9. KNOWLEDGE AS DOUBLY ANCHORED TRUE BELIEF

LAWRENCE G. BECKER

HOLLINS COLLEGE

ABSTRACT. Some ambiguities in the verb 'to know' are analyzed, and it is argued that "undefeatably justified true belief" is the meaning of most philosophical interest with respect to specifying truth conditions for 'S knows that p'. Two general conditions for an adequate definition of 'S knows that p' are discussed. Then a proposal for a quasi-causal theory of knowledge is introduced and defended.

One of the most frustrating little problems of contemporary epistemology is the question of the proper explanation of statements of the form "S knows that p." I say it is a "little" problem because it is, after all, a definitional matter. But it is a frustrating problem for several reasons: first, though it often seems intractable, it is so fundamental that it cannot legitimately be ignored. Second, it is frustrating because it cannot be circumvented with a clear stipulative definition, for what we require is an account which satisfies at least one important need—that of characterizing the commonsense distinction between knowledge and true opinion. (The need to clarify this distinction, which has been felt by philosophers since Plato, is what raised the definitional problem to begin with.) Third, even a casual reading of the recent literature on the topic yields the impression that part of what blocks agreement is a deep-seated ambiguity in the verb 'to know'—ambiguity which reveals itself in people's frustrating insistence that an account they object to is not "intuitively plausible," or does not cover certain odd cases in which it is still appropriate to say that a person "knows" or "has knowledge." And fourth, the problem is frustrating because attempts to solve it have been getting progressively more complex and technical without getting noticeably closer to producing general agreement. As a consequence, the temptation grows to sweep the whole matter aside by saying, in effect, "Something like one of the current accounts must be right. They aren't all that different anyway. And the necessary refinements just aren't worth spending any more time on."

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I have spent more time on them—perhaps out of perversity—but also because I think I have an account which is intuitively plausible, which characterizes the commonsense distinction between knowledge and true opinion, which deals adequately with the counterexamples which have defeated other attempts, and which is relatively uncomplicated. But in order to present it properly, some preliminaries need to be dealt with—not the least of which is the problem of ambiguity in the use of the verb 'to know' and the noun 'knowledge'. A good deal of the trouble with explications of "S knows that p" comes from a failure to be clear about which of the several ordinary meanings for 'knows that' one is explicating. (It should, perhaps, be noted here that although much of Section I below will be devoted to an analysis of ordinary uses of 'knows that,' when I offer my "explication"—or speak of explicating or defining 'S knows that p'—I am concerned only with stating a set of conditions sufficient for the truth of statements of the form "S knows that p.")

I.
The verb 'to know,' as used in statements of the form "S knows that p," has a number of different meanings:

1. It can be used to make emphatic a statement about beliefs—e.g., "Well, of course she just knew that he would. (But he didn't)"

2. It can be used simply to make a statement about truths—where belief or justification is not implied—e.g., "We don't understand how she does it, but she always picks the right horse. She doesn't use evidence, she just knows which one is going to win, even though she doesn't believe the truth of her predictions. (That's why she never bets.)"

3. It can be used to make a statement about justified truths, where belief is not implied and where having a justification is understood to be compatible with being mistaken: "I knew it was right. I'd gone over the evidence time and time again and it was the only rational conclusion. But I guess I'd been wrong in cases like this once too often, so I just couldn't bring myself to believe it. But it was true all the same, and I knew it."

4. It can be used to make a statement about justified true beliefs, where having a justification is again compatible with being mistaken: "I not only believed it, I knew it; I had evidence. Not airtight evidence, but enough to know for sure. And I was right, wasn't I?"
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5. It can be used to make a statement about undefeatable justified truths--that is, one in which belief is not implied, but in which the existence (truth) of the causes (justificatory propositions) for one's assertion that \( p \) is logically incompatible with the falsity of \( p \): "I have the evidence, and it's not a question of probabilities. It simply cannot, logically, be the case both that the evidence is what it is and that this conclusion I have drawn is false. So since I know that the evidence is true, I know that the conclusion is true. Now tell me this: Why can't I bring myself to believe it?"

