If God is omniscient then he knows contingent facts. If he exists a se, then his knowledge of facts must not depend on them. How then does he know them? I take seriously Aquinas' view that God's knowledge is the cause of things. I argue that "things" includes both entities and situations, that God's knowledge of them is his knowledge of his unimpedable will, and that the view does not threaten human freedom. God's knowledge is thus like my knowledge of my linguistic stipulations, except that whereas my knowledge is \textit{de dicto}, his is \textit{de re}.

"How, it might be asked, could one stipulate that something be contingently true? ...Surely only God, if even He, could perform the miracle of stipulating how the world shall be."

\textit{Keith Donnellan}

We all know that God knows all there is to know. How does he do it? Perhaps God alone knows how he knows. Why should we care?

Some epistemologists have insisted that the question whether a person can be rightly said to know something cannot be isolated from the question how the purported item of knowledge was produced in that person. If they are correct, then to say that God knows everything without explaining how he can know anything is whistling in the dark. The problem is compounded by the fact that traditional theists have insisted that God does not know things in the way(s) in which we know things, thus preventing the straightforward application of human cognitive psychology to God. It is possible, of course, for theists both to deny the claim made by naturalistic epistemologists and to insist that our knowledge of God's knowledge must walk the confines of a \textit{via negativa}. Their case, however, would gain plausibility if it could be shown that strolls down \textit{viae positivae} always result in intellectual muggings. It is the aim of this paper to explore one positive account of how God knows which is free from philosophical fear.

In the first section of this paper I shall explore the reasons why theists have insisted that God's knowledge is different from ours. In Section II and III I shall develop and examine an account of God's knowledge whose major ingredients
are to be found in Question 14 of the First Part of St. Thomas Aquinas’ *Summa theologiae*. Although I have provided translations in the Appendix to this paper of three of the more important passages from Question 14, I shall not be engaged in close textual analysis, and it would not distress me to find out that my account does not square entirely with Aquinas. In all sorts of ways my exposition will be clearly anachronistic. I am more interested in defensibility of thesis than fidelity to Thomas. Finally, the account will be partial at best. It will deal only with God’s knowledge of contingent fact. I shall not consider the problems of whether and how God knows necessary truths or counterfactual conditionals. As for future contingent facts—in particular, facts concerning the future free choices of persons—it will be a corollary of the account that from God’s point of view, none of them are future, although many of them are free.

I. How God Does Not Know

Jones ate a bacon, lettuce, and tomato sandwich for lunch last Thursday. Now how could you, a normal human being with standard human cognitive devices and capacities, come to know this fact? There seem to be three possible ways. (1) You accept the testimony of a reliable agent (Jones’ friend Smith, who had lunch with him last Thursday) or device (an FBI camera, set in place as part of PORKSCAM). (2) You infer the fact from your prior knowledge of other facts and generalities, such as Jones’ tastes, the restaurant he went to, and so forth. (3) You were there: you witnessed him eating the BLT.

I believe that (1), (2), and (3) exhaust the possibilities. Of course different epistemologists will clamor to tell us that some of these ways reduces to one of the others—(1) to (2), perhaps, or (3) to (2)—but our present concern is not that these categories by *exclusive*, but rather *exhaustive*. Moreover, these ways are *ordinary* ways of acquiring knowledge of contingent fact. I am ruling out extraordinary ways, such as your knowledge of Jones’ BLT consumption being innate by a feat of precognition. If you know about Jones’ BLT in one of those ways, then you are equipped with some non-standard cognitive capacities. (I shall return to these issues later.)

There are well-known traditional theological grounds for denying that God knows about Jones’ BLT in any of ways (i), (2), or (3). Concerning method (1), if God’s knowledge were acquired by accepting testimony, then he would be dependent upon the agent or device in question for part of his knowledge. However, God is supposed to be a perfectly independent being, existing *a se*, upon whom all other things depend. Offered the choice of either giving up the thesis of divine aseity or the application of method (1) to God, theists will abandon the latter.

Laplace’s Demon, a being who deductively infers all subsequent states of a
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deterministic universe from his knowledge of its laws of nature and some of its
earlier states, is a splashy example of a being who obtains knowledge by method
(2). Ordinary mortals, who make all sorts of garden-variety inductive inferences
on the basis of more or less adequate evidence, provide a less dramatic example.
We might be inclined to think that inductive inferences are somehow beneath
God's dignity; more to the point, that since inductive inferences involve a loss
in transfer of certainty, a truly omniscient being cannot be required to depend
on them. But what is there to prevent God from acquiring some knowledge of
contingent fact deductively? We do not have to assume that the universe is totally
deterministic to allow for this possibility. Nor is it obvious that the objection
used against ascribing method (1) to God applies here. If God is able to deduce
that Jones ate a BLT last Thursday from other facts and laws, then one might
argue that this new piece of knowledge does not depend on the other facts and
laws, but rather on God's knowledge of them.

Nevertheless, traditional theists rejected the idea that God knew anything by
deduction. Aquinas, for example, regards deductive inference as a kind of "dis-
cursive" knowledge, which cannot apply to God. There is a difference between
the notion of logical consequence and the activity of drawing a consequence:
although it is tempting to say that the former is not a temporal phenomenon, the
latter is. It is clear that God cannot acquire knowledge by drawing consequences,
whether he is temporal or timeless. For if he is timeless he cannot participate
in a temporal process. And if he is a temporal being, then if he is genuinely
acquiring knowledge of \( Q \) by deducing \( Q \) from \( P \) and \( P \rightarrow Q \), then there was a
time at which he did not know that \( Q \). And if that is so, then there was a time
at which God was not omniscient. Hence if God is essentially omniscient, he
cannot acquire knowledge of anything by deduction.

