Christian Perspectives on Religious Knowledge

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Divine Knowledge

Alvin Plantinga

Who has directed the Spirit of the LORD,
or as his counselor has instructed him?

Isaiah 40:13

Theists typically hold that God is *omniscient* or all-knowing. This means at least that God knows every true proposition and believes no false propositions. Theists typically add that God is *essentially* omniscient: he is in fact omniscient, and furthermore it isn't possible that he should have the complement of omniscience; he is omniscient in every possible world in which he exists. If, with most theists, you think God is a necessary being and therefore exists in every possible world, you will add still further that God is *necessarily* omniscient — omniscient in every possible world, those being the worlds in which he exists. If this is so, then the proposition that *p* is true, for some proposition *p*, will be equivalent in the broadly logical sense to the proposition that God *knows p*, and also to the proposition that God *believes p*. (Here, of course, we think of belief in such a way that it is not precluded by knowledge: belief, so thought of — as the medievals said — is a matter of thinking with assent.) Charles Taliaferro argues that what we have so far is not sufficient for divine omniscience; no doubt he is right. (There is also the matter of God's knowing how to *do* various things, of his knowing without inference,[1] and

1. But see George Mavrodes's paper "How Does God Know the Things He

in general knowing in the way that befits a perfect being.) I suppose the majority opinion, however, is that the above requirements (or at least the first of them) are at any rate *necessary* for omniscience.

I. The Problem

But some have seen a problem here. They claim that there are *some* propositions which do indeed have a truth value, but which are nonetheless such that not even God knows whether they are true. (Others might not perhaps be willing to go quite as far as all that, but would still be prepared to say that there is a 'real problem' in God's knowing these propositions.) Examples of such propositions would be, first, 'future contingents', such as *there will be a sea battle tomorrow*, and, more poignantly, propositions specifying free future actions, such as

> *(1) Sam will be free with respect to the action of having lunch tomorrow, and will in fact have lunch tomorrow.*

A second sort of example would be *counterfactuals of (creaturely) freedom:* truths about what free creatures would do or would have done under various circumstances. There are at least two important varieties of counterfactuals of creaturely freedom: first, those that say what some of the free creatures there actually *are* would have done under various circumstances, and second, those that specify what would have been done by free creatures if there had been free creatures *different* from the ones there actually are. An example of the first kind would be

> *(2) If you had offered to sell Paul your car for $500, he would have (freely) bought it.*

A (slightly more arcane) example of the second would be

> *(3) If God had strongly actualized T(W)*[2] *(W, a world in*

Knows?" in *Divine and Human Action*, ed. Thomas Morris (Notre Dame: University of Notre Dame Press, 1988), pp. 345ff.

2. For explanation of 'T(W)' see *Alvin Plantinga*, ed. Peter van Inwagen and James Tomberlin (Dordrecht: D. Reidel, 1985), p. 50.

which there exist human beings distinct from any that exist in α, the actual world) there would have been an initial pair of human beings distinct from any that exist in α, who, unlike Adam and Eve, would not have sinned.

Or

(4) Essence E1 is unexemplified and is such that if it had been exemplified in conditions C, then its instantiation would have been free to do what is wrong but would have done only what is right.

We can arrange these in order of magnitude with respect to the difficulty there seems to be in supposing that God could know them. First and perhaps least difficult would be to see that God could know propositions like (1), propositions about what some presently existing free creature will in fact freely do. Second and next most difficult would be propositions like (2), propositions that specify what some free creature would have done, had that creature been free in circumstances different from those it in fact occupies. Third and most difficult would be propositions that specify what would have been freely done by free persons that would have existed, had there existed free persons distinct from the persons that do in fact exist. (Perhaps, as with [4], we should think of this in terms of individual essences that are not in fact exemplified.)

Now what is the difficulty with God's knowing (1) through (4)? Here there are four quite different positions. First, it might be maintained that God doesn't know such propositions because as a matter of fact there simply aren't any such propositions to be known. There just aren't any propositions about future free actions; and there just aren't any counterfactuals of creaturely freedom. There simply is no such proposition, so the claim goes, as *Paul will freely take part in a sea battle tomorrow.* But can this really be true? It certainly *seems* that there is such a proposition; and it certainly seems that someone could believe it. In fact, I myself often believe, so it seems to me, propositions about the future free acts of persons, both of myself and of others. That there is such a proposition as *Paul will freely take part in a sea battle tomorrow* seems no more initially doubtful than that there is such a proposition as *Paul freely took part in a sea battle yesterday.* Why think there is a

problem with there being propositions like (1)? And doesn't the same go for propositions like (2)? Knowing Paul, I am inclined to believe proposition (2); could it really be that there simply is no such proposition? The commonsense view, surely, is that there are such propositions; for the contrary view we would need a solid (or at least reasonably imperforate) argument (and we would also need some account of those sentences which seem to express such propositions but in fact, on the view in question, do not). I don't know of any such argument, and for purposes of present discussion I shall simply assume that there are such propositions.

Second, it might be held that, while indeed there *are* propositions of these kinds, they do not have truth values. This is a venerable view, and it has boasted many advocates who are both acute and accomplished. This is not the place to give this view the careful attention it clearly deserves. Instead, let me simply record the fact that I find this view as puzzling as the previous one; it is at best monumentally difficult to see how a proposition could fail to have a truth value. A proposition makes a claim, it says that the world, or some part of it, or something it contains, is a certain way, or has a certain property; such a proposition is therefore true if the thing in question has the property and false otherwise. Suppose I say that Paul (now) has the property of being such that he will take part in a sea battle tomorrow. What I say is true if he has that property and false otherwise. It is false if, for example, there *is* no such property as *taking part in a sea battle tomorrow.* If there *is* such a property, however, then if Paul has it, the proposition is true; and if he doesn't (doesn't *yet,* say), then the proposition is false. How could it possibly fail to be either true or false? An *utterance of a sentence,* of course, can fail to be either true or false. I awake with a slight cold; testing my voice, I say, remembering a scene from last night's TV program but referring to no one, "She's got that funny look again." My utterance is neither true nor false: it fails to express any proposition, on that occasion. An utterance of a sentence is true (false), however, if and only if it expresses a proposition, and the proposition it expresses is true (false). But if you tell me that there *is* such a proposition as *p,* only, as it happens, it is neither true nor false, I will be puzzled. I don't see how it *could* fail to be true or false. I shall therefore also assume that the propositions of these three sorts have truth values.