6. It can be used to make a statement about undefeatable justified true beliefs, just as in the previous example but with, rather than without, the knower's belief that the conclusion is true.

7. And it can be used to make a statement about indubitable beliefs: e.g., "You think you are awake, but you don't really know--do you? Because it is at least conceivable that you might be asleep and only dreaming that you are awake."

No doubt there are more uses of 'knows that' which could be distinguished, but these seven will suffice to illustrate the problem of ambiguity and to isolate the use it is important to explicate.

It is my contention that the use we should be concerned with is 6.--undefeatable justified true beliefs. That is, I think the sort of knowledge we should be trying to define with the explication of "S knows that \( p \)" must include the following conditions: (a) It might require that \( p \) be true (for the obvious reason that we do not want to say that people can know, as opposed to believe, what is false). (b) It must require that \( S \) believes that \( p \) (for the equally obvious reason that it is very odd to hold--as a considered account of knowledge--that people can know that \( p \) while simultaneously believing \( \neg p \), or having no beliefs about \( p \) at all). This is so even though there are many times in ordinary speech when we do not imply belief that \( p \) when we say that someone knows that \( p \). (See uses 2., 3., and 5. above.) And (c), I think the sort of knowledge we should be trying to define must include the condition that the belief held is undefeatable--that is, that the way in which the knower has come to believe \( p \) is incompatible with the falsity of \( p \). Otherwise, the fact that \( p \) is true may have nothing to do with why \( S \) believes it--a strange result to describe as knowledge.

If this centering on undefeatable justified true beliefs seems arbitrary, consider: The point--or at least part of the point--in explicating statements of the form "S
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knows that \( p \)" is to distinguish knowledge from mere belief. We can thus rule out the emphatic belief usage 1. at once. It is simply beside the point. And no one, I take it, is much interested in defining the conditions sufficient for being emphatic about belief anyway.

Further, it is generally agreed that we don't want to concern ourselves with senses of 'knows that' (e.g., 1) which are compatible with the falsity of the proposition known. What a person believes may well be false; but we do not want to say, here, that a person can know that some proposition is true when in fact it is false. So knowledge that \( p \) requires at least that \( p \) be true. Whether this rules out 7. as well as 1.—that is, indubitable beliefs as well as emphatic beliefs—depends on whether one thinks the indubitability of \( p \) is logically compatible with \( p \)‘s falsity.

Indubitability can be ruled out on another ground, however. To use 'knows that' only in this sense is to adopt a perversely strong standard. As the history of Cartesian epistemology shows, very little of interest can possibly meet such a standard—at least when it is distinguished from the notion of an undefeatable belief (i.e., one which cannot, consistently with the evidence, be false). And if one has an undefeatable true belief, it is hard to see why anyone would ever seriously maintain that something more—namely the impossibility of methodological doubt—was required to turn that belief into knowledge. Surely undefeatable true belief is strong enough to satisfy the knowledge side of the commonsense knowledge/true opinion distinction.

So we are left with possibilities 2. through 6., and the choice among them is not as difficult as it might at first seem. In distinguishing true opinion from knowledge, most philosophers have assumed that what is at stake is a difference in the source of belief. The person with mere true opinion might have made a lucky guess, or have accepted the testimony of another, or just have happened, through some inexplicable process, to have come up with the correct answer. But knowledge requires more than that—for example, that the source of one's belief be a direct encounter with the facts believed, or that the belief have adequate argumentative justification. Put more formally, it has typically been assumed that the conditions necessary for the truth of statements of the form "S knows that \( p \)" are at least these:

1. that \( p \) is true (the truth condition);
2. that S believes that \( p \) is true (the belief condition); and
3. that S is justified in believing that \( p \) is true (the justification condition).
A few writers have challenged the necessity of the belief condition by constructing examples of the sorts mentioned under uses 2., 3., and 5. above. But their arguments depend on an equivocation; the standard attempts to explicate "S knows that p" have not been concerned—as far as I can tell—with cases in which S believes non-p, or has no beliefs about p at all, even though there are such uses of 'knows that'. They have rather been concerned with uses like 4., 6., and 7., in which knowledge is distinguished from true belief by adding something to the truth and belief conditions, not by substituting something for the belief condition.