Aquinas' doctrine goes further than this, however. Not only is the drawing
of consequences precluded from God's knowledge, but so also is there being
logical consequences in God's knowledge. God is supposed to know all things
with equal immediacy; his knowledge of \( Q \), then, must be direct and not mediated
by or conditional upon his knowledge of \( P \rightarrow Q \) and \( P \). Qua omniscient, he
knows that \( P \rightarrow Q \), that \( P \), that \( Q \), and that \( Q \) is a consequence of \( P \rightarrow Q \) and
\( P \); nevertheless, his knowledge of \( Q \) cannot depend on other items of his knowl-
edge. We can view Aquinas' doctrine as an extension of the doctrine of God's
aseity. In addition to requiring that God be independent of all other things, the
doctrine requires that no part or aspect of God be dependent on any other part
or aspect. One may wonder whether this extension of the doctrine of God's
aseity is a coherent demand. I believe that it is, but I shall defer discussion of
its coherence until Section III.

Perhaps, then, God knows about Jones' BLT by means of method (3)? He
was there—after all, he is supposed to be everywhere—so he must have seen
Jones consume the BLT. Waiving any difficulties we may have with the doctrine of God’s omnipresence, we may still wonder how his “being there” helps us to understand how he knows about Jones’ gustatory feat. Theists will hasten to insist that God did not literally see Jones eat the BLT. God has no body and hence no organs of sense; he is a purely spiritual being. To say that God sees Jones eat the BLT is to speak metaphorically, akin to saying that Smith sees the point of Jones’ strange behavior. We should say rather that God understands, by some sort of direct, immediate mental intuition, that Jones ate the BLT. This maneuver, however, does nothing to answer the question how God knows; it merely postpones it. Instead of ‘How does God know?’ we now have ‘How does God understand?’

The force of the question can be brought out in the following way. It is very tempting to think that all three ways of standard human knowledge-acquisition—(1), (2), and (3)—involve some sort of causal connection between fact and knower. In reverse order: (3) If you witnessed Jones eating the BLT, then you were obviously causally en rapport with (some of) the sequence of events which constituted Jones’ eating a BLT. (That you are now genuinely remembering having witnessed Jones eating a BLT must also be accounted for in causal terms.) (2) Your inference that Jones ate a BLT, if it is justified at all, must depend on premises which refer to causal antecedents of Jones’ eating the BLT or, in the case of retrodictive inference, causal consequences of Jones’ eating the BLT. (1) Rational agent that you are, you would not base your belief about Jones on the testimony of an agent or mechanism which you had no reason to believe was causally connected to Jones in any way.

There is a strong tendency to think, then, that human knowledge of contingent fact requires that there be some causal connection between fact and knower. Consider the alternative: try seriously to conceive of Smith’s genuinely knowing that Jones ate a BLT last Thursday, yet with Smith’s knowledge being causally insulated from Jones’ eating the BLT; that is, there being no causal chain, of however many links, connecting the fact to Smith’s knowledge of it. I suggest that the longer you try, the less intelligible the project will seem to you. One does not need to be prepared to defend a causal theory of knowledge in order to accept this point. One need not, for example, claim that causation must be built into the very analysis of knowledge, nor need one know how to sort out the causal chains which transmit knowledge from the twisted chains (typically forged by philosophers) which do not. Nor need one worry, for our purposes, about squaring mathematical knowledge with a causal theory.

As indirect support for the thesis that human knowledge of contingent fact must somehow be causally related to the fact, consider our attitude toward the possibility of one’s knowing a contingent fact in one of the extraordinary ways mentioned earlier. No nativist of my ken would want to claim that our specimen
fact about Jones’s BLT is a piece of innate knowledge. Suppose, however, that some more dignified, more interesting, more basic contingent facts are known innately. Surely we would seek an explanation as to why that knowledge is “wired in.” Perhaps God in his wisdom saw fit to make it so. Or perhaps the knowledge in question has such a survival value that ancestors in our species (or in species antecedent to our species) who did not possess it died off. In any case the explanation will be satisfactory only if it specifies a causal medium—in our examples, God, or natural selection—which links fact to knowledge.

For people who have taken the possibility of precognition seriously, the difference between one’s merely having a premonition of a future event and one’s having precognitive knowledge of it lies precisely in there being the right kind of causal connection between future event and present awareness of it. Thus the case for (and perhaps also against) the possibility of precognition hinges on the possibility of retrograde causation: rather than give up the claim to knowledge by precognition, precognitivists would jettison the thesis that a cause must temporally precede its effect. 7

It would be interesting to investigate the thesis further, 8 but I shall not do so here. It is enough for our purposes that we see how the thesis is initially plausible and tempting. 9 For to the extent to which we find it plausible, it underscores the difference between our knowledge and God’s, according to a traditional theological doctrine. The great medieval theologians, for example, held the opinion that God’s knowledge is uncaused by anything distinct from God. In particular, the contingent events and facts of the world do not cause God to have knowledge of them. 10 The doctrine is a corollary of the doctrine of God’s aseity. If God’s knowledge of contingent states of affairs were caused by the states of affairs themselves, then God would be dependent on them for his knowing what he knows. Therefore he cannot know about contingent states of affairs by being on the receiving end of a causal chain, no matter how few links it might possess.

So now it appears that the avenue to knowledge upon which humans must travel is closed to God. How, then, does he get there?

II. “God’s Knowledge Is The Cause Of Things”

A. What Things? “God’s knowledge is the cause of things,” says Aquinas in ST, Ia, q. 14, a. 8. The gambit is hardly surprising in light of the previous discussion: God’s knowledge cannot be the effect of things, so reverse the causality and make his knowledge the cause of things. As articulated so far, the gambit can easily be declined. First, it is simply no answer to the question ‘How does God know contingent facts?’ Aquinas rejects the propriety of the question if it is interpreted as a request for the pedigree of God’s knowledge. Even so, another aspect of the question lingers; namely, in what way does God know contingent
facts? What is God’s knowledge of contingent fact like? Is there any province on the map of human experience which is close to God’s knowledge of contingent fact? Second, it might be that God’s knowledge is the cause of things, under some suitable interpretation of that slogan, but could it nevertheless happen that he does not know that his knowledge is the cause? His knowing that \( P \) would seem to be distinct from his knowing that his knowledge of \( P \) is the cause of \( P \), yet qua omniscient, he must possess both items of knowledge. How does he possess the second-order item?

There is more to Aquinas’ strategy than the opening gambit, but the gambit itself merits further examination. ‘God’s knowledge is the cause of things’ has two interpretations; depending on whether we take ‘thing’ (res) to mean entity or situation:

(A) For any contingent entity, \( x \), God’s knowledge of \( x \) is the cause of \( x \)’s existence.