A third view is restricted to counterfactuals of freedom. This view

holds that while indeed there *are* such propositions and while they do indeed have truth values, they are all false — in fact *necessarily* false.[3] Once more, I can't take the time and space here to discuss the matter properly.[4] Very briefly, however, the reason given for supposing that these propositions are false — namely, that there is necessarily nothing that grounds their truth or makes them true — seems to hold for counterfactuals of divine freedom if it holds for counterfactuals of creaturely freedom. But won't any theist hold that at least some propositions of the sort represented by

> *(5) If Adam and Eve had not sinned, God would have (freely) refrained from forcibly evicting them from the garden*

and

> *(6) If this bit of iron had been heated, God would have (freely) upheld it in existence and permitted it to expand*

are true? I shall also, therefore, assume that counterfactuals of creaturely freedom are not all necessarily false (and indeed that some are true).

The view I really want to discuss is the thought that, while indeed there *are* true propositions of these three kinds (and some of them are true), they can't be known by God. Richard Swinburne, for example, holds that God could know what I will do tomorrow, but he freely averts his eyes from these propositions in order to shield our freedom. The idea seems to be that there is indeed a *truth* about what I will freely do, but if God were to *know* that truth, then I wouldn't do what I will do *freely*. It therefore follows that there is a truth about what I will freely do, but God can't know it.

But *why*, on the sort of view in question, can't God know these propositions? What, precisely, is the problem? One answer for propositions of the first sort would be that they can't be known, because if God *knows* what you are going to do, it follows that you don't or won't

3. This is the view embraced by Robert Adams in "Middle Knowledge and the Problem of Evil," *American Philosophical Quarterly* (1977). In the piece in question, he doesn't explicitly say that these propositions are necessarily false, but only this interpretation fits the rest of what he says, a fact that he has confirmed in personal communication.

4. See my reply to Adams on this point in *Alvin Plantinga*, pp. 372ff.

do that thing freely.[5] I don't think this does follow.[6] This is not the place to debate the issue, however; let's set this suggestion aside, for the moment, and assume, as seems to me in fact to be the case, that God's knowing that I will do *A* does not entail that I won't do *A* freely. I am instead concerned with the *second* reason for supposing that God does not know such propositions: the view that these propositions — counterfactuals of freedom and/or propositions about someone's future free actions — *simply can't be known*. God is omniscient, all right, but his being omniscient means not that he knows everything (every true proposition) but rather that he knows everything that can be known.

Well, why do such people think these propositions can't be known? The fundamental answer, I think, is that we can't see *how* they could be known. How could God know a thing like that, a thing about the future, or about some counterfactual situation that, so far as logic goes, could go either way? Thus, for example, Jerry Walls: "the basic idea that God knows what is possible through knowledge of His essence is sensible enough as is the claim that the created order in some sense mirrors the divine essence. But *the manner* in which God can know what choices would actually be made by free creatures remains quite mysterious."[7]

I think we must agree that we don't or can't see how God could know a thing like that. He can't know a future free choice by taking advantage of causal laws and causal regularities, for example, because the action in question would be by hypothesis *free;* therefore causal laws and antecedent conditions determine neither that the action would take place nor that it would fail to take place. So he couldn't know that the action will occur by knowing causal laws and present or hypothesized conditions and extrapolating either to the action's taking place or to its failing to take place.

Here the point has to do with counterfactuals of freedom; but a similar point holds for future free actions. God can't know that Paul will (freely) take part in a sea battle tomorrow by knowing causal laws and present conditions, for the action in question is by hypothesis free.

5. See, e.g., Nelson Pike's "Divine Omniscience and Voluntary Action," *Philosophical Review* 74 (Jan. 1965). Pike's seminal piece has generated a veritable cottage industry of objections and replies.

6. See my "On Ockham's Way Out," *Faith and Philosophy* 3, 3 (July 1986): 235-69.

7. Jerry Walls, "Is Molinism as Bad as Calvinism?" (!), *Faith and Philosophy* 7, 1 (Jan. 1990): 89.

Further, I assume that God has a temporal perspective (I realize that there is weighty opinion on the other side); his perspective is similar to ours in that he knows that some things have already happened, some things are at present happening, and other things will happen but haven't happened yet. (These things are no more and no less than the sober truth; hence if God doesn't know them, he isn't omniscient.) Therefore God also does not just *see* these future free actions taking place, because they are not (at present) taking place. You might reply that he just sees that they *will* happen; that seems right, but it reintroduces the alleged problem, which is *how* does he 'see' that they will happen?

So he can't know propositions about future free actions by knowing present conditions together with causal laws and computing how they come out; nor (on the temporalist perspective) does he know them by *seeing* the actions take place, in the way we see what is presently happening. (Of course, he might see that they *will* take place, but that reintroduces the very perplexity at issue.) Furthermore, he can't know (creaturely) counterfactuals of freedom by knowing causal laws and present conditions — nor, of course, by way of seeing the relevant actions take place. (In the case of many counterfactuals of freedom, the relevant actions do *not* take place.) And since we can't think of any other ways in which he might know such propositions, we are inclined to conclude that he couldn't know them.

II. Divine Simplicity to the Rescue?

Bill Mann makes an interesting suggestion here: he believes we can get an answer to the question of how God knows propositions (1) through (4) by drawing on the doctrine of Divine Simplicity (DS). According to this puzzling but popular doctrine, no distinctions whatever can be made in God; his essence is identical with his existence, each of his properties is identical with each of his properties, and he himself is identical with each of his properties, as well as with his essence and his existence. By DS, then, God's *knowledge* of each of the propositions (1) through (4) is identical with his *willing* them; thus God's knowledge that Sam will (freely) have a sardine sandwich for lunch is identical with God's willing that Sam (freely) have a sardine sandwich for lunch. There is no problem, presumably, with seeing how God can know the

latter;[8] since the latter is identical with the former, there is also no problem with seeing how God can know the former. Mann restricts his account to *contingent* facts, facts such as that Sam is eating a sandwich, and encapsulates his idea as follows:

> For any contingent situation S, God's knowing that S is the case = God's knowing that he wills that S is the case = God's willing that S is the case = God's knowing himself = God.[9]

This is a bold and interesting suggestion; but I can't see how it can be right. We might note first that Mann's restriction to contingent truths is unnecessary; if DS is true, then for *any* true propositions *A* and *B*, *God's knowing A* will be identical with *God's knowing B*. Therefore his knowing that Sam will freely have lunch is identical with his knowing that 2 + 1 = 3; and since there is no problem with the latter, there is none with the former. Still further, on Mann's version of DS *God's knowing that Sam will freely have lunch* is identical with *God's knowing that he wills that Sam will freely have lunch;* but it is also identical with *God's willing that Sam will freely have lunch,* and, indeed, with *God's willing that there be such a person as Adam.* Since there is no problem with seeing how God could will that there be such a person as Adam, there can be none (on the current suggestion) with seeing how he can know that Sam will freely have lunch.