In my view this is a legitimate move, for it must surely be admitted that the only philosophic interest uses 2., 3., and 5. have is what they derive—not from the absence of the belief condition—but from the presence of conditions also possessed by either 4., 6., or 7. That is, what is the epistemological interest in statements about justified truths, or undefeatably justified truths, is their justified or undefeated character, not the absence of belief. The absence of belief in these cases is a psychological quirk—a way in which ordinary sorts of knowledge can be defective, peculiar, puzzling, less than satisfactory. Though such puzzles are no doubt interesting to students of psychology, communication, and applied logic, I see no reason why they should be dealt with here. We are not interested in quirky psychological states, but in standard conditions for the truth of statements of the form "S knows that p," where the object of the exercise is to see how much shoring up is required to turn a belief into knowledge.

So we are left, I think, with two choices: statements about justified true beliefs 4., and statements about undefeatably justified truth beliefs 6. And the former is too weak: it admits the so-called Gettier cases. That is, as long as having a justification is understood to be compatible with being mistaken, it will be possible to construct cases in which, though p is true, S believes p, and S is justified in believing p, the reasons (causes) for p's being true have nothing to do with the reasons (evidence; justification) S has for believing p to be true. For example:

Suppose Smith and Jones work in my office and I am asked by a telephone interviewer whether anyone who works in my office owns a Ford automobile. I say that, as a matter of fact, someone in my office does own a Ford. (I am thinking of Smith.) "Are you sure?" the interviewer asks ominously. "Do you know? Or do you just believe it?" "Well," I say, on my guard now and bit pedantic, "Of course my knowledge is based on inductive evidence. There is always the logical possibility that I am mistaken. But I was with a person from my office when he bought a Ford yesterday; he came to work in the same car today; it is still sitting outside now; and he just offered me a ride home. So I think I
am justified in believing that someone in my office owns a Ford. Yes. I know it."

Now of course it is easy to imagine that Smith has in fact sold his new Ford to Jones, and brought it to work in which he intends to give me a ride home. So in that case it is true that someone in my office owns a Ford, namely Jones, but not for the reasons I think, although my reasons are pretty sound by the standards of inductive evidence. We may even imagine that I have considered the possibility that Smith has sold his Ford, and that I turned from the phone to ask him whether he still owned one before answering the interviewer. And we may suppose that Smith, whom I know to be scrupulously honest, decides just this once to lie. It is clear that the notion of justification used here lets in too much. We do not want to say that I know, as opposed to truly believe, that someone in my office owns a Ford, even though I am, by these standards, justified in believing it.

Since we do not want to call justified true belief knowledge if it admits the Gettier cases, it seems obvious that what we are really after here is an explication of statements about undefeatably justified true beliefs. What we want, in marking the distinction between true opinion and knowledge, is to be able to say how, in the case of knowing, people can come to believe a truth in such a way that they could not have done so if the proposition believed were not true. The problem is thus to say what conditions must be added to the truth of \( p \) and S's belief that \( p \) to guarantee that the belief is "undefeatable."

II.

There are two common sorts of solution to the problem. One is to tinker with the notion of a justificatory argument: to turn the explication of "S knows that \( p \)" into a version of the justified true belief account, where justification is understood in a way which is immune from the Gettier counterexamples. This is a tricky task, for the nature of justificatory argument varies from one range of cases to another: from what could reasonably be called verification in cases like "There are five apples on the table," to the giving of conclusive evidence (but not verification in the strict sense) for propositions such as "This iron bar is magnetic," to the use of complex proof procedures in the case of propositions such as "The cardinal of the set of all real numbers is \( \aleph_1 \)." Knowledge, on this account, is undefeatably justified true belief, but the justification condition must not be so weak as to let in the Gettier cases, nor so strong as to rule out knowledge of the sorts of propositions verificationism stumbles over (e.g., the general propositions of mathematics and statements about dispositional properties). The task of constructing a justifica-
tion condition which falls between these two extremes—and which is not burdened with grotesque conditions to rule out a few strange counterexamples—has been frustrating.  

