

THREE QUESTIONS ABOUT *MINDING GOD*

by Dennis Bielfeldt

Abstract. Gregory Peterson's *Minding God* does an excellent job of introducing the cognitive sciences to the general reader and drawing preliminary connections between these disciplines and some of the loci of theology. The book less successfully articulates how the cognitive sciences should impact the future of theology. In this article I pose three questions: (1) What semantics is presupposed in relating the languages of theology and the cognitive sciences? How do the truth conditions of these disparate disciplines relate? (2) What precisely does theology gain from what is central to cognitive science: the emphasis on information processing, inner representation, and the computer model of the mind? What exactly does cognitive science offer to theology beyond the now-standard rejection of Cartesian dualism, the affirmation of an embodied mind, and the repudiation of reduction? (3) What can the cognitive sciences offer in tackling crucial questions in the theology-science discussion such as divine agency and divine causation? Finally, I point to a possible begging of the question in the claim that cognitive science relates to theology because theology deals with meaning and purpose, and a particular interpretation of cognitive science grants more meaning and purpose to human beings than antecedent post-Cartesian positions in the philosophy of mind.

Keywords: cognitive science; divine causation; emergence; reduction; theology and science.

Gregory Peterson's *Minding God* (2003) introduces the cognitive sciences to the general reader and draws some general connections between this burgeoning set of disciplines and some of the traditional loci of theology, specifically the doctrines of human being, nature, and God. The book is full of basic information about study areas within the cognitive sciences, including evolutionary psychology, artificial intelligence, neuroscience,

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and primate studies. Peterson even forays into issues within the philosophy of religion such as the problem of evil, the anthropic principle, and intelligent design. Throughout, *Minding God* is suggestive and exceptionally well written. It will be used widely in religion-and-science courses at both the undergraduate and graduate levels.

Minding God ably lays out some of the basic issues confronting the effort to relate the cognitive sciences to theology and sketches some general proposals for how one might (or might not) theologically understand human personhood and the world in light of the cognitive sciences. It is not entirely clear, however, what enduring significance cognitive science actually has for the future of theology.¹ What does cognitive science offer to theology beyond the rejection of Cartesian dualism, the affirmation of an embodied mind, and the repudiation of reduction? Is there something particular that theology gains from the cognitive sciences' emphasis on information processing, inner representation, and computer model of the mind? In addressing this question, much depends upon how we define theology.

Minding God neither articulates nor defends a grand, constructive position as to how cognitive science can help us understand the nature of the divine mind, divine agency, or divine causation. Rather than advancing a constructive proposal about how models of mind employed in cognitive science aid in conceiving the divine, Peterson's book is a mosaic of suggestions about how cognitive science might influence theological content and method, especially as it relates to thinking about what it is to be a person or what the nature of nature is. There is no doubt that Peterson believes that theology ignores the cognitive sciences only at its own peril. Unfortunately, it is not always clear what perils are avoided by attending to these new disciplines.

Wisely, *Minding God* does not advance a constructive position on the nature of God, for it is not at all clear what cognitive science can offer theological reflection on divine personhood. In my opinion, the big question is whether the cognitive sciences can say anything constructive about how God's mode of being might be conceived. How can these disciplines help us understand how God could causally relate to the universe without compromising either God's divine nature or the universe's physical nature? A close reading of the book finds precious little that furthers the discussion of the central question as to how robust divine agency is possible within a physical universe assumed to be closed to overt supernatural intervention.

I focus my comments around three questions that seem critical to the attempt of *Minding God* to relate theology to the cognitive sciences. Hopefully, raising them will forward the conversation Peterson has opened between theology and the cognitive sciences. The first question is semantic, the second, broadly speaking, epistemological, and the third metaphysical. They are as follows:

1. What view about the *truth conditions* of theological assertions is presupposed by the attempt to relate theology and the cognitive sciences in the way that Peterson does? Does Peterson's penchant for a scientific theology presuppose a type of realism? In other words, is there a fact of the matter about theology, a fact of the matter about cognitive science, and a fact of the matter about the relation between theology and the cognitive sciences?
2. Given that the dominant positions in the philosophy of mind over the last fifty years have denied Cartesian dualism and advocated monisms in which the mental is conceived to be somehow realized within the framework of the neurophysiological, what specifically do the cognitive sciences offer theology in understanding personhood? Simply put, what are the salient characteristics of cognitive science that makes it particularly useful to theology?
3. Given the difficult theological task of somehow relating God and world, what do the cognitive sciences have to offer those who are concerned with finding a positive way to understand divine agency and causality? Is there something in particular about the cognitive revolution that can forward discussion about how to conceive the nature of the divine or the divine's relation to the world?