(B) For any contingent situation, \( S \), God’s knowledge of \( S \) is the cause of \( S \)’s being the case.

Aquinas certainly has (A) in mind, but it is hard to see how he can resist (B), for God is supposed to know not only what exists, but also whatever is true of what exists, and there is no indication in Aquinas’ writings that he sees these as issues requiring separate treatment.

Moreover, I believe that Aquinas subsumes (B) under (A). That is, what I have been calling a situation is regarded by Aquinas as a kind of res. Aquinas accepts the thesis that verum and ens are convertible terms (\( ST, 1a, q. 16, a. 3 \)), which surely licenses him in thinking that for a proposition to be true is just for the world to be in a certain way, the way the proposition indicates. But a proposition is not a “sentence radical” or a function from possible worlds to truth values or any similar sort of abstract object. Against the antiqui Nominales, who held that ‘Christ is being born,’ ‘Christ will be born,’ and ‘Christ has been born’ express the same proposition since they refer to the same thing—namely, the nativity of Christ—Aquinas, citing Aristotle as authority (Categories 5.4.22 ff.), holds a view about proposition which maintains that they can change their truth values through time (\( ST, 1a, q. 14, a. 15, ad 3 \)). ‘Socrates is sitting’ is a proposition which is true whenever Socrates is sitting and false otherwise. (‘Socrates is sitting’ is thus not necessarily elliptical for ‘Socrates is sitting at \( t \), ’) Although Aquinas objects to the antiqui Nominales’ saying that ‘Socrates is sitting’ and ‘Socrates was sitting’ refer to the same thing, his objection in no way hinges on his denying that they refer to things. Now the things to which they most plausibly refer are situations. So at \( ST, 1a, q. 16, a. 8, ad 4 \) Aquinas says that Socrates’ sitting (\( sessio Socratis \)) is the cause of the truth of the proposition ‘Socrates is sitting’ (\( Socrates sedet \)); that is, the situation, the sitting of Socrates, is a thing
whose existence makes the proposition, 'Socrates is sitting,' true.

The willingness to count contingent situations as things is encouraged by Aristotle's fourfold ontological inventory, introduced in the Categories (2.1a 20 ff.), which includes things which are "in a subject but not said of any subject." The stock example of such a thing is the individual whiteness of some body, e.g., Socrates' body. The whiteness of Socrates is the unique, unrepeatable instance of the quality, whiteness, which inheres in Socrates. Notice that just as albedo Socratis is the most natural translation of 'the whiteness of Socrates,' so sessio Socratis is the most natural translation of 'the sitting of Socrates' or 'Socrates' sitting.' Thus on the Aristotelian scheme of things, at least in cases where 'x is F' is a contingently true sentence, 'the F-ness of x' refers to a thing as much as 'x' does.12

In sum, the thesis that God's knowledge is the cause of things includes situations within the scope of 'things.'

B. How Can Knowledge Be a Cause? In particular, in what way is God's knowledge the cause of things? A second thesis which can be extracted from ST, Ia, q. 14, a. 8 is that God's knowledge is the cause of things in the way in which a craftsman's knowledge is the cause of his handiwork. The kind of knowledge by which the craftsman produces his handiwork is practical knowledge, which Aquinas wishes to distinguish from speculative knowledge. The discussion in ST, Ia, q. 14, a. 16 suggests how the distinction is supposed to go. A person who has speculative knowledge has knowledge, to some degree, about what is, what can be, and what must be. In reporting on a person's speculative knowledge in a particular domain, we would typically list the most salient propositions comprising that person's knowledge. Aquinas thinks of speculative knowledge as forming, ideally, an explanatory hierarchy: the goal of speculative knowledge is the unification and explanation of our experience. Practical knowledge, on the other hand, is knowledge of how to do and bring about. A list of a person's practical knowledge would not be a list of propositions; it would be a repertoire. The items in a person's repertoire will usually be talents and skills, not mere abilities. The former come about in the ordinary course of events by training and habituation; the latter need not. (In virtue solely of being anatomically normal, a person has the ability to kick a soccer ball. He may nevertheless not be especially skilled at kicking soccer balls.)

Of course the two kinds of knowledge are interwoven. An expert in dendrology has speculative knowledge about what constitutes an elm tree and what constitutes a beech tree. But in virtue of possessing the speculative knowledge, the expert can sort out elms from beeches. Although interwoven, speculative and practical knowledge can be separated. A child may know how to ride a bicycle without having any speculative knowledge of rotational kinematics. Chicken sexers are notoriously unable to explain how they are successful; the twist in this case is
that no one else is able to account for their success either. And, to go in the other direction, having read a how-to-do-it manual, I might have some low-level speculative knowledge about brazing copper tubing, yet not know how to braze copper tubing. (The difference between the passive and the infinitive is revealing. I can know how copper tubing is brazed without knowing how to braze copper tubing.) In light of these facts it seems unlikely that either kind of knowledge can be reduced or assimilated to the other.

The craftsman produces his handiwork in virtue of exercising a skill or set of skills which he possesses. But it is not the mere possession of the skills which results in the production. There must in addition be an act of will: it is the builder abuilding who builds, not the builder dormant. "The same science covers opposites," and because of that fact, mere possession of the skills does not issue in production. The slogan, as it applies to practical knowledge, has two interpretations:

(C) If \( x \) knows how to \( \phi \) (bring about \( S \)), then in virtue of that knowledge, \( x \) has the ability to \( \phi \) (bring about \( S \)) and \( x \) has the ability to forbear from \( \phi \)ing (bringing about \( S \)).

(D) If \( x \) knows how to \( \phi \) (bring about \( S \)), then in virtue of that knowledge, \( x \) has the ability to bring about beneficial states of affairs related to the activity of \( \phi \)ing (bringing about \( S \)) and \( x \) has the ability to bring about harmful states of affairs related to the activity of \( \phi \)ing (bringing about \( S \)).