Rather than attempt it, some theorists have taken the other alternative and tried to construct a version of what has come to be called the causal theory of knowledge. Here one holds that what marks the difference between knowledge and true opinion is what causes S's belief that p. The starting point is something like this: I know that there are apples on the table, for example, when my belief that there are is caused by the fact that someone I trust told me so. Knowledge, on this account, is appropriately caused true belief, not appropriately justified true belief.

But the causal theory has not had any easier a time of it than the justified true belief account. Mathematical truth is hard to handle, for one thing. It is hard to see how the flat fact that 7 plus 5 equals 12 can be the cause of my belief that the proposition "7+5=12" is true. And blind or indirect causes present another problem. Suppose, to borrow an example, I come to believe that there is a sheep in the field by being duped by a wolf in sheep's clothing. But the wolf is there because there is also a real sheep in the field, hidden out of my sight. So my belief is true, and the cause of my belief is indirectly the very fact that there is a sheep in the field. Yet we would not want to say that in this case I knew, as opposed to believe, that there was a sheep in the field.

Epistemologists remain divided over whether to pursue the justified belief account or the causal theory. But I think there is a relatively simple account—which in effect brings together both the justified true belief and causal theories—and which is both intuitively appealing and immune from the counterexamples which have plagued other proposals. As a final preliminary, it will be useful to review briefly what an intuitively plausible account would be, and what sorts of possible counterexamples it must face.

Conditions for Plausibility

To be intuitively plausible, an account of "S knows that p"—understood as a schema for statements about unde-featably justified true beliefs—must do at least two things. First, it must anchor belief securely—immovably, really—in the facts. Coming to know something must be understood as a way of coming to believe a proposition such that, if that proposition were not true, one could not have come to believe it in that way. The reasons for belief (whether causes or justificatory arguments) must be controlled, as it were, by the truth value of what is believed: their existence (or truth) must be incompatible with the falsity of what is believed.
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Example: If I am hypnotized to believe that my phone is out of order (which it is), I cannot be said to know that it is out of order. I could, after all, have come to believe the very same thing in the very same way even if the phone were in perfect working order. Beliefs induced by hypnosis are controlled by the hypnotist, not by the truth of what is believed. The causes of such beliefs are quite compatible with their falsity. And similarly for justifications. Whenever the evidence I have for a belief is compatible with the falsity of what is believed, I do not have knowledge, but only more or less well-grounded belief.

The requirement that the causes or justifications of a true belief be controlled by the truth of the belief I shall call, for convenience, the requirement of anchored belief.

The second thing an account of "S knows that p" must do to be intuitively plausible is to require an awareness, on the part of knowers, that their beliefs are anchored. I don't know something simply because there "is" a justification for it; I must somehow "have" the justification. Similarly, I do not know something simply because my belief is caused by the facts believed; I must be aware that this is so. One must be careful here not to make this condition too strong. Knowing that p cannot require knowing that you know that p, for that yields an indefinite regress (knowing that you know that p then requires knowing that you know that you know that p and so on). But not to require an awareness at all, on the part of knowers, that they do in fact have more than mere true opinion is to defeat part of the point of distinguishing true opinion from knowledge. What good is evidence if one doesn't "have" it?—that is, isn't aware that it is evidence and that it does transform true opinion into knowledge?

The requirement that knowers be aware that their beliefs are anchored I shall call the requirement of recognition.

Counterexamples

The counterexamples which plague accounts of "S knows that p" are of several sorts. Justified true belief theories have to contend mostly with the question of stringency. The closer the notion of justification comes to strict verification, the more difficult it is to account for knowledge of the general propositions of mathematics and the empirical propositions about dispositional properties (e.g., This iron bar is magnetic). On the other hand, the closer the notion of justification comes to a criterion of inductive soundness, the more difficult it is to account for the Gettier cases (e.g., Smith, Jones, and the phantom Ford).

