality is through our models. It says there is no other or any independent test of reality.

Sometimes two or more models are equally predictive of observations, which makes for ambiguity in knowing reality. But that's what we are stuck with.

Reality of course is a subject that has been debated by philosophers through the ages, and there is no intent here to settle the matter of what is "real". Some dictionaries define reality as what actually exists, whether observable or not, as contrasted to what is thought (imagined, felt, dreamed). A different perspective is that we know our world only though our perceptions, which are thoughts. What is clear is that the reality of perceptions and thoughts, though we may try to share them with others, necessarily remain private to a large extent and cannot be observed directly. In contrast, public reality is what is available to be observed by anyone wishing to make the effort. A full discussion of what is real is a matter of semantics and philosophy that cannot be settled here. A later section of the book discusses the question of whether mental function can be modeled. For now we pose as a gold standard of reality what is amenable to denotative or scientific modeling.

Model dependent reality is not a new idea. In 1709 Bishop George Berkeley came close when he asserted that things cannot even exist without being perceived by people.[2] I would prefer to assume that there is some reality "out there", and that we just have a hard time getting at it. (Else what is there to perceive, perception in today's psychology being seen as a cognitive transformation of sensations of *something*?)

So, assuming models are how we know things, and scientific models are more reliably explicit than metaphorical models, the prime questions I am posing are: (1) Can God *per se*, i.e., some common understanding of the *nature* (structure and function) of God, be modeled by anything close to what I call a scientific model? (2) Can different people's acquisition of belief, and their religious practice of belief and worship, be so modeled? Some readers might claim that these two questions are inseparable. However I will conclude this book by arguing no to the first question and yes to the second.

Throughout the centuries theologians have told us that God is a perfect person: all powerful, all knowing and all loving. We are told that God created the universe, that He knows each of us intimately, and He loves us dearly. Accordingly we are expected to accept and believe in Him, love Him, obey Him, glorify Him. But since ancient times there have been skeptics: What is the evidence that He made the universe? How can He know everything about every particle in the universe? Why do bad things happen to good people? In this writer's opinion there have never been satisfying answers to these questions, and clearly I am not alone. Every child asks them outright. And every adult thinks them, often guardedly, not to offend others or reveal ignorance or skepticism.

What is at issue with regard to religion and belief? First and foremost, *what and where is the evidence* of God? And what constitutes *credible* evidence? Second, what is our *obligation with regard to seeking truth*, as contrasted to just believing without regard for truth? Is "truth" simply conditional upon what is emotionally satisfying, what makes one feel good? Third, how has the biggest force in human history since the enlightenment, namely science, changed how these questions can be approached, or should be approached?

The anthropologist T.M. Luhrmann[3] has observed and interviewed many evangelical churchgoers and found that many of them apparently do not consider belief in God to be necessarily central to their faith, which seems a logical contradiction to the usual definition of the word faith. As one woman Luhrmann cited put it, "I don't believe it but I'm sticking to it". Luhrmann claims that many people do not go to church because they believe, but rather they believe because they go to church. Apparently the social participation activity is what fosters "belief", not any logical basis.

This book cannot deal comprehensively with those issues, which necessarily must confront fundamental questions in the vast literature on philosophy and religion. Rather, the engagement here is done from the narrow perspective of trying to capture for the reader only the essence of salient arguments that bear on the questions being asked about God. This author

is a scientist whose primary qualifications are in the explicit representation of the natural world in words, graphics and mathematics. Most of my experience in research and teaching has had to do with modeling what humans believe and do. Models provide the means by which scientists, engineers and managers communicate their ideas to one another, make predictions, make progress in scientific discovery, and apply their findings to benefit people in living their daily lives.

So again: does or can modeling have anything to do with God and religion? Is it best to leave modeling to science and engineering and not muddle the theological waters with techno-gibberish? After all, we have more than two thousand years of history of beautiful sacred texts full of myth and metaphor, which many will claim are means quite capable of dealing with God and the human urge to worship a transcendent being. However, insofar as myth and metaphor may fall short as ways of fully knowing reality, and to the extent that scientific modeling of the observable secular world around us has become more rigorous, it poses a grand challenge. The challenges are (1) to model what people believe God *is or might be (*and is that even possible) and (2) to model people's acquisition and practice of belief in God. And to do so with as much scientific rigor as can be brought to bear. I claim the modeling approach makes a sharp distinction between these two challenges that so often are blurred in people's minds.

With respect to God *per se,* i.e., the *nature* of God, what appears to emerge from the considerations discussed in this book is that there is a shortage of substance in the writings of philosophers and theologians sufficient to constitute any kind of scientific model. More bluntly, *there is nothing there to model*. The book will go to some effort to show that the first modeling challenge appears impossible to meet. With respect to people's acquisition and practice of belief in God, there is plenty of substance available. Studies of many kinds have been done and will continue to be done, but there remains a challenge to formulate better models and make predictions.

If we cannot model God in a credible way, does that mean that God cannot be considered real, and therefore is the practice of religion a complete delusion and waste of people's energy? But this is getting ahead of the story.

For whom is the book intended and what is included

This book is aimed at anyone interested in science, philosophy, psychology and religion with academic background sufficient to understand the terminology and patience enough to wade though some complex ideas. It seems necessary for the reader to appreciate the distinction between denotative scientific models on the one hand, and connotative metaphysical and theological explanations and religious myth on the other.

Coping with the above issues will require taking a plunge into the methods of science and modeling, presented in Chapter 1. The latter reviews a number of issues regarding what a model is. I offer a novel taxonomy of model attributes, according to which one might assess the quality of a model. There is a review of different types of models in the Appendix. Mostly Chapter 1 addresses the "science of modeling belief".

Then, in Chapter 2, in order to bridge to the discussion of belief and God, several topics are discussed that imply models of how people come to their beliefs of what is real in the context of ordinary daily activities (as contrasted to religion). This is apart from difficult challenge of formulating a scientific model of God. It is useful to contrast some different perspectives on believing, where potential belief in existence of anything precedes the effort to model (else why model, what would there be to model?). These considerations include trust, virtual reality, a curious historical theory about self-consciousness, and a model of belief formation borrowed from computer science.