It might be said that a magnet has the ability to move iron filings, but even so, the magnet does not have the ability not to move iron filings. So, according to (C), the magnet does not know how to move iron filings. There is no "science" in the magnet since its behavior cannot "cover opposites" or be other than what it is.

Whereas (C) rules out the ascription of practical knowledge to beings which are incapable of behaving voluntarily, (D) is designed to capture the sentiment displayed in the adage that who knows best how to cure knows best how to kill. The opposites "covered" by the science of medicine are beneficial and harmful states of affairs of the sort having to do with health, which, to the extent to which they can be voluntarily induced at all, require the exercise of the practical knowledge of medicine. Other examples illustrating (D) are easy to come by. The lawyer, the CPA, and the computer programmer are all familiar cases of people whose practical knowledge gives them the potential for doing sophisticated sorts of good and evil.

The ascription of practical knowledge to God is not just like its ascription to humans, although the differences are not the source of any mystery.

(1) Any human’s repertoire, no matter how impressive, is limited, both with respect to other humans and with respect to God. John McEnroe is no concert
pianist; Vladimir Ashkenazy is no tennis professional. Moreover, even the most impressive of human repertoires pales in comparison to God’s. The message from the great speeches in the Book of Job is not merely “anything you can do, I can do better.” It is also “I can do things no human could ever do.” In fact, the natural view is to regard God as possessing all practical knowledge, and to take this as an entailment of his omniscience and omnipotence.

(2) God must have all practical knowledge without having acquired any of it. He does not learn his skills by practice, training, or habituation; for there could not have been a time at which he lacks them. Nor could there be a time at which he loses one of his skills. These claims are straightforward entailments of the doctrine that God is essentially perfect. To lose or to gain a skill implies the existence of a time at which one does not have the skill, and at that time, at least, one is not perfect.

(3) With humans it sometimes happens that skill and will are not sufficient for success; circumstances must cooperate to provide the opportunity. Julia Child may know how to prepare sole Florentine, and she may want to prepare sole Florentine, but without spinach her cause is lost. With God, we are told, things are otherwise. His will is unimpeded, a consequence of his sovereignty over all things.

(4) Principle (D) implies that God has the ability to do all manner of harmful things, and although not all harmful things are evil, some are, and so principle (D) seems to imply that God can do evil if he has all practical knowledge. Like thesis (B), then, (D) raises a problem about the connection between God and evil. There are three basic approaches one can take to this issue. (a) Say that God can do evil, in just the same sense that humans can do evil. Perhaps he never does evil, or has need of doing evil, but he can nevertheless, and so (D) is not at all troublesome. (b) Say that he simply cannot do evil, even though he is omnipotent, and if (D) implies that he can, then there is something wrong with (D). This theme has two major variations. (b’) No matter what God did, it would be good; his very doing it would make it good. (b*) The “ability” to do evil is no genuine ability at all, but rather a liability or deficiency. Surface grammar misleads us: ‘God can do evil’ is better assimilated to ‘Jones can die’ than to ‘Jones can play the Waldstein Sonata.’ (c) Say that he can and cannot do evil, and hence that there must be at least two senses to the sentence ‘God can do evil,’ one sense which renders (D) true, and another sense which pays respects to the doctrine of God’s impeccability. The solution to this problem is left as an exercise for the reader.

C. Whither Human Freedom? Scientia Dei est causa rerum. The insertion of the definite article in the translation of this sentence (God’s knowledge is the cause of things) is well-nigh irresistible but potentially misleading. The Latin allows an indefinite-article translation: ‘God’s knowledge is a cause of things.’
The use of the definite article suggests that God's knowledge is the only cause of things, which would preclude the causal efficacy of other agents. Calvin Normore spots a dilemma here:

Either God's creative activity is a sufficient condition for my choosing to sin, in which case he can foreknow it but it is not clear that my choice is both free and efficacious, or God's creative activity is a necessary but not a sufficient condition, in which case it is not easy to see how knowledge of it alone constitutes foreknowledge.14

(Normore's dilemma can be modified to exclude reference to foreknowledge.) Normore suggests that Aquinas grasps the first horn. I agree. I believe that Aquinas' position is that God's knowledge of Jones' free, contingent action is causally sufficient for its occurring, and that God's knowledge of it and Jones' choosing or willing it are individually necessary for its being free.

One locus for Aquinas' views is ST, Ia, q. 83, a. 1. I believe that Aquinas' position is this: if \( x \) is a person and \( A \) is an action, then \( x \) is free to do \( A \) if and only if (1) \( x \) can choose to do \( A \) and \( x \) can choose not to do \( A \), and (2) \( x \) chooses to do \( A \) or not to do \( A \) as a result of rational judgment. But my having the choice to do \( A \) in my power is not causally sufficient for my doing \( A \) (or omitting to do \( A \)): God's cooperation is necessary \((ad\ 2\ and\ 4)\). I do \( A \) freely only if my choosing to do \( A \) is in my power, but my choosing to do \( A \) is not causally sufficient for my doing \( A \), and God's activity is causally necessary for my doing \( A \).

Aquinas says that "free choice is the [a?] cause of its own movement, since man moves himself to act through free choice"; yet that God, "...by moving voluntary causes, does not prevent their [ensuing] actions from being voluntary, but rather he brings about this thing in them; for he operates in each thing according to its nature" \((ST,\ Ia,\ q.\ 83,\ a.\ 1,\ ad\ 3)\). The first passage, I submit, amounts to saying that my freely choosing to do \( A \) is a cause of those subsequent actions which achieve the doing of \( A \). In any event, the first passage is supposed to be compatible with the second one. God's activity moves, i.e., is the efficient cause of, my freely choosing to do \( A \), yet my freely choosing to do \( A \) is something that is in my power. How can this be so?

By distinguishing logically necessary and sufficient conditions from causally necessary and sufficient conditions, we can sort out four theses:

1. God's knowing is logically necessary: If I freely choose to do \( A \), then God knows that I freely choose to do \( A \).
2. God's knowing is logically sufficient: If God knows that I freely choose to do \( A \), then I freely choose to do \( A \).
3. God's knowing is causally necessary: My freely choosing to do \( A \) would not occur if God's knowing it did not occur.
(4) God’s knowing is causally sufficient: God’s knowing that I freely choose to do $A$ is all that is needed to bring about my freely choosing to do $A$.