Causal theories stumble over different sorts of cases. For one thing they must rule out manipulated beliefs (the
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hypnotist examples). For another, they must deal somehow with the problem of indirect or blind causation (the wolf in sheep's clothing). And they too must give an account of mathematical knowledge--this time explaining how the fact that a certain mathematical proposition is true can be the cause of a belief that it is true.

III.

All this has been, so far, very general, metaphorical, and perhaps overobvious. But it not only sets up the proposal I want to introduce; it illustrates nicely why both the causal theory and the justified true belief account are attractive: the causal theory because it focuses on the requirement that the facts somehow control belief—that is, on the requirement of anchored belief; the justified true belief account because it focuses on the requirement that the knower be aware of the way a belief is related to the facts—that is, on the requirement of recognition. What I want to do now is to make a proposal—strictly, I suppose, a causal theory—which in effect brings those two accounts of knowledge together.

The Proposal

The proposal has four conditions—respectively, the truth, belief, anchored belief, and recognition conditions. As follows:

The conditions sufficient for the truth of statements of the form "S knows that p" are met when

1. p is true;
2. S believes that p;
3. The causes (taken conjunctively) for S's belief that p are logically incompatible with the falsity of p;
4. S believes that 3., and the causes (taken conjunctively) for S's belief that 3. are logically incompatible with the falsity of 3.

I think this set of conditions is sufficient for knowledge of formal as well as empirical truths, and is immune from the counterexamples which have defeated other proposals.

Several explanatory remarks are in order, however. Condition 1. may be eliminable. The truth of p is probably entailed by condition 3. But I have included it for the
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sake of clarity in exposition.

Condition 3. may at first seem puzzling. It alludes to a "logical" incompatibility between states of affairs (causes of belief on the one hand and the falsity of a proposition on the other) rather than between propositions. What I mean here, however, is to be understood by reference to inconsistent sets of propositions, and that is why I describe it as "logical" incompatibility. If and only if the conjunction of the propositions q and non-p is self-contradictory (where q is itself a conjunction which lists the causes for S's belief that p) will I say that the causes of beliefs are "logically incompatible" with the falsity of the proposition believed.

Note further that condition 3. does not assert a causal connection between the mere fact of p's truth and the belief that p is true. Thus we are not in the awkward position of having to explain how S's belief that 7 plus 5 equals 12 is caused simply by the fact the 7 plus 5 does equal 12. Rather we say that when the causes of belief are logically incompatible with the falsity of what is believed, the belief is anchored. That is, the anchoring condition is met if and only if it cannot logically (self-consistently) be the case both that the causes of belief are what they are and that (by hypothesis) what is believed is false. In the event of coming to know that 7+5=12 (and mathematical and logical truths generally), the only way the anchoring condition can be met is when a proof of the proposition is part of the full set of the causes of belief. In any other circumstance, the causes of belief would be compatible with the falsity of the proposition—that is, in the absence of a proof that p it could be the case both that the causes of S's belief in p were what they were and that p was false.

Anchored true belief is not enough for knowledge, however. As noted earlier, we require some recognition on the part of knowers that their beliefs are anchored. Condition 4. states such a requirement. But it is important to note that although it "loops around" 3., it does not set up an indefinite regress. That is, it is not equivalent to requiring knowing that you know, and thus knowing that you know that you know, and so on indefinitely. The process is cut short with the knower's recognition (by way of an anchored belief, not by way of knowledge) that the belief p is anchored.

Empirical knowledge. The recognition condition is required, among other things, to meet familiar skeptical attacks about empirical knowledge. For example, if I believe that there are apples on the table because I have seen what are in fact apples there, then perhaps it can be said that my belief is anchored. But if I am challenged with Descartes' evil demon fantasy—to the effect that I still do not have knowledge because I might have been deceived—then
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my anchored belief is not enough. What I need to do is to examine the things on the table and assure myself that my belief is anchored. One way of doing this is to show that what I mean by "There are apples on the table" is in every way satisfied by the objects on the table. Such a showing meets the recognition requirement—condition 4.—by being itself an anchored belief in the truth of 3.