Indeed, the method can be extended much further. Atheologians have claimed that the existence of evil is incompatible with God's being omniscient, omnipotent, and wholly good; and believers in God themselves are sometimes deeply perplexed by the question of why God permits some particularly horrifying evil. For *God's knowing that there is evil* is identical with *God's knowing that 7 + 5 = 12;* the latter is clearly compatible with his being omniscient, omnipotent, and wholly good; the former entails that there is evil; therefore the existence of evil is compatible with God's being omnipotent, omniscient, and wholly good.

8. In fact, there does seem to be a problem with seeing how he can accomplish the latter: If God *wills* that Sam have lunch, will Sam have lunch *freely?* Perhaps we can mend matters by a change of example: God's knowing that Sam will (freely) have a sardine sandwich for lunch is identical with God's *permitting* Sam to have a sardine sandwich for lunch.

9. Bill Mann, "Epistemology Supernaturalized," *Faith and Philosophy* 2, 4 (Oct. 1985): 452.

Furthermore, God's permitting that horrifying evil is identical with his loving mankind; there is no call for perplexity in the latter; therefore there is none in the former either.

But surely something has gone wrong; I can't sensibly allay my perplexity about God's permitting the Holocaust by noting that *God's permitting the Holocaust* is really identical with *God's loving humankind,* or his creating the world. Of course, one problem here is that all of these arguments are reversible: we could just as well argue that God's creating the world or knowing that 2 + 1 = 3 is perplexing, since each is identical with his permitting horrifying evil, and *that* is perplexing. But perhaps the real problem here is the doctrine of divine simplicity. According to that doctrine, at least as it is understood by Mann, God's permitting horrifying evil is identical with his loving mankind; and each is identical with his knowing that 2 + 1 = 3. This claim is so perplexing and counterintuitive that we should accept it only if there are enormously massive and powerful arguments in its favor. So far as I can see, however, there are no such arguments in its favor; in fact, so far as I can see, there aren't even any *moderately* massive and powerful arguments in its favor.[10] Accordingly, we are left with our original perplexity: How can God know future contingents? More specifically, how can he know such propositions as (1) through (4)? And we are left with our original inclination to doubt or deny that he knows such propositions because we can't see how he *could* know them.

III. The Solution

Now I believe this line of thought — the line issuing in an inclination to deny that God can know propositions like (1) through (4) — is mistaken. For the presupposition here is that, while we don't know how God knows about future free actions, we *do* know something about how God knows things — what *past* free actions have been performed, for

10. See my *Does God Have a Nature?* (Milwaukee: Marquette University Press, 1980), pp. 26ff. For contrary opinion, see William Mann, "The Divine Attributes," *American Philosophical Quarterly* 12 (1975); "Divine Simplicity," *Religious Studies* (1982); and "Simplicity and Immutability in God," *International Philosophical Quarterly* (1983). See also Eleonore Stump and Norman Kretzmann, "Absolute Simplicity," *Faith and Philosophy* 2, 4 (Oct. 1985) and Thomas Morris, "On God and Mann: A View of Divine Simplicity," *Religious Studies* 21, 3 (1985): 299-318.

example, or that 2 + 1 = 3, or that he exists and is omniscient, or that he wills the salvation of all people. But *do* we know how God knows these things? How does he know necessary truths, for example? You might say, "He knows necessary truths by knowing his own nature; propositions are divine thoughts, and necessary propositions are the thoughts God thinks with assent in every possible world. Necessary propositions, therefore, are the thoughts such that it is the nature of God to affirm them; so in knowing his own nature he knows the necessary propositions." Perhaps so; but then how does he know his own nature? And if there is a problem with his knowing future free actions, how does he know past free actions? Why isn't there a problem with his knowing *them?* For that matter, how does God know *present* free actions? How does he know that you are presently and freely (I hope) reading this essay?

The truth, I think, is that we believe we have a pretty good idea of how *we* know things of that kind; as a result, we see no problem in God's knowing them. *He* knows them (we assume) in something like the same way in which *we* know them — or, if that's false, then at any rate we know of a way in which those things *can* be known. We think we know how *we* know them, and as a consequence we aren't bothered by the question of how God knows them.

A. How Do We Know?

I want to argue that this line of thought is imperceptive. Once we clearly see what it is for *us* to know such things (once we clearly see how we know them), then we see two things: *(a)* that God doesn't and couldn't possibly know them in anything like the same way, and *(b)* that what we know about how God does know what he knows gives us no reason for distinguishing among various kinds of truths, taking some but not all to be such that we have a reason for thinking it unlikely that he knows them.

We know an astonishing variety of propositions. God has created us with cognitive faculties designed to enable us to achieve true beliefs with respect to propositions about our immediate environment, about our own interior lives, about the thoughts and experiences of other persons, about our universe at large, about the past, about right and wrong, about the whole realm of abstracta (numbers, properties, propositions, states of affairs, possible worlds, sets), about modality (what is

necessary and possible), and about himself. These faculties work with great subtlety to produce beliefs of many different degrees of strength, ranging from the merest inclination to believe to absolute dead certainty. Our beliefs and the strength with which we hold them, furthermore, are delicately responsive to changes in experience — perceptual experiences, of course, but also experiences of other kinds; they are also responsive to what others tell us, to further reflection, to what we learn by way of systematic inquiry, and so on.