We may take (2) to be true in virtue of the analysis of the concept of knowledge. Suitably generalized, (1) is one way of stating the thesis that God is omniscient, and it is precisely that thesis which we are trying to understand. I think that Aquinas is committed to both theses (3) and (4): they are entailments, respectively, of God's sovereignty and independence. So God's knowing that I freely choose to do $A$ is a causally necessary and sufficient condition for my freely choosing to do $A$. My freely choosing to do $A$ implies that I have it in my power to choose not to do $A$. So God's knowing that I freely choose to do $A$ implies that I have it in my power to choose not to do $A$; if I did not have it in my power, God could not know that I freely choose to do $A$. If I have it in my power to choose not to do $A$, then God has it in his power to actualize a possible world in which I choose not to do $A$; in fact, my having the power that I have depends on God's having the power he has. If I actually choose to do $A$, my power to choose not to do $A$ is a power I do not exercise, but it is a power I genuinely possess, even though it depends on a power which God possesses. God invests in me a certain power (to choose not to do $A$) while at the same time bringing it about that another power that I have (to choose to do $A$) is exercised. Note that if I actually choose to do $A$ and do $A$, I am the author of the action as much as God is: 'God's knowing that I freely bring it about that $A$ brings it about that I freely bring it about that $A'$ entails that I freely bring it about that $A$.

Explication is not defense. There are philosophers who will find the account given above unacceptable even if they think it faithful to Aquinas. I cannot hope to pursue the issues further here, but hope to do so elsewhere.

III. How God Knows

In light of the discussion so far, we can make theses (A) and (B) somewhat more precise:

(A') For any contingent thing, $x$, God's practical knowledge about how to produce $x$ and his unimpeded will to produce $x$ are the cause of $x$'s existence.

(B') For any contingent situation, $S$, God's practical knowledge about how to bring about $S$ and his unimpeded will to bring about $S$ are the cause of $S$'s being the case.

God’s knowledge of the contingent world, then, on the view we have been canvassing, is like a craftsman's knowledge of his products. Yet (A') and (B')
are inadequate. They could be true and it could still be false that God knows anything about the contingent world. Consider the following analogy. A potter knows how to make a certain kind of pot. The requisite materials and tools are at hand. The potter in fact wills to make the pot. Straightway she makes the pot. Does she now know that she has made the pot before her? No, for while she was cleaning her hands, a rival potter, who cunningly fashioned a pot indistinguishable from hers, placed it next to hers, shuffled the two pots for a while, and then removed one. It happens that the pot he removed was his own, so that the pot before our potter really is the one she made. Under these circumstances, she doe not know that the pot before her is hers, even though she made it, she believes that it is hers, and her belief is justified. Our potter’s claim to knowledge is defeated by circumstances, knowledge of which she does not possess.

This case is another illustration of the by-now-familiar fact that justified true belief is not the same as knowledge. Practical knowledge is no more immune from the sort of difficulty just sketched than speculative knowledge is. Anthony Kenny has recently tried to make out a case for exempting practical knowledge:

...[I]f someone does know what he is doing—e.g. if he means to press button A and is pressing button A—then he knows that he is pressing button A without observation; he needs no further grounds, reason, evidence, etc. in order to make his meaning to press button A constitute knowledge that he is pressing button A. For speculative knowledge, in general, at least three things need to be the case for it to be true that X knows that p: first, that X believes that p, second, that p be true, and third, that X has grounds, i.e. good reason, for believing that p.

In the case of practical knowledge only the first two are necessary. Imagine the following. Two perfectly similar buttons, A and B, are before Kenny’s button-pusher, but the room is completely dark. He means to press button A, he stabs his finger out into the darkness and, as luck has it, he presses button A. By Kenny’s lights he knows “without observation” that he is pressing button A. But that is absurd. I suspect that Kenny had in mind some background observational component when he (under-) described the case—namely, that the button-pusher could see button A. That component, however, when made explicit, is enough to allow us to construct all sorts of counterexamples. Perhaps there is some interpretation of “practical knowledge” which requires only belief and truth. But under that interpretation, practical knowledge is no more knowledge than a rubber duck is a duck.

In defense of (A’) and (B’), some theist might wish to point out that they do not make claims about people in general, but rather God in particular. It might be alleged that (A’) and (B’) are necessarily true because of the uniqueness of
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God’s epistemic situation. God is omniscient, and hence no bizarre circumstances can defeat his knowledge, for he knows all details of all circumstances.

Such a maneuver has lost sight of the problem with which he began. We had recourse to the notion of practical knowledge in an effort to understand how God could be omniscient with respect to matters of contingent fact. Now my hypothetical theist offers to make intelligible the adequacy of God’s practical knowledge by appealing to his omniscience. The circle involved here may not be vicious, but one can reasonably protest that the curvature is too tight for intellectual comfort.

The virtue of (A’) and (B’) is that they attempt to show how God can have knowledge of contingent fact without his knowledge being caused. The vice of (A’) and (B’) is that they are powerless to explain why God’s knowing how and willing that entail his knowing that. I suggest that the way to overcome that deficiency is to supplement (A’) and (B’) with

(E) For any contingent thing, x, God’s knowing that x exists is God’s knowing that he wills that x exists,

and

(F) For any contingent situation, S, God’s knowing that S is the case is God’s knowing that he wills that S is the case.

(E) and (F) do not claim that God deduces his knowledge about Jones’ BLT from his will. They claim, rather, that his knowledge about Jones’ BLT just is his knowledge about his will with regard to Jones’ BLT. What might seem to be two items of knowledge are one, according to (E) and/or (F). God’s knowledge of contingent fact, then, is a kind of self-knowledge. He knows that Jones is eating a BLT because he wills that Jones is eating a BLT. As we have seen earlier, it cannot be that he infers his knowledge of his will from his will or from anything else. So his knowledge of contingent fact must be knowledge about his own willing activity and it must be noninferential.