(This is why knowledge, on the view proposed here, is referred to as doubly anchored true belief. It requires that S's belief in p be anchored, and that S recognize that fact by way of another anchored belief.)

"Basic" empirical knowledge is thus adequately accounted for, and knowledge derived from basic knowledge by deductively valid transformations is also accounted for. But what of other sorts of empirical "knowledge"—sorts based on inductive generalizations, general (empirical) propositions, and so forth? Would it not be implausible to refuse to describe such things as knowledge?

The answer goes back to the issues considered in section I. Consider again the arguments given there for confining attention to the notion of undefeatably justified true belief. If these arguments are unconvincing—if one is instead interested in justified true belief, for example, and willing to put up with the continual embarrassment of the Gettier cases—then the proposal offered here will indeed be too stringent. It will rule out too much. But if it is undefeatable true belief which is of interest, then the stringency of this proposal will not be too high a price to pay for avoiding the Gettier cases.

Mathematical Knowledge. One further thing needs to be said about mathematical knowledge: insofar as proofs are based on axioms and rules which themselves do not meet the conditions for knowledge proposed here, then mathematical knowledge must be regarded as conventional or conditional. It is not, however, settled whether this is so. It may be that there is an analog in mathematics to what we call basic (empirical) knowledge. Conditional knowledge is still an important form of knowledge, however. To know that, given certain assumptions, p is true is often all that the mathematician requires.

Objections

To complete the exposition of the proposal advanced here, I want to consider some objections.

Blind Causes. Perhaps the most pressing problems are cases of blind or indirect causation—the wolf in sheep's clothing case. In fact, that particular example is not very troublesome, but there are deeper difficulties of an analogous sort.
The quickest way to answer examples of the wolf in sheep's clothing sort is to point out that they do not satisfy condition 3—the requirement of anchored belief. The presence of the wolf in the field is, after all, only contingently related to the presence of the sheep. The wolf could have been there stupidly, or on his way elsewhere. So assuming the falsity of \( p \) (the presence of a sheep) is not logically incompatible with seeing the disguised wolf (the cause of \( S \)'s belief in \( p \)).

But what about an apparition, taken by \( S \) to be a sheep, which is always and only caused by the presence of a sheep—that is, whose presence "in" the field is not, like the wolf's, merely contingently related to the sheep's presence? One is tempted to say that this does satisfy the requirement of anchored belief, for the existence of the apparition is not compatible with the falsity of the belief that there is a sheep in the field. This case brings out the possibility of the sort of counterexample which—at first glance—appears to meet all four conditions.

Suppose there is a computer, which has the proof for a proposition I believe, and I have come to believe that proposition solely on the computer's word, so to speak. Suppose further that the computer is so programmed that it is logically incapable of printing out a proposition for which it does not have proof, and so programmed that it must print out every proposition for which it does have a proof. It is one of these printouts I come to believe, solely because I love and trust computers. Is it not the case, then, that although I believe the proposition without having any proof of it, the cause of my belief (the computer printout) is logically incompatible with the falsity of that belief? That is, doesn't my belief here meet the anchored condition? And can't we imagine further that the computer has proof of its infallibility and prints out, with every "primary" proposition, the further proposition that its printouts are infallibly correct? Then when I come to believe that further proposition, solely from my love and trust of computers, the recognition condition also appears to be met—for now I not only have an anchored belief in the first proposition, but an anchored belief in the second as well. And the second one tells me that the first is anchored. Now surely we would not want to say that I knew that my first belief was true. I am simply gullible where computers are concerned. But how can the account of knowledge as doubly anchored true belief handle such a case?

The mistake here—and it is a mistake made by all the counterexamples which are based on blind causes—is that they make self-contradictory assumptions about causality. On the one hand, they assume that causality is transitive—that if the computer's special infallibility programming causes its printouts, and its printouts cause my beliefs,
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then the special programming causes my beliefs. But they also assume that causality is not transitive. That is, they assume that I believe the computer not because of its infallibility programming, but merely because I love and trust computers. After all, if I did believe the computer because it was infallible—if that were a condition for my belief—then what could possibly be wrong with saying that I knew what I believed?