How do we know these things? How does our knowledge work? Well, you say, we know different things differently; I know that 7 + 5 = 12 in one way, that all human beings are mortal in another, that I am appeared to redly (or am suffering a mild pain) in still another, and that I was appeared to redly yesterday in yet another way. That is certainly true; but can't we also say something *general* about how we know? From a theistic point of view (and who but a theist would be interested in our problem?) the first thing to bear in mind is that we human beings have been *created,* and created in the image of God. In crucial respects we resemble him. God is, of course, an *agent;* he has aims and intentions and takes steps to accomplish his aims. (Thus he creates the world, sustains it in being, providentially brings good out of evil, institutes a plan of salvation, and so on.) But of course God is also an *intellectual* or *intellecting* being; indeed, he can't be an agent or a practical being without being a knower, an intellecting being. He has knowledge; in fact, he has the maximum degree of knowledge. He holds beliefs (even if his way of holding a belief is not the same as ours). He is omniscient: he believes every truth and believes no falsehoods. He therefore has the sort of grasp of concepts, properties, and propositions necessary for holding beliefs; and since he believes every true proposition, he has a grasp of every property and proposition.[11]

In setting out to create human beings in his image, then, God set out to create beings who could reflect something of his capacity to grasp concepts and hold beliefs. Furthermore (as the whole of the Christian tradition assures us), his aim was to create them in such a way that they

11. We can go further: from a theistic point of view the natural way to view propositions, properties, and sets is as God's thoughts, concepts, and collections. See my "How to Be an Anti-realist," *Proceedings of the American Philosophical Association* 56, 1 (1983); Thomas Morris's and Christopher Menzel's "Absolute Creation," *American Philosophical Quarterly* (1986); and Menzel's "Theism, Platonism and Mathematics," *Faith and Philosophy* 4, 4 (Oct. 1987).

can reflect something of his capacity for holding *true* beliefs, for attaining *knowledge.*[12] This isn't his *only* aim in creating us with that complex, subtle, and highly articulated establishment of faculties we do in fact display. No doubt he also aimed at our being able to make and enjoy and appreciate poetry, art, music, humor, play, adventure, and their like; no doubt he was also aiming at our being able to love each other and him. But among his aims is that of enabling us to achieve knowledge, both for its own sake and for the sake of its connection with these other aims.[13]

God has therefore created us with cognitive faculties designed to enable us to achieve true belief with respect to a wide variety of propositions. These faculties work in such a way that under the appropriate circumstances we form the appropriate belief — better, the appropriate belief is *formed* in us. In the typical case we do not *decide* to hold or form the belief in question; we simply find ourselves with it. The Enlightenment myth of the rational human being proceeding magisterially through life, assessing the evidence for and against the propositions that come to his attention and coolly deciding on the basis of that assessment what to believe, is just that: a myth.[14] Upon being appeared to in a familiar but terrifying way, I believe there is a truck bearing down on me; on being asked where I went for a walk yesterday, I find myself with the memory belief that it was up Mt. Cargill; you tell me about your summer vacation and I acquire beliefs about where you went

12. Thus, for example, Thomas Aquinas:

> Since human beings are said to be in the image of God in virtue of their having a nature that includes an intellect, such a nature is most in the image of God in virtue of being most able to imitate God. (*Summa Theologiae* Ia q.93 a.4)

> Only in rational creatures is there found a likeness of God which counts as an image. . . . As far as a likeness of the divine nature is concerned, rational creatures seem somehow to attain a representation of [that] type in virtue of imitating God not only in this, that he is and lives, but especially in this, that he understands. (*Summa Theologiae* Ia q.93 a.6)

13. In C. S. Lewis's novel *Out of the Silent Planet* (New York: Macmillan, 1947), the creatures on Malacandra (Mars) are of several different types, displaying several different kinds of cognitive excellences: some are particularly suited to scientific endeavors, some to art and craftsmanship, and some to poetry, interpersonal sensitivity, and insight.

14. Since the term 'myth' is often used in such a way that it is compatible with truth, let me add that this is a *false* myth.

and what you did. In none of these cases do I either assess evidence or decide what to believe.

Of course, under other circumstances things are less automatic; we take a hand (so to speak) in the operation of our cognitive establishment. Expanding on the topic of your summer vacation, you tell me that you happened to stop in the Grand Tetons and for a lark climbed the Grand in eight hours from Jenny Lake. That sounds a bit unlikely, given your age and shape; recalling other exaggerations on your part, I figure it was closer to twelve hours, if you got to the top at all. I may try to assess the alleged evidence in favor of the theory that human life evolved by means of the mechanisms of random genetic mutation and natural selection from unicellular life (which itself arose by substantially similar random mechanical processes from nonliving material); I may try to see what the evidence is and determine whether it is in fact compelling (or, more likely, such as to render the theory less than totally implausible). Then I may go through a process of weighing the evidence and coming to a conclusion. Even in this sort of case I still don't really *decide* anything; I simply call the relevant evidence to mind, try in some appropriate way to weigh it, and find myself with the appropriate belief. But in more typical and less theoretical cases of belief formation, nothing like this is involved.

Experience, obviously enough, plays a crucial role in much belief formation — a different role in different areas of our cognitive establishment.[15] But there are also areas where experience seems to play only a minimal role — memory, for example, or a priori knowledge. I remember what I had for breakfast this morning; there may be a bit of phenomenal imagery, as of a partial and fragmented glimpse of a bowl of Cheerios; but this sensuous imagery is fleeting, indistinct, variable from person to person, and inessential, since in the case of some persons it seems to be altogether absent. Here, therefore, the role played by experience is small — unless you count as 'experience' the fact that the belief that it was *Cheerios* I had seems somehow right, or fitting, or appropriate.[16] Similar remarks hold for a priori knowledge.[17]

15. For details, see chapters 3-9 of my *Warrant and Proper Function* (New York: Oxford University Press, 1993). Cited hereafter as *WPF.*