ON TRUTH CONDITIONS, REALISM, AND SEMANTICS

Minding God raises important issues about the relation between theology and the cognitive sciences. Given that theology is an ancient discipline whose "data" are in large measure determined by tradition, and given that cognitive science is a startlingly new area of study whose data are discerned empirically, how do the truth conditions of the two disciplines differ, and how does this difference make a difference theologically? Related to this is the question of realism. Are real objects, states of affairs, events, and properties being referred to in theology? Are there such things in the cognitive sciences? How do the two relate? In order to get clear on these questions we must examine what Peterson believes theology is, what the cognitive sciences are, and how, in general terms, Peterson believes that these discourses relate.

Near the beginning of the book Peterson defines theology as "that field of inquiry whose primary purpose is to discern the meaning and purpose of life"; it is concerned "with the task of providing orientation and direction for the individual" (p. 14). Theology does this by providing an orienting worldview, a constructive vision of self and world that "orients believers in their interior lives and outward behavior." In accomplishing this, theology makes use of a rather complex language that must be given an interpretation. What does it mean to speak of God, the soul, and salvation?

It is important to realize how Peterson is *not* defining theology. Instead of viewing it narrowly as discourse about God and God's relation to the world, he defines theology more broadly.² Theology, in practice, tends toward anthropology. It is "dedicated to providing an understanding of the human person and the human situation" (p. 9). God is important only because human beings speak about and believe in such a being. According to Peterson, understanding the meaning and purpose of the self is a thoroughly theological concern. If concerns of meaning and purpose are theological, and if cognitive science relates to meaning and purpose, it follows that cognitive science relates to theology.

Peterson acknowledges the plurality of ways in which one might understand theological discourse. One might take such utterances to be basically poetic in nature. Theological concepts are here understood to be primarily disclosive in that they harbor "the potential to elicit new experiences and insights" (p. 16).³ Peterson, however, is much more interested in a scientific theology, one that understands *God* to denote "a particular kind of being or reality in relation to ourselves and to the world." Such a theology offers explanations that "tend toward the literal." Accordingly, "definitions, propositional claims, and rational argumentation" are very important. Because theology "makes claims about the world," it has a great deal at stake in its confrontation with the cognitive sciences. Furthermore, Peterson understands the cognitive sciences to be a trajectory of empirical theories evolving over time, having particular core commitments, the most important being the rejection of behaviorism (p. 29). Over and against the latter, cognitive science takes mental content seriously in understanding human personhood.

So, how do the two disciplines relate? Is there a basic commensurability? Are the two languages autonomous, or is one semantically reducible to the other? Do the languages denote theories, one of which is reducible to or analyzable in terms of the other? Do the predicates (or properties) of one of the language supervene upon or, alternatively, emerge from the predicates or properties of the other? Does one language deal with an altogether different region of facts than the other? Or does one language merely express subjectivity and not deal with facts at all?

Peterson does not offer detailed treatment of these questions, but he does say some quite provocative things that impact on these issues. In fact, *Minding God* suggests that cognitive science should function as "data" for theology (p. 21). Peterson explains, "Cognitive science may provide insight, inspiring options that had not been previously considered. It is in this sense that cognitive science may serve as a lens for doing theology. A lens helps us to see what we might not have seen otherwise. Ideally, a lens clarifies. In this approach, cognitive science does not dictate the content of theology, but it does provide insight for getting the theology right" (p. 21).

Peterson seems to be saying that the theological tradition bequeaths a set of options that must be continually developed and adjudicated by reason with an eye toward their meaningfulness and purpose and that cognitive science can offer some reason to prefer certain theological positions to others. This entails, of course, that cognitive science has some normative role to play in theology. This should not be surprising; theology is a joint product of the claims of the tradition over and against the claims of reason. Just as the Platonic dualism at Alexandria influenced the shape of theology in the third century, the cognitive science of our day might influence the theology of our time—or so it seems Peterson would have us believe.