Could there be such knowledge? I see no reason to think not. I believe it will be instructive to juxtapose our abstruse theological speculation with a contemporary discussion about the possibility and scope of contingent a priori knowledge.16

No one presently knows who wrote the Ars Meliduna. I stipulatively introduce the name ‘Fulbert of Melun’ as a rigid designator—as a term which designates the same individual in every possible world in which that individual exists—whose reference is fixed by the descriptive phrase ‘the author of the Ars Meliduna.’ ‘Fulbert of Melun’ is not an abbreviation for ‘the author of the Ars Meliduna’: there are possible worlds in which Fulbert exists but is not the author of the Ars Meliduna. Because of this latter fact the sentence, ‘Fulbert of Melun is the author of the Ars Meliduna,’ is contingently true if true at all. Now the phrase, ‘the
author of the *Ars Meliduna,* could fail to refer even if the *Ars Meliduna* was authored: it might be, for example, that it was composed by a band of disgruntled Parvipontanians. In order to simplify the discussion, I propose to suppress that complication. Since I have stipulated that Fulbert is the author, I know *a priori* that Fulbert is the author. Even if it is subsequently discovered that the *Ars Meliduna* was written by Gerbert of Melun, my knowledge is secure, for all that the discovery shows is that Fulbert is Gerbert. Thus it seems that I have (*1) a priori, (2) noninferential knowledge 17 (3) of a contingent fact, and that in an obvious sense, (4) the item of knowledge is not caused by the fact but (5) is generated by my stipulative activity. Finally, a case can be made that (6) my knowing that Fulbert is the author of the *Ars Meliduna* just is my knowing that I stipulated it so. Now if some of my knowledge of contingent matters can have these features, why cannot all of God’s?

There are at least four impediments to this maneuver.

*The first impediment.* “The kind of knowledge you can generate by your stipulations is *de dicto,* not *de re.* What you know from the example described above is that the sentence, ‘Fulbert is the author of the *Ars Meliduna,*’ is true. You do not know, from that fact alone, that Fulbert is the author of the *Ars Meliduna.* Suppose that, as luck has it, somebody named ‘Fulbert’ actually did compose the *Ars Meliduna,* and that this fact was well-known by late-twelfth-century Parisian logicians. It would be facetious of you to claim that you know what they know. Their knowledge was causally connected in some right way(s) to Fulbert; by hypothesis, all causal avenues to knowledge about Fulbert’s authorship are presently closed to you. Hence your vaunted knowledge about Fulbert is more like knowledge about ‘Fulbert.’ Your stipulative activities, no matter how fervently sincere, gain you no access to the real world of twelfth-century logicians.

“If that is what God’s knowledge of contingent matters amounts to, then his epistemic predicament is unenviable. He is like the author of a very detailed book—a maximally consistent book—who does not know whether his book is fact or fiction. In terms of Leibniz’ arresting metaphor, if God surveys all possible worlds, and if the actual world is just one among these infinitely many possible worlds, then how, on the account given above, encapsulated in points (1)-(6), does God know which world is the actual world?”

Points (1)-(6), if they characterize any of my knowledge, characterize only a quirky part of it. As we have seen, in the ordinary case my practical knowledge and my will are not sufficient to guarantee that I know what I have done or that my production went as I intended it. No matter how much practice I have had, I can flub, and circumstances can be recalcitrant in ways I had not anticipated. In contrast, God’s practical knowledge is perfect and his will is unimpeded. His knowledge *de rebus* is like my knowledge of my stipulations with respect
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to points (1)-(6) above, but the difference between us is that his knowledge really is *de rebus*; to the extent to which I have knowledge satisfying conditions (1)-(6), mine is not. My stipulations create fact *de dicto*; God’s will creates facts *de re*. As for the question posed at the end of the previous paragraph, God knows which world is the actual world by knowing his will. That is, he wills only one world to be the actual world—not even he could will more than one—and he knows which world is the actual world by knowing what he wills.\(^{19}\)

The second impediment. “According to (E) and (F), God’s knowledge about Jones’ BLT is his knowledge of what he wills concerning Jones’ BLT, but there is a gap between knowledge of will and knowledge of fact. Consider this inference:

\[
x \text{ knows that he wills that } P.
\]

Thus:

\[
x \text{ knows that } P.
\]

It is obvious that the first sentence can be true while the second is false. There is no entailment between the two, let alone identity. Claims like (E) and (F), then, are without defense. You have tried to paper over this gap by talking of God’s perfect practical knowledge and his unimpeded will. These features need to be made explicit, and when they are, we have something like this (where ‘P’ takes as values true contingent propositions):

\[
(1) \text{ God knows that he wills that } P.
\]

\[
(2) \text{ God knows that he knows how to bring it about that } P.
\]

\[
(3) \text{ God knows that his will with respect to } P \text{ is unimpeded.}
\]

Thus:

\[
(4) \text{ God knows that } P.
\]

Once all this is made explicit, however, it looks as though God’s knowledge of contingent fact really is inferential, contrary to your earlier stricture.”

I see no reason to think that God must get to (4) by way of (1), (2), and (3). The issue is not whether (2) and (3) are true—they are entailments of any reasonable analysis of divine omniscience—but rather whether God needs them to have knowledge that \(P\). Consider an earthly analogy. Suppose that Margaret sees that the dog is in the yard. Then Margaret’s seeing that the dog is in the yard just is her knowing that the dog is in the yard. She need not infer her knowledge, consciously or subconsciously, from anything else. It may be that what leads *us* to believe that her seeing is her knowing is that we know that her visual apparatus is in sound working order and that in the present circumstances, her visual environment is normal. But Margaret need not know all that in order for her seeing to be her knowing. In similar fashion, that God knows how to
bring it about that $P$ and that his will is unimpedable may make it clear to us why God’s knowledge of his will is his knowledge of fact—that is, why (1) and (4) jointly express an identity—but God himself does not have to rehearse (2) and (3) in order to know that $P$: all he needs to know is that he wills that $P$. Thus we are not forced to agree that (1)-(4) express a divine inference pattern.