16. For more on the phenomenology of memory, see *WPF,* chapter 3: "Exploring the Design Plan: Myself and My Past."

17. See *WPF,* chapter 6: "*A Priori* Knowledge."

Of course, there is a certain particular way or range of ways in which our faculties function when they function properly (when there is no cognitive dysfunction) — just as there is a way in which your digestive or circulatory system works when it functions properly. Call this way of working *the cognitive design plan.* The design plan specifies, for a wide variety of circumstances, an appropriate cognitive response. You look at a tree; light of a certain wavelength and energy strikes your retina; if things are working properly, there ensues a fairly complicated chain of events culminating in your being appeared to in a certain way (a way that is hard to describe in detail) and forming the belief that your willow tree needs watering. Accordingly, the design plan specifies how human cognitive faculties work when they work properly.[18] Of course, it is possible, as a result of disease or other causes, for our faculties to work in a way that is out of accord with the design plan: there are blindness and other sensory malfunctions; there are agnosias and psychoses; there are cognitive pathologies of a thousand sorts.[19]

From a theistic perspective, therefore, the central thing to see is that God has created us and our cognitive faculties, and that he has created us in accordance with specifications or a design plan. Indeed, from a theistic point of view, the human design plan is a design plan in the most literal and paradigmatic sense: we human beings have been created by a conscious and intelligent person, and the design plan is the set of specifications in accordance with which he has designed our cognitive faculties to function. Now, how shall we think of knowledge from this point of view? How shall we think of *warrant,* that quality or quantity enough of which distinguishes knowledge from mere true belief? Here is a natural first approximation: a belief has warrant for a person only if his faculties are *working properly,* working the way they ought to work, working the way they were designed to work (working the way God designed them to work) in producing and sustaining the belief in question. An initial necessary condition of warrant, therefore, is that one's cognitive equipment, one's belief-forming and belief-sustaining apparatus, be free of cognitive malfunction; it must be functioning in the way it was designed to function by

18. See *WPF,* chapter 2, for a fuller account of design plans.

19. For a fascinating account of some of these pathologies, see Oliver Sacks's *The Man Who Mistook His Wife for a Hat* (New York: Summit Books, 1984) and *A Leg to Stand On* (New York: Summit Books, 1985).

the being who designed and created us. Of course, this isn't sufficient; the epistemic environment must also be of the sort for which my cognitive faculties are designed. (If I am suddenly transported without my knowledge to a part of the universe where the cognitive environment is quite different, my beliefs might have little by way of warrant, even if my faculties are in fine working order — just as, for example, your automobile won't work well under water.) Still further, the bit of the design plan governing the formation of the particular belief in question must be aimed at the production of true or nearly true beliefs (rather than beliefs useful for survival, or beliefs whose function is to confer comfort or make friendship possible). And finally, it must be the case, if my beliefs are to have warrant, that beliefs produced according to faculties functioning in accord with my design plan are likely to be true.

To put these together:

> A belief *B* has warrant for a person *S* if and only if *(a)* *S*'s faculties are functioning properly in an epistemically appropriate environment (the sort of environment for which God designed her faculties), *(b)* the segment of the design plan governing the formation of *S*'s belief *B* is aimed at the production of true beliefs, and *(c)* the objective probability of a belief's being true, given that its production is governed by that segment of the design plan and that conditions *(a)* and *(b)* are met, is high.

The basic idea, therefore, is that we are so constructed (so constructed by God) that under certain sorts of conditions we form certain sorts of beliefs; and these beliefs constitute knowledge when they are true and when they result from the operation of the design plan God has implemented for us — more exactly, the operation of those parts of the design plan aimed at the production of true beliefs.

B. How Does God Know?

Now God's knowledge can't be at all like this. And it isn't just that God doesn't have the kind of cognitive design plan that we do — doesn't have sense organs, for example. Having our kind of cognitive design plan, after all, isn't essential for knowledge. God could have designed rational creatures according to design plans quite different from ours.

Indeed, perhaps he has. Perhaps he has designed rational creatures with sense organs very different from ours (like the bat's radar, for example, or the pit viper's heat detectors, or the mechanism whereby arctic terns can navigate for thousands of miles without so much as a glance at a map); perhaps he has designed rational creatures without sense organs who nonetheless have knowledge much like our perceptual knowledge, except that it would be caused differently; perhaps he has designed rational creatures that are vastly better at a priori knowledge; perhaps he has designed rational creatures that have ways of knowing we couldn't so much as grasp. The crucial difference between our knowledge and his doesn't lie here.

The real reason his knowledge can't be like ours is twofold: first, he has *designed* us to work a certain way; and second, this design is such that our knowledge follows the causal channels dictated by the causal laws he has established together with the sort of general construction we display — embodied, with a medium-sized body made of brain, flesh, and bone — in the specific sort of environment for which he has designed us. To enlarge a bit on the first, God has so designed me that under certain conditions the belief that I see a horse is caused in me; under those circumstances, furthermore (in the human cognitive environment and for the most part), when I believe that I see a horse, there really is a horse lurking in the nearby neighborhood. God has arranged for a certain harmony between the beliefs I hold, on the one hand, and their truth, on the other; this harmony goes by way of the causal connections between my beliefs and their subject matter. Essential to *my* knowing, therefore, is *his* already knowing a lot of things — how to arrange for that harmony, for example.

This is only a first approximation, of course; for perhaps I could have been created by an angel (who had the created sort of knowledge), and that angel by another, also with the created sort of knowledge, and so on. At some point, however, as Aquinas says in a different connection, the series must terminate in a being who has knowledge of another sort altogether. There must be a first knower, just as there must be a first mover; and it can't be the case that what constitutes *his* knowledge is his having been designed and fashioned by some other being, designed and fashioned in such a way that over a wide variety of circumstances he holds true beliefs. For first of all, of course, God can't have been designed and fashioned at all — either by himself or by some other being. And secondly, God's knowing a given truth can't be dependent

upon some *other* being's knowing that truth or another,[20] in the way in which *our* knowing something is dependent upon *his* knowing something.

Suppose we look into these points more concretely. Consider our perceptual knowledge. God has created us with a set of *detectors,* you might say. By way of perception, we can detect the presence of various kinds of light and sound (and smells, etc.); by way of perception we can also detect the presence of such things as plants and animals and other human beings and much else. There is a causal link between things being a certain way — there being a tree before me, for example — and my forming the belief that there is a tree there. This works by way of God's having taken advantage, in designing and creating us, of the causal laws and arrangements he had already set in place. Perhaps he chose the causal laws and structures of the world as he did partly because he intended that there be cognitive beings of the sort we exemplify; in any event, our knowing goes by way of the causal structures and channels he has instituted.