Peterson rightly rejects the reducibility of theology to the cognitive sciences (pp. 18–19) while pointing to the challenge that cognitive science presents for theology. Instead of advocating reduction or conflict, Peterson opts for the metaphor of the lens. Lenses help us see what has not been seen while making less focused what has previously been sharply perceived. This metaphor of cognitive science as a lens is thoroughly epistemic. Cognitive science focuses theology upon different questions than would otherwise have been the case.

Given that attention to cognitive science can influence the theological facts or beliefs highlighted or emphasized, the question arises as to precisely how what cognitive science talks about influences that about which theology is concerned. Peterson seems to want to grant theology truth conditions; he assumes that scientific theology makes statements about that which, in principle, could make those statements false.⁴ The same is apparently so for the statements of cognitive science. Now the question is this: Given that something can falsify a theological statement, what is this “something”? Is it the instancing of a set of theological properties, theological events, or theological states of affairs? Is it a failure of consistency or coherency on the part of certain theological statements? Is it the mere fact that these theological statements really have little value with respect to the meaning and purpose of our life? Or is this something the fact that these theological statements cannot govern or guide the use of other language pertaining to questions of meaning and purpose?

Obviously, the realist wants to claim that there are facts of the matter that make true or false theological statements. There are many stripes of realism, all with the central assertion that there exists a set of truth conditions grounded in that which lies outside our conceptual webs or linguistic conventions.⁵ Although there is little in Peterson’s work to suggest that he is a *metaphysical* realist who assumes the possibility of evidence transcendent truth conditions, much of what he says is consistent with a *critical* realism that asserts the existence of particular theological facts that determine the truth value of theological statements—even when those theological facts are imperfectly known and influenced by human perception and conception.

Much of what Peterson says is, however, quite consistent with other accounts of theological truth. According to the theological coherentist, if a theological statement is consistent with and coheres with other theological (and nontheological) statements, the statement can be regarded as true. Accordingly, the truth conditions of the statement do not constitute a theological fact but rather the consistency and coherency of the statement with other pertinent statements. Simply put, on this view "God is a person" is not true because there is some being referred to by "God" having the property of personhood, but rather because such an assertion is part of a coherent set of beliefs about God.

According to the pragmatic conception, the truth or falsity of a theological statement is a function of its ability to be put to use productively in the life of an individual and/or community. On this view, it is not theological facts that falsify statements but the nonexistence of a theological consensus concerning what is deemed subjectively satisfying and promising. When Peterson speaks of theology as dealing with the "meaning and purpose of life" he seems to be endorsing a pragmatic conception of truth. Obviously, if a necessary condition for theology is its pursuit of meaning and purpose in life, and if some putative theological "fact" is neither meaningful nor purposeful, it cannot be considered a theological fact. Conversely, if theological statements are accepted, they must be meaningful and purposeful, no matter how likely it is that a theological fact might be stated by them. Defining theology as the search for meaning and purpose certainly seems consistent with construing theological statements pragmatically. It is entirely possible that a class of statements making no assertions of theological fact are nonetheless deeply meaningful.

One might also attempt to understand theological language as regulative. Instead of making assertions of fact, theological language regulates our other use of language.⁶ I see little in *Minding God* that suggests that Peterson operates with this view. It seems to me that he agrees that the theology/cognitive-science discussion is concerned with truth. But much depends on the precise conception of truth assumed in considering cognitive science to be a lens for theology. Let us examine the different conceptions of truth in light of understanding cognitive science as a lens.

If cognitive science is a lens to theology, cognitive science acts to bring theology into focus. How might this focusing be conceived? On a realist construal, thematization of certain facts of cognitive science operates to highlight and/or reconsider particular theological facts. For instance, cognitive science's understanding of self or personhood might lead to a reconsideration of the doctrine of the soul. Accordingly, those portions of the tradition that downplay the immortal soul are lifted up, while those parts of the tradition advocating such a soul are suppressed. Cognitive science is presumably acting as "data" here, because it functions to give evidence to the truth of one conception over the other. Part of the theological tradi-

tion was simply wrong when it came to thinking about the nature of the soul, no matter how subjectively satisfying the belief in the immortal soul was and no matter how great the consensus concerning it.