The third impediment. “People can forget what they once knew, even what they once know a priori. You may stipulate that Fulbert is the author of the Ars Meliduna, then forget that fact, and come to believe later that you attributed the authorship to whomever wrote the Tractatus Anagnini. God may at such-and-such a time will that Jones eats a BLT, know at that time that Jones is eating a BLT, forget it fifteen minutes later, and come to believe that Jones was eating escargot. That kind of liability cannot befall an essentially omniscient being. But there is nothing in the account that you have given which addresses the issue of God’s memory and the possibility of false beliefs. At best, your account is incomplete.”

The fourth impediment. “The proposal is to base God’s knowledge of contingent fact on his knowledge of himself. Why is self-knowledge any less problematic than factual knowledge? ‘Know thyself’ is no trivial piece of advice. We do not have Cartesian access to our own thoughts, and the variety of unconscious motivation, revision, and self-deception which people are capable of is wondrous to behold. The proposal, to be successful, must presuppose that God’s will is perfectly transparent to himself. Why should we think that that is so?”

Both these objections allege, in effect, that I have traded in one sort of difficulty for another. I propose to respond to the objections by invoking a doctrine, to be found in Aquinas, which many have thought to be indefensible. As I move from frying pan to fire I shall be accompanied by the doctrine of divine simplicity, a doctrine which maintains that God, qua perfect being, has no physical parts or metaphysical constituents. Everything that God is just is God, according to the doctrine. I have defended the intelligibility of the doctrine elsewhere and cannot hope to redeploy those defenses here. What I shall do is show how the doctrine handles the third and fourth impediments.

If God is simple, then there are no temporal stages to his existence; a being with a temporal career is by that very fact complex. If God is simple and perfect, he is eternal in the Boethian sense of eternity: he enjoys “the complete possession all at once of illimitable life.” As a consequence, what God knows he knows all at once. There are no successive stages to his mental life, and if that is so, then many kinds of human mental phenomena (logically) cannot characterize him. He cannot grow angry, fall in love, discover new theorems in number theory, or learn the capital of the state of North Dakota. Nor can he forget, nor remember. The third impediment is a plausible objection only if one assumes that God’s experience is characterized by temporally successive stages. On the theory that God is simple, and hence eternal, that assumption is a gratuitons
piece of anthropomorphism. (It is now obvious why a defender of God’s eternality has no problem with God’s foreknowledge of human free choices.)

Consideration of the fourth impediment evokes the most distinctive feature of the doctrine of divine simplicity. According to the doctrine, there is no distinction in God between his substance and his attributes. ‘God is wise’ and ‘God is powerful’ are more perspicuously expressed as ‘Necessarily, God = the wisdom of God’ and ‘Necessarily, God = the power of God.’ Thus, ‘God,’ ‘the wisdom of God,’ and ‘the power of God’ necessarily refer to the same thing if they refer at all. Pertinent to our present concern, Aquinas says that God’s being is his understanding (ST, Ia, q. 14, a. 5), and the context (see ST, Ia, q. 14, a. 2-4) makes it clear that he means that God’s being is his understand of himself. Thus the doctrine of divine simplicity entails that God’s knowledge of himself is himself. The doctrine also entails that God’s knowing is his willing (ST, Ia, q. 19, a. 1). With these entailments under our belts we can ring the following changes on thesis (F). 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. And if S’ is a situation distinct from S, then God’s knowing that S is the case = God’s knowing that S’ is the case. 22

According to the doctrine of divine simplicity, then, God is identical with his knowing and willing activity (and his knowing activity is identical with his willing activity), whereas I am not identical with my knowing or my willing. I can fail to have complete knowledge of myself just because my acts of knowing and willing are multifarious, distinct from themselves and from me. I see that the dog is in the yard, hear the rain falling outside, infer that the dog will get wet if I do not let him in, and decide to let him in. Pace Descartes, I may not be aware of all of this. The inference may be subconscious; in seeing that the dog is in the yard I may not realize that I am seeing that he is in the back half of the yard. However, if God is perfectly simple, then he is not subject to a plurality of acts of knowing and willing. His knowing that the dog is in the yard is his willing that the dog is in the yard, which is his willing that the Egyptians suffer a plague of locusts, which is his knowing that the Egyptians suffer a plague of locusts. One and the same divine activity is all these things and more. Moreover, this divine activity is not a part or an emanation or a property of God; it is God. His perfect awareness of himself is what it is to be God. The fourth impediment makes sense only if we think that God’s mental life is composed of aspects, episodes, or parts which are distinct from each other and from God. No skeptical wedge about self-knowledge can be driven where there are no parts to be divided. 23

I believe, then, that the account given in theses (A)-(F), supplemented by the doctrine of divine simplicity, provides a coherent account of how God, a sup-
remely perfect being, can have knowledge of contingent fact. The account meets the requirement insisted upon by traditional theists and entailed by God’s being perfect, namely, that God’s knowledge depend on nothing other than himself. The account is embedded in an ambitious web of philosophical and theological doctrines, some of which are not beyond controversy. How could it be otherwise? My only hope is that the tensile strength of the web is increased by its ability to absorb and dissipate the problem we have been examining.  

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APPENDIX

Summa theologiae, Ia, q. 14, a. 5:
...It is necessary that God know things other than himself. For it is manifest that he understands himself perfectly: otherwise his being would not be perfect, since his being is his understanding. But if something is known perfectly, it is necessary that its power be know perfectly. But the power of some being cannot be known perfectly unless those things to which the power extends are known. Thus, since the divine power extends to other things—from the very fact that it is the first effective cause of all things, as is clear from what was said above (Ia, q. 2, a. 3)—it is necessary that God know things other than himself. And this becomes even more evident if it is added that the very being of the first efficient cause—namely God—is his understanding.

Summa theologiae, Ia, q. 14, a. 8:
...God’s knowledge is the cause of things. For God’s knowledge stands to all created things as the knowledge of a craftsman [artifex] stands to [his] artifacts. But the knowledge of the craftsman is the cause of artifacts just because the craftsman works through his intellect. Hence it must be that the form in the intellect is the working principle, as heat is the principle of heating. But one should remember that a natural form, insofar as it is a form remaining in that to which it gives being, does not denote a principle of action unless it has an inclination to an effect. Similarly, an intelligible form does not denote a principle of action according as it is merely in the one who understand, but only if there is adjoined to it an inclination to an effect which is through the will. For since an intelligible form covers opposites (since the same science covers opposites), it would not produce a determinate effect unless it were determined to one thing by desire, as it is said in Metaphysics, IX. But it is obvious that God causes things by his understanding, since his being is his understanding. Hence it is
necessary that his knowledge is the cause of things, when conjoined with [his]
will....