Now of course God knew how to do all this. He knew how to institute the causal laws and how to create us in such a way that by virtue of the cooperation of our natures with these laws and the conditions under which they operate we would have the sort of knowledge he intended us to have. (Perhaps all he had to know, in order to know how to do these things, was this: If I say, "Let it be thus and so," then it *will* be thus and so. Here, perhaps, we see something of what it is for him to have knowledge by way of knowing himself; he knows that he is such that necessarily, if he says, "Let there be a so-and-so," there will be a so-and-so; and he knows that he has said "Let there be a so-and-so.") The point, of course, is that he already had to have knowledge for any of this to work; he couldn't have created me in such a way that I have knowledge, without himself having had knowledge. Accordingly, my knowledge presupposes his: I couldn't have knowledge, or couldn't have the kind of knowledge I do have, if he didn't already have knowledge. We require a first knower here, who knows without having been fashioned or constructed to know, just as, according to some of the theistic arguments, we require a first mover, himself unmoved.

I say my knowledge presupposes God's in the sense that I couldn't know

20. Except, of course, in the sort of special case where the truth in question is that some creature knows something or other.

unless he knew something first. This is not simply a matter of its being a necessary truth that God does know, so that my knowing something would trivially entail (strictly imply) or presuppose his knowing something. That is indeed true, but it is not, in the present context, of much significance. (*Everything* presupposes God's knowledge in this way.) It is rather that, given theism, together with the correct account or analysis of knowledge (human knowledge, creaturely knowledge), our knowing something nontrivially or relevantly entails or presupposes his knowing something. An important difference between God and us is that our knowledge presupposes knowledge on the part of someone else; his does not.

More fully, what theism and the correct account of our knowledge entail is that someone has designed us; the right answer to the question "How do we know *p*?" involves a reference to what someone else (the designer) knows. Not so for God's knowledge. For consider: if the above account of knowledge is correct (and if not, why would I be bothering you with it?), our knowledge essentially involves the connected notions of proper function and design plan. You know that all human beings are mortal, on that account, only if the relevant portion of your cognitive equipment is functioning properly in producing that belief in you — only if, that is, that portion of your cognitive equipment is functioning in accord with the design plan for human beings. But the paradigmatic cases of proper function and design plan involve a conscious and intelligent designer. Something functions properly, in the paradigmatic cases, only if it functions in the way it was designed to function by the person or persons who designed it. Your television set, for example, functions properly only if it works the way it was designed to work. If it doesn't work that way — because, for example, you unwisely washed it in the bathtub — then it isn't working properly. Of course, there are various subtleties and complications here. Something might not be designed by any single person, but by a committee, or perhaps by a series of committees over time. The design of a Maori war canoe (or a Chevrolet automobile) evolves, with many different designers adding their contributions, a bit here and a bit there.[21] Nonetheless, what determines proper function in the central and paradigmatic cases is whether the thing in question functions in accord with its design plan, each part of which in some way essentially involves the contribution of a conscious and intelligent agent.

Now it might be argued that in fact it isn't in just the central and

21. For more on these complications, see *WPF,* chapter 2.

paradigmatic cases where this is so; it might be argued that the very notion of proper function and design plan involves a reference to conscious and intelligent design, so that it is a necessary truth that if something functions properly, then it (or an ancestral prototype) has been designed by one or more conscious and intelligent beings.[22] If this were so, then from the fact that we have knowledge it would follow that we have been designed by one or more conscious and intelligent agents; and if *that* were so, there would be a theistic argument lurking in the nearby bushes. In the spirit of Aquinas, we can't go to infinity in a series of knowers, each member being such that its cognitive faculties were designed by the preceding member; if so, there must be a designer of cognitive faculties himself undesigned — and this all human beings call God.

Of course, the argument isn't necessarily coercive or wholly rigorous — even given that proper function entails intelligent design. For one thing, someone who sees that proper function entails conscious design may then deny that there *is* such a thing as proper function for human beings and other natural creatures; it *looks* like there is, but in fact there is not, and to suppose that there is, is really to confuse natural creatures (which really aren't creations or creatures in the original sense at all) with artifacts.[23] For another thing, it could be, so far as the argument goes, that the undesigned designer of cognitive faculties isn't maximally powerful, or didn't create the heavens and the earth, or isn't good. So far as the argument goes, furthermore, it might be that there are *several* undesigned designers, a whole committee, even infinitely many, who collaborate on the design of our cognitive design plan. And of course there are still other even more arcane possibilities. To take these possibilities as invalidating the argument, however, is to forget that any serious argument takes its place in a context, a context where much else is taken for granted. It is to forget what William James taught us about

22. The notion of a design plan doesn't *analytically* entail that of an intelligent designer, in the way in which being a bachelor entails being unmarried. Here I use 'design' and 'design plan' in the way in which, e.g., Daniel Dennett (who is not a partisan of theism) uses it: "In the end, we want to be able to explain the intelligence of man, or beast, in terms of his design; and this in turn in terms of the natural selection of this design. . . ." *Brainstorms* (Montgomery, VT: Bradford Books, 1978), p. 12.

23. Thus John Pollock glumly speculates that "functional and psychological generalizations about organisms are just false and the whole enterprise arises from confusing organisms with artifacts (the latter having explicit designs and designers)." "How to Build a Person," in *Philosophical Perspectives, 1, Metaphysics, 1987* (Atascadero, CA: Ridgeview Publishing Co., 1987), p. 149.

live options. For most of us, these arcane possibilities (that there is a vast committee of undesigned designers, or that the [single] undesigned designer did not create the heavens and the earth) are not live options. So *if* the notion of proper function entails conscious and intelligent design, then we have the materials for a good (even if less than wholly conclusive) theistic argument.

And if the notion of proper function entails conscious and intelligent design, we also have a crucial difference between our knowledge and God's knowledge: *Our* knowledge is such that necessarily, if I know something, then I have cognitive faculties which have been designed by an intelligent person who already had knowledge. Thus my having knowledge presupposes someone else's having knowledge. Furthermore, the right answer to the question "How do I know *p*? How does my knowledge work?" will be in terms of my design plan, and ultimately in terms of the intentions and activity of my designer. The answer will be something like this (for perception): The designer wanted me to be able to have true beliefs about my immediate environment. Taking advantage of his knowledge of the properties of various materials he has created and the causal laws he has instituted, he designed a system that works in such a way that (when it is functioning properly in the environment for which it is designed) I form perceptual beliefs which are for the most part true. But of course none of this can be said for God. He does not in the central and literal sense have a design plan; and if there is a way in which his cognitive faculties function, about all we know about it is given in our knowledge that he is necessarily omniscient — that necessarily, for any proposition *p*, he believes *p* if and only if *p* is true.