On a coherentist notion, cognitive science could also function to suppress certain options and highlight others. Obviously, the notion that the soul is not separable from the body coheres much better with cognitive science than the dualistic notion that predominated in the tradition. Of course, when relating claims from different traditions the problem always arises as to which tradition to privilege. For instance, one might ask why cognitive science is allowed to change theology's worldview. Why not allow theology to change the worldview of cognitive science instead? When two statements or groups of statements are in tension, one set or both must be adjusted. It seems clear that theology will always be in the role of the one adjusted. On this view cognitive science does not just highlight facts but rather changes them. Instead of a lens we have a hammer.

The same problem appears to arise for the pragmatic criterion. If a certain set of theological beliefs is pragmatically useful and a set of beliefs from the cognitive sciences is also useful, how can one adjudicate between their different kinds of usefulness? On this view, will not cognitive science more than likely determine the meaning and purpose of theology? If certain aspects of the tradition no longer resonate with cognitive science, they will no longer be understood to be true. But if certain aspects connect with the cognitive sciences on the issue of meaning and purpose, they will tend to be taken as true. On this view, new developments in cognitive science could strongly influence the truth of theology statements.

In considering all of these matters, it seems that the lens metaphor requires the assumption of a particular kind of realism. Privileging scientific over poetic theology drives one to understand theology more or less realistically. However, there is a problem. Defining theology in terms of having meaning and purpose drives one toward a pragmatic rather than a realistic construal of theological statements. Meaning and purpose do not concern the facts but are a function of our attitudes toward the facts. (They are a function of our attitudes even when there are no facts.) My first question to Peterson is this: Are you advocating realism or not? If so, how does this realism link to your definition of theology in terms of meaning and purpose?

WHAT COGNITIVE SCIENCE OFFERS THEOLOGY

Related to the first issue is that of the real distinctiveness of cognitive science for theology. What exactly do the new cognitive sciences have to offer in the adjudication of theological views on man/woman, nature, and God? It is not good enough to say that they reject a Platonic soul, a disembodied mind, and supernatural mental agency, because all of these denials

have been known by theology before the cognitive revolution. To evaluate what cognitive science can offer theological thinking one must find what features of it advance or challenge the theological discussion in ways in which previous views did not. In order to do this, we must have clarity on the essential nature of cognitive science. What are those features both conjointly sufficient and individually necessary for something to be considered a cognitive science?

I take the central hypothesis of cognitive science to be the claim that thinking is best understood in terms of the mind's representational structures and the computational procedures that apply to those structures. Over and against the behaviorist attempt to understand the mental in terms of stimulus/response conditionals, cognitive science claims that human beings actually do have mental states, states possessing the capacity of representation, states that are related to each other computationally. The mind is thus an information-processing system whose states can be both described and nomically (lawfully) linked to other states. Indeed, it is an information-processing system that runs on the hardware of the brain: representational mental states are realized by complex neurophysiological states and events. In brief, we can say that *X* is a cognitive discipline if and only if it (1) claims that the mind operates through representation; (2) claims that the mind is an information-processing system making use of computational procedures; and (3) declares that this information processing is realized in or implemented by the hardware environment.

The question immediately follows: How does seeing the mind as a representational, information-processing program help us to gain theological understanding of God, self, or world? Although I certainly agree that cognitive science provides models and metaphors for understanding human nature, the precise theological significance of this needs to be examined.

Peterson distinguishes between the metaphysical and soteriological accounts of human nature and discusses how cognitive science affects them. "Metaphysically, cognitive science profoundly affects how we think of issues of human origins, man and body, the unity of the human person, and the potential for human freedom. Soteriologically, cognitive science affects how we think of mental health and thus human well-being, our relationship to other organisms, and the nature of human cooperation" (p. 10).

There is no question, of course, that cognitive science affects how we think about ourselves and our happiness. Over and against the limitations of behaviorism, cognitive science actually has the resources to think about human thinking. In so doing, it tends to apprehend the very same freedom and dignity that behaviorists like B. F. Skinner were wont to deny. The question is this: Should this rediscovery of freedom and dignity be construed as a theological issue? Why not conceive of it as a philosophical matter? Or why not see it merely as a psychological question?