...Natural things are midway between God's knowledge and our knowledge. For
we acquire knowledge from natural things, of which God, through his knowledge,
is the cause. Hence, just as the knowable natural things are prior to our knowledge,
and the measure of it, so God's knowledge is prior to the natural things, and
the measure of them; just as a particular house is midway between the knowledge
of the craftsman who builds it and the knowledge of him who acquires knowledge
of it from the house already built.

*Summa theologiae*, Ia, q. 14, a. 16:

...Some knowledge is purely speculative, some is purely practical, and some is
somewhat speculative and somewhat practical. As evidence of this one should
realize that knowledge can be called speculative in three ways. First, on account
of things known which are not manipulable [*operabilis*] by the knower, such as
human knowledge of natural or divine things. Second, on account of the mode
of knowing; for example, if a builder were to consider a house by defining,
dividing, and considering its universal properties: this surely is to consider mani-
palable things in a speculative way, and not insofar as they are manipulable
things. For a thing is manipulable by the application of form to matter, not by
the resolution of the complex into its universal formal principles. Third, on
account of the end, for "the practical intellect differs from the speculative intellect
by its end," as it is said in *De anima*, III. For the practical intellect is set in
order to the end sought in its manipulation, but the end of the speculative intellect
is the consideration of truth. Hence if some builder were to consider how some
house could be made, not setting in order his manipulation to the end [of making
it] but only to the end of knowing, that would be, in regard to the end, a
speculative consideration, although of a manipulable thing. Therefore, knowledge
which is speculative on account of the thing known itself is purely speculative.
However, knowledge which is speculative either on account of the mode or on
account of the end is somewhat speculative and somewhat practical. However,
when it is set in order to the end sought in its manipulation it is purely practical.

Thus according to this one should say that God has purely speculative knowl-
edge of himself, for he himself is not manipulable. However, of all other things
he has knowledge both speculative and practical.

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NOTES

1. See Anthony Kenny, *The God of the Philosophers* (Oxford: Clarendon Press, 1979), pp. 15-26; Alvin Plantinga, *Does God Have a Nature?* (Milwaukee: Marquette University Press, 1980), pp. 92-140. William Alston has pointed out to me that the account which I give of how God knows contingent matters involves items of knowledge, such as God's self-knowledge, which are themselves necessary. There is no sound argument, however, from 'God necessarily knows himself' to 'Anything that God knows is necessary.'


3. See Plantinga, *op. cit.*

4. Saint Thomas Aquinas, *Summa theologiae*, Ia, q. 14, a. 7. Hereafter, this work is abbreviated as 'ST.' I am indebted to Norman Kretzmann for deepening my understanding of this part of Aquinas' doctrine.

5. ST, Ia, q. 3, a. 1.


8. For example, if there are uncaused events, now can we have knowledge of them? (By their effects; how else?) Or how, if the thesis is correct, can we have knowledge of negative existential facts? How can I know that Santa Claus does not exist? On this question, see Keith Donnellan, "Speaking of Nothing," *The Philosophical Review*, 83 (1974), pp. 3-31.


10. An influential text for this doctrine was Saint Augustine, *De Trinitate*, XV.13.22; see, e.g., ST, Ia, q. 14, a. 8.

11. It is natural to think that Socrates' sitting differs from Christ's being born in respect of the former's repeatability. Socrates can sit on several occasions; perhaps Christ can only be born once. The difference, if it is a difference, has no bearing on the present issues.

12. Although not an independently existing thing. It is part of Aristotle's doctrine that the F-ness of x depends on x for its existence, but not conversely. I leave aside the question whether the doctrine can be extended to cover cases of necessarily true propositions save to mention one special case. Aquinas maintains that the object of faith, viz., God, is simple in itself, but that the object of faith, i.e., the content of the believer's belief, is something complex, in the form of a proposition. (See ST, IlaIae, q. 1, a. 2. See also Gabriel Nuchelmans, *Theories of the Proposition: Ancient and Medieval Conceptions of the Bearers of Truth and Falsity* [Amsterdam: North-Holland Publishing Company, 1973], p. 185.) The thesis we have been discussing sheds light on the doctrine of God's simplicity. In saying that God is simple Aquinas means, inter alia, that the terms 'God' and 'the omniscience of God,' although not synonymous, necessarily refer to the same thing. The proposition, 'God is omniscient,' is compounded of two nonsynonymous terms, as is the proposition 'Socrates is white.' But whereas Socrates and Socrates' whiteness are two distinct things, God and God's omniscience are not. 'God is omniscient' is to be parsed as 'Necessarily, God = the omniscience of God.' (I discuss the doctrine of divine simplicity in Section III.) Here, then, is another case in which the F-ness of x refers to a thing, with the following twist: the thing it refers to just is...
(necessarily) x.


17. I take it that (1) and (2) say different things. Not all *a priori* knowledge need be noninferential, and not all noninferential knowledge need be *a priori*.

18. The sentence, ‘God can will only one possible world to be the actual world,’ has two interpretations. It can mean either that (a) not even God can will two or more possible worlds to be actual, since that is logically impossible, or that (b) given God’s nature, there is only one world he could have chosen, e.g., the best of all possible worlds. One can subscribe to (a) without subscribing to (b).


22. I have argued elsewhere that these identities do not preclude there being contingent situations, nor do they imply that God could not know or will other than what he does. See my “Simplicity and Immutability in God.”

23. The doctrine of divine simplicity has as a corollary the extended version of the doctrine of aseity mentioned in Section I. No part or aspect of God depends on any other part or aspect because God has no parts and no plurality of aspects.

24. An earlier version of this paper received thoughtful comments from William Alston, Hilary Kornblith, and Norman Kretzmann, all of whom may still vigorously disagree with what I say here. Research for this paper began with the aid of a research grant from the University of Vermont in the summer of 1981.