But *does* the notion of proper function entail conscious and intelligent design? This is a wholly nontrivial question. A number of thinkers have recently (and not so recently) proposed naturalistic analyses of the notions of proper function, function *simpliciter*, and other allied concepts.[24] As you

24. For example, there are the following earlier efforts: Carl Hempel, "The Logic of Functional Analyses," in *Symposium on Sociological Theory*, ed. Llewellyn Gross (Evanston, IL: Row, Peterson, 1959); and Ernest Nagel, "The Structure of Teleological Explanations," in *The Structure of Science* (New York: Harcourt, Brace and World, 1961), pp. 398-428. There are also the following more recent accounts: Larry Wright, "Functions," *The Philosophical Review* (1973), reprinted in *Conceptual Issues in Evolutionary Biology: An Anthology*, ed. Elliot Sober (Cambridge, MA: MIT Press, 1984), p. 350; Ruth Millikan, *Language, Thought, and Other Biological Categories* (Cambridge, MA: MIT Press, 1984), pp. 17ff.; Christopher Boorse, "Wright on Functions," *The Philo-*

would expect, these analyses typically proceed in evolutionary terms. The central idea, on which there are a number of variations, is that an organ or system is functioning properly when there is a way in which its ancestors functioned, when that way contributed to the survival of creatures of its kind, and when the thing in question functions in that way.

All the accounts of this kind with which I am familiar, however, suffer from a serious — indeed, fatal — problem. Suppose a Hitler gains control of the world. For mad reasons of his own, he sets out to modify the human design plan. He gets his scientists to induce a mutation in some members of the human population; those born with this mutation can't see at all well (their visual field is a uniform shade of light green with little more than a few shadowy shapes projected on it). When they open their eyes and use them, furthermore, the result is constant and severe pain. This pain makes it impossible for them to do anything except barely survive. They are unable to listen to music, or read (or write) poetry or literature; they can't do mathematics or evolutionary biology; they can't enjoy humor, play, adventure, friendship, love, or any of the other things that make human life worthwhile. Their lives are poor, nasty, brutish, and short. Hitler and his henchmen (and their successors) systematically weed out those who do not suffer from this mutation; over the generations the numbers of the non-mutants dwindle. Now consider a pair of human beings a few generations down the road, one of whom has the old-style visual system and the other the new. According to the above kind of analysis of proper function, it is the *new*-style visual system that is functioning properly, for the way it functions has contributed to the survival of the ancestors of its possessors. But surely this is wrong. These new visual systems don't function properly at all. We might even put the example by saying that Hitler and his mad henchmen *hate* proper function (or at least proper function on the part of human visual systems) and are doing their best to stamp it out. On the above analysis, if they do succeed in stamping it out, then it wasn't proper function in the first place!

So far as I know, none of the proposed naturalistic accounts of proper function is anywhere close to satisfactory.[25] That is not to say, of course,

sophical Review (1976): 70ff.; John Bigelow and Robert Pargetter, "Functions," *The Journal of Philosophy* (1987): 181ff.; Pollock, "How to Build a Person," pp. 146ff.; Paul Griffiths, "Functional Explanation and Proper Functions," forthcoming in *British Journal for the Philosophy of Science;* and Karen Neander, "The Teleological Notion of Function," forthcoming in *Australasian Journal of Philosophy.*

25. See *WPF,* chapter 11.

that a satisfactory naturalistic analysis can't be given; but it doesn't look promising.

It is therefore unlikely that a naturalistic analysis of proper function can be given. If so, then our knowledge does indeed presuppose God's knowledge (in a nontrivial way), and an important difference between our knowledge and his is that ours but not his presupposes knowledge on the part of another.

But suppose that a naturalistic analysis or account of proper function *can* be given. If so, then we can't argue in the above way that my knowing some proposition entails that I or my cognitive faculties have been designed. And then the theistic argument to an undesigned designer would fail. Would it follow that it *is* possible that my cognitive faculties have not been designed? I'm not sure. If theism is true, it is a necessary truth that all contingent beings distinct from God have been created by him — or, if you think that is too strong, it is at any rate necessary that all contingent beings distinct from God have been created* by him, where a thing has been created* by God if and only if it has either been created by God or created by something that has been created* by God. But that is not obviously sufficient to show that God or anyone else has *designed* me. Is the following story possible? God set the stage for evolution by creating elementary particles and the (indeterministic) laws that do in fact hold; from moment to moment he holds these particles in being (and confers upon them their causal powers). Perhaps he permits this process to be driven in the way contemporary evolutionists tell us it *is* driven: by way of random genetic mutation, genetic drift, and other blind sources of genetic variation, acted upon by natural selection. Perhaps he does not *intend* or *plan* or *decree* that this process have the outcome that in fact it does, intending and decreeing only that it have *some* outcome, and knowing what outcome it will in fact have. If this is possible, then the development of creatures like ourselves with the sort of cognitive faculties we do in fact have wouldn't be something God planned or decreed, but something he permitted to happen; and under those conditions it would not be the case that our cognitive faculties have been designed, although they would have been created in the above extended sense.[26]

I don't know whether the above story is possible or not, but I very

26. This story is reminiscent of one told by Peter van Inwagen, "The Place of Chance in a World Sustained by God," in *Divine and Human Action,* pp. 211ff.

much doubt it. And even if it is possible, I very much doubt that it is compatible with God's having created us in his own image. But perhaps I am wrong; if so, then perhaps theism does not entail that our cognitive faculties have been designed. But my argument is really independent of this question; the real point here lies in a slightly different direction. For what is important for our question isn't, first of all, whether it's possible (given theism) that there be creatures with undesigned cognitive faculties. What counts instead is this: Our knowledge (in fact, whether or not essentially) is indeed derivative, and it *goes by way of the various causal structures and channels God has established.* To explain how I know something — a perceptual proposition, for example — one retraces an intricate causal web (most of whose details and many of whose major features are completely beyond our ken) that begins with environmental conditions of one sort or another and eventuates in my forming the belief in question. These causal connections and structures have been established by God. But *his* knowledge does *not* go by way of these causal connections (or any other); God's knowledge *precedes* the causal connections in the world. If you think, as I do, that God is in time and that there was indeed time prior to the creation of the universe, the thing to say is that God had knowledge prior (temporally prior) to his establishing these causal connections. If you think that time began with the created universe or that God is not in time, you will have to put the point in some other way; but in any event you will certainly think that God created the universe the way he did create it, establishing the causal relations he did, because he *knew* that by so creating it he could achieve his ends and accomplish his aims. This knowledge, then, cannot have gone by way of the causal channels he instituted.