Because the languages of theology and psychology use different terminology emerging from disparate linguistic traditions, it is important to ask how the traditional terms of theology are to be related to those of the cognitive sciences. For instance, cognitive science can surely help us think about human well-being, our relationship with other organisms, and the nature of human cooperation. But it is not clear that these are soteriological issues. Can one talk about *soteriology*, a word arising within the theological context, by discussing human well-being, or is something important being left out? Can one speak of soteriology outside of a definite religious tradition? What are the criteria of application for the term *soteriological*? This issue needs to be faced more squarely.

Finally, throughout *Minding God* Peterson finds in the cognitive revolution an autonomy to the mental that short-circuits any easy nothing-but reductionisms. For instance, he writes that there is “little in cognitive science to support claims that belief in God is somehow necessarily delusional or merely an opiate of the masses” (p. 187). Presumably, behaviorism employs reductions that deny the reality of the mental altogether. But such a denial of the mental cannot succeed theologically, because theology is concerned with meaning and purpose, the very things seemingly denied by such reductions.⁸

However, it is not clear that cognitive science qua cognitive science must entail a denial of relevant reductions. Indeed, Jaegwon Kim has argued that any robust mental causation must actually entail a reduction of second-order mental properties to first-order physical realizers (Kim 1999, 112ff.). The general orientation of cognitive science is undoubtedly more fruitful for theology understood in Peterson’s way than crude behaviorism was, but it is possible that nonreductive physicalisms that do not highlight representational information processing might be equally fruitful.⁹ In my opinion, it is not the sheer existence of cognitive science that is primarily at issue in the discussion with theology but the philosophical positions that interpret cognitive science. Some of these are truly more helpful for theology than others. In light of this, I ask Peterson the following question: What do you think is the most salient feature of the cognitive sciences that influences (or should influence) theology?

DIVINE AGENCY AND CAUSALITY

In the book’s eighth chapter, “The Mind of God,” Peterson briefly explores the analogy from mind and body to God and world. Because he rejects a substance dualism of the mental and physical he must reject the ontological dualism of God and universe that goes with it. Such a repudiation of dualism is, of course, quite consonant with central assumptions of cognitive science—the mind is an information-processing system, capable of representation, whose processing is implemented, or realized, by neurological events and processes.

But now we run into a major problem for theology. If we use cognitive science as a lens to understand the divine mind, we must somehow think of God as embodied. This means that the representational, information-processing, computational system constituting the divine mind must be implemented or realized by some set of physical events. Given that we are assuming a scientific theology, it seems that one and only one of the following can be true if the divine mind is capable of representation and the processing of information:

1. The representational information processing of the divine mind occurs wholly nonphysically (dualism).
2. The representational information processing of the divine mind is wholly realized physically (physicalism).
3. The representational information processing of the divine mind is realized partly nonphysically and partly physically.

These three greatly limit our options, especially if we reject #3 as incoherent. (After all, if the divine mind is implemented both physically and nonphysically, some part of the divine mind remains nonembodied. This means that anyone rejecting #1 should also reject #3.) By rejecting #3 as incoherent, it is clear that #1 or #2 must hold. If ontological dualism is to be rejected, then we are left with #2. But now, clearly, we have a dilemma, for #2 implies that the information-processing, representational nature of the divine is *dependent on* underlying physical realizations. This means that God becomes the all-determined reality rather than the All-Determining Reality.¹⁰

Peterson, for his part, clearly distances himself from the problems associated with #2: "Awareness of the sheer specificity of human personhood seems to require that any disanalogy between God's personhood and our own be far greater than any analogy" (p. 200). Because cognitive science can show us to what extent human personhood depends on biology and society, and because God's personhood is obviously not dependent on biology and society, we learn (or should learn) from the cognitive sciences to practice the *via negativa* when trying to think the divine person: "By looking at ourselves we also see how unlike us God is" (p. 201). Instead of emphasizing the analogy between God/world and mind/body we would do better to thematize the *disanalogy*. God's personhood or nature is unlike our own. However, because the personal nature of God is so completely assumed in Christianity, Islam, and Judaism, we cannot simply say that God is not a person. Evidently, God *is* a person but a very different one than human persons. For Peterson, there "is not simply one mode of personhood but many." Consequently, "to speak of God as person is in fact to reach the boundary of language" (p. 201).

The conclusions that Peterson reaches here are by no means to be lightly regarded. If we can no longer make sense of the immortal soul, we have

lost a valuable model or metaphor to think God. Moving from substance dualism to the functionalism of the cognitive approach has not then provided us with a model or metaphor that “clarifies the theological understanding of God.” In fact, things have gotten worse. We once could make some sense, from the standpoint of dualism, out of the notion of a divine mind or person; now we are left in the uncomfortable situation of having somehow to retain the language of the theological tradition with respect to person while nonetheless admitting that we have no way of understanding how divine personhood is even possible. It seems that to the degree that Peterson opts to push the disanalogy between God as person and human persons he is forced to admit that there is an ontological substance dualism between God and the universe. The argument goes like this:

1. Divine personhood is wholly unlike human personhood.
2. Human personhood is best understood with the aid of cognitive science—a representational information-processing system realized within a physical system.
3. The divine representational information-processing system is realized within either a physical system or a nonphysical system.
4. If human personhood is realized physically, and divine personhood is unlike such a personhood, the representational information processing of the divine person is nonphysical.
5. Any view claiming that divine representational information processing is nonphysical presupposes ontological substance dualism.

It seems therefore that cognitive science provides us with no models or metaphors for the theological task of understanding God, unless such an understanding of God entails that God cannot be conceived. Furthermore, the computational nature of the information processing explored by cognitive science seems inappropriate for understanding the divine mind. Surely such a mind is not ruled by an algorithm; surely such a mind is free. So what does Silicon Valley have to do with Jerusalem? My third question for Peterson is thus this: Is there anything positive that cognitive science contributes to thinking about divine agency and causation?²¹

CONCLUSION

What has Gregory Peterson’s excellent book taught us? It has instructed us well as to much of what is happening in the cognitive sciences, and it has discussed some of these results in connection with some of the traditional loci of theology. We have learned that the human mind can be conceived by cognitive science in such a way as to downplay reductionism and save what is distinctive about us. Although the problem of consciousness remains intractable for the cognitive sciences, enough work has been done to

allow us to understand human beings as not mere automata but as functioning programs that can seemingly act purposely and with freedom. This is surely an improvement over logical behaviorism or the reductions of mid-twentieth-century Positivism. Because theology is concerned with meaning, and because cognitive science seems to grant more meaning to human beings than its alternatives do, it is fruitful to use it theologically. But, as I have suggested, should we really define theology so broadly? Is there not some begging of the question involved in suggesting that cognitive science relates to theology because a philosophical interpretation of cognitive science grants more meaning and purpose to human beings than did positions in the philosophy of mind that preceded it, and that meaning and purpose is the province of theology?

One final thought. Peterson's depiction of the relation between cognitive science and theology presupposes a very general understanding of theology. Subsequently, there is nothing in cognitive science that would allow us to better think the nature of the Trinity, the two natures of Christ, the theory of atonement, the concept of regeneration, the notion of justification, the idea of faith, the nature of church and sacraments, and the doctrine of the last things. Clearly the traditional loci of confessional theology have not been touched in Peterson's book. But, of course, this is not a problem if one believes that addressing these loci is not crucial for relating theology to the sciences. For those who think that such questions are essential to theology, however, *Minding God*—indeed, much of the theology-science conversation to date—will not be deeply satisfying.

NOTES

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1. There is no doubt that Peterson finds the cognitive sciences deeply significant for theology: "I suggest that all forms of theology stand to be affected by a serious dialogue with the cognitive sciences. Insofar as methodology and content are connected, the content of the cognitive sciences can affect the way we go about *doing* theology" (Peterson 2003, 12).

2. Indeed, Peterson defines theology broadly enough to be able to speak meaningfully about nontheistic theologies.

3. The disclosive-symbolic construal of theological language recalls the "experiential-expressive" approach thematized and rejected by George Lindbeck (1984, 31–32).

4. For instance, Peterson argues that God is not a person in the way that the cognitive sciences understand personhood (pp. 200–201). Presumably, the assertion that God possesses properties of personhood like those advocated by cognitive science is false, because such a thing does not obtain. The falsity conditions for the assertion of a divine personhood different than human personhood would be the existence of a divine person comprehensible by cognitive science.