We therefore don't make much progress, in asking how *God* knows, by taking a look to see how *we* know. So how *does* he know? We can't really say much about it. There are important analogies with our knowledge. First, what he knows is of course true, as in our case, and is something he believes, or at any rate something to which he does something relevantly similar to believing. (When we believe, what we believe is one of his thoughts [so I think]. Here too, then, there is a kind of priority; his thinking the thought is the explanation of the existence of the thought. Not so for us.) Second, in his case as in ours, the explanation of his believing is that the thought in question is *true;* it isn't (in general, anyway) that his thinking the thought with assent is the explanation of its being true. Third, in our case, when we know,

there will be certain objective probabilities: there will be a high objective probability that a human belief formed in that way is true. In his case, there will be an objective probability of 1 of the belief's being true, given that it is one of God's beliefs. (That is, the probability of a divine belief's being true is 1.)

There is still another analogy, this one perhaps the most important. God has not been designed and does not have a design plan in the literal or paradigmatic sense; still, there is a way in which (if I may say so) he works cognitively or epistemically. This way is given by his being essentially omniscient and necessarily existent: God is essentially omniscient, but he is also a necessary being, so that it is a necessary truth that God believes a proposition A if and only if A is true. Call that way of working 'W'. W is something like an *ideal* for cognitive beings — beings capable of holding beliefs, seeing connections between propositions, and holding true beliefs. It is an ideal in the following sense. Say that a cognitive design plan P is *more excellent than* a design plan P^* just if a being that works according to P would be epistemically or cognitively more excellent than one designed according to P^*. (Of course, there will be environmental relativity here; furthermore, one thing that will figure into the comparison between a pair of design plans will be stability of reliability under change of environment.) Add W to the set to be ordered. Then perhaps the resulting ordering will not be connected; there may be elements that are incomparable. But there will be a *maximal* element under the ordering: W. W, therefore, is an ideal for cognitive design plans. As Aquinas pointed out, most of our terms apply *analogously* rather than univocally when predicated of both human beings and God; it is by virtue of the above analogies (and others) that the terms 'knowledge', 'proper function', and 'design plan' apply analogically to God.

So there are these analogies and similarities between God's knowledge and ours. But the main point is this: Though there are these analogies, we don't really have any idea at all about *how* God knows. We know that his knowledge doesn't proceed via the causal channels by which our knowledge proceeds; we know further that it doesn't proceed by way of any other causal channels either. But of course that doesn't give us a clue as to how it *does* proceed. What can we say about how he knows what he does, about how his knowledge works? The most natural thing to think here is that there *isn't* any way in which it works — any more than there is a way in which the numbers 1, 2, and 3 work, by virtue of which the sum of the first two is the third.

Here we might explore still another analogy.[27] Suppose Descartes is right: we are embodied immaterial substances. Suppose he is also right on another point: our beliefs (or many of them) about our own immediate experiences are incorrigible for us, where a proposition *p* is incorrigible for a person *S* just if it is impossible that *S* believe *p* and *p* be false and if it is also impossible that *S* believe -*p* and *p* be true. (Thus it isn't possible that I believe I am in pain when I am not and that I believe I am not in pain when I am.) Then the way in which God knows what he knows is like the way in which I know these propositions about my own immediate experience: for any proposition *p* you pick, it is impossible that God believe *p* and *p* be false, and it is also impossible that God believe -*p* and *p* be true. The difference would be (in addition to the fact that for me this holds at most for propositions about my own immediate experience) that it is necessary that for any proposition *p*, either God believes *p* or God believes -*p*.

Accordingly, if in an analogical sense we say that there is a way in which God's knowledge works, then, so far as we can see, that way is given by his being necessarily omniscient — his being such that necessarily, for any proposition *p*, God believes *p* if and only if *p* is true. But then it won't really make sense to object to his knowing propositions like (1) through (4) on the grounds that we can't see how he could know them. We can't see how creatures who know the way we do, or maybe even the way any other creatures *could* know, could know that. The reason we can't see how that could be is that, so far as we can see, there aren't the appropriate causal channels. But God's knowledge doesn't go by those channels anyway. We really know no more about how he knows himself, and his own nature, than about how he knows the future or counterfactuals of freedom. In each case, all we can really say is that it is necessary that for any proposition *p*, *p* is true if and only if God knows it. If this is a cognitive mechanism, then the same cognitive mechanism will be involved in *all* of his knowledge; and that mechanism is not such that it is harder to see how it would work for one kind of proposition than for another. We don't *see* that it works or how it works for any kind of proposition (in the way in which we see that [and how] it must be the case that there is no universal set). If we are right we know that

27. And here I am indebted to Philip Quinn. I am also indebted throughout this paper to the other members of the Notre Dame philosophy of religion discussion group, in particular David Burrell, Thomas Flint, Jesse Hobbs, and Eleonore Stump.

this condition holds for God's knowledge; but there aren't any sorts of propositions such that it is self-evident that it is necessary that a proposition of that sort is true if and only if God believes it. (It is not the case that this is self-evident, for example, for propositions about the past but not self-evident for propositions about the future.)

By way of conclusion, it is indeed true that we don't see how God knows or could know such propositions as (1) through (4). That fact, however, doesn't give us a reason to distinguish invidiously among truths, holding that some of them are obviously known by God, but doubting that (1) through (4) are. For we don't really see how God knows *any* of the things he knows; all we know is that necessarily, for any proposition *p*, *p* is true if and only if God believes it. But there is no more problem with (1) through (4) meeting that condition than with any other proposition's meeting it.