5. There are, of course, numerous realist positions one can advocate. There is *representational* realism, which claims that one can immediately encounter only one's own ideas, concepts, or percepts, but that these strongly resemble the actually existing things. One could claim to be a representational realist, deny the resemblance of the idea to the thing, and yet hold that there is something extra-mental producing the idea in me. This position has also been termed *transcendental* idealism. In addition to representational realism there is *presentational* realism, which claims that one really does confront the things and not merely the ideas of the things. Here one might be a *naïve* realist, claiming that what one experiences is what actually obtains, or a *critical*

realist, asserting that what one experiences is to some degree what is, though some of what one experiences is transformed by the causal factors leading to the distinct experience. There are other typologies one might employ in trying to grasp the various kinds of realism. Hilary Putnam's *internal* realism seems closest to a nonresembling representative realism, while the *metaphysical* realism he criticizes appears to entail naive realism (Putnam 1981; 1988; 1990).

6. Lindbeck speaks of the cultural-linguistic construal of theological language that would understand such language as that by which definite religious experience is made possible (1984, 32–41).

7. My own view is that theological language can relate to the language of the cognitive sciences as follows: The functional image of the theological term is mapped to the background language as is the functional image of the cognitive-science term. If the theological term entails the cognitive science term, the functional image of the theological term is a superset of the functional image of the cognitive-science term. If the two are equivalent, the functional images of each determine the same set. By using this strategy one avoids the temptation of thinking that the two terms are either incommensurable or somehow synonymous.

8. One can distinguish many different kinds of reduction, and it is critically important that one understand whether a particular reduction does in fact do away with meaning and purpose (Bielfeldt 2003).

9. Peterson suggests that taking the cognitive sciences into account makes it difficult to conceive any longer of theology as independent from the sciences. After all, "much of what all subjects do clearly arises out of and is made possible by the processes of the brain" (pp. 11–12). But surely there is nothing distinctive about the cognitive sciences in thinking this way. The central state identity theory championed by Australian materialism could claim the same thing. Similarly, just as cognitive science can challenge human uniqueness, so can behaviorism and all species of mind/brain materialisms.

10. I assume that if a higher-level functional description supervenes on the lower physical one and thus that higher-level properties are realized by lower-level ones, the properties of the lower level are *sufficient* for the instantiation of the properties of the higher level. But sufficiency entails determination in this context.

11. Cognitive science makes use of functionalism that understands the states of the mind to be individuated with respect to their inputs and outputs. Jill may be in the mental state of desiring beer because, upon being inputted with the perception of beer in front of her, and no relevant causal defeaters, she takes the beer and drinks it. While the mental state is defined by its inputs and outputs, it is realized by the physical environment in which it is implemented. The physical events that constitute the perception of the beer in front of Jill, the physical events that comprise all would-be defeaters, are efficacious in the output of the physical events constituting the beer's drinking. Causal efficacy is implemented at the physical level, a level sufficient for the causal relevancy of various cognitive states upon one another.

A model or metaphor that would take seriously the cognitive-science model in thinking God would have to claim that God's personhood could somehow be *clarified* or better conceived by cognitive science. Such a model would claim that the representationality spoken about by cognitive science could somehow capture the intentionality of the divine mind. A problem would arise as to information processing, however. It seems that a minimal condition for information processing is time. If God is conceived as living through time, the cognitive approach could be useful in understanding how God can be in discrete mental states. However, if God's thought is conceived classically as nondiscursive and simple—if the divine thought is but one eternal thought of all things simultaneously—it does not seem that cognitive science or functionalism can be much help at all.

REFERENCES

- Bielfeldt, Dennis. 2003. "Reductionism." *Encyclopedia of Religion and Science*. New York: Macmillan.
- Kim, Jaegwon. 1999. *Mind in a Physical World: An Essay on the Mind-Body Problem and Mental Causation*. Cambridge: MIT Press.
- Lindbeck, George. 1984. *The Nature of Doctrine: Religion and Theology in a Postliberal Age*. Philadelphia: Westminster.

- Peterson, Gregory. 2003. *Minding God: Theology and the Cognitive Sciences*. Minneapolis: Fortress.
- Putnam, Hilary. 1981. *Reason, Truth and History*. Cambridge: Cambridge Univ. Press.
- . 1988. *Representation and Reality*. Cambridge: MIT Press.
- . 1990. *Realism with a Human Face*. Ed. James Conant. Cambridge: Harvard Univ. Press.