The counterexample must hold that the computer's programming is not a condition for my belief—that, on the contrary, I believe the computer just because I love and trust it. But in that case, it is clear that my belief in what the computer prints out is not anchored. The cause of my belief (my love and trust of computers) is fully compatible with the (hypothesized) falsity of what I believe. It is perfectly consistent to hypothesize both that I believe something because the computer printed it out, and that what I believe is false. It is possible to hypothesize this because the reference to the computer's infallibility is not properly included in a statement of the causes of my belief.

Whatever one may think of the transitivity of causality, then, these counterexamples cannot work. They cannot have it both ways. If I really believe the computer because it is infallible, or that there is a sheep in the field because there is a sheep in the field, then nothing is wrong with saying that I have knowledge of these facts. But if I believe the computer only because it is a computer, or that there is a sheep only because I see its apparition or the disguised wolf, then my belief is not anchored and I do not have knowledge of these facts. The account of knowledge as doubly anchored true belief remains unscathed.

Nested Beliefs. A somewhat similar objection can be raised about what might be called nested beliefs. The set of conditions for knowledge advanced here appears to be reduced to absurdity by the fact that the cause of a belief (that p) might be any other belief (that q) which is incompatible with the falsity of p. Suppose I believe that the earth is a spheroid simply because I believe (on no grounds whatever) that the sort of shadow the earth cast on the moon could only be cast by a spheroid. Here p is true (the earth is a spheroid); and though I have no grounds at all for believing q (the evidence about the shadow), I do believe it, and for that reason also believe p; and q is incompatible with non-p. Yet surely I cannot be said to know that the earth is a spheroid.

This purported objection rests on an elementary but instructive mistake. It is the truth of q which is incompatible with the falsity of p, not my belief of q. So the cause of my belief in p—namely my unsupported belief in q—is fully compatible with the (hypothesized) falsity of p.
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Necessary Truths. A further confusion about the nature of anchored belief is revealed by the objection that the anchored belief condition 3. will always be met when p is a necessary truth, since by definition it will not be possible for the causes of belief to be what they are and for p to be false. If p is a necessary truth, it cannot be false, thus anything whatever which causes belief in p will meet condition 3.

The reply to this objection is that it misses the point that 3. asserts a logical incompatibility between the causes of belief and the hypothesized falsity of p. Condition 1. already fixes p as in fact true. so the fact that when p is a necessary truth it cannot be false is no more damaging than the assertion of 1.--that p actually is not false. The question is instead whether if p were false the causes of S's belief that it was true could still be what they were. That is, if we supposed it to be the case that non-p, would that alone entail the falsity of the conjunction "q-and-non-p" (where q asserts the causes of S's belief that p)? In the case of the truths of mathematics, this could be so only where q contains a proof of p. In that case and no other are the two propositions q and non-p inconsistent.

Manipulated Belief. Attempts to state conditions for knowledge as opposed to belief are often hounded by bizarre counterexamples about manipulated beliefs. Some comment on them is necessary.

Beliefs produced by drugs or hypnosis are not problematic—at least in the standard cases. Such beliefs are not anchored. The fact that a belief is caused by hypnosis or an injection of some drug is obviously fully compatible with the hypothesized falsity of that belief. But there is a form of the manipulated belief counterexample which is a bit more difficult. Cases of this form may be dubbed "redundant manipulated beliefs," for reasons which will soon be clear.12

Suppose I am drugged or hypnotized to believe a proposition, but the proposition I am thus made to believe is simply that I am being drugged or hypnotized to believe that I am being drugged or hypnotized. My imagination falters a bit with this, but presumably such a case is meant to meet at least the requirement of anchored belief. Even if it does, however (and I am not sure it does), I do not see how it could possibly meet the recognition requirement. Presumably, the fiend who is manipulating my beliefs could intervene again and drug or hypnotize me into believing 3.--that is, into believing I had an anchored belief in p. But that would surely not be incompatible with the falsity of 3., so the recognition requirement would not be met.

To explain: if my belief is produced by drugs or hypnosis, but is "redundant"—that is, it is simply the (true)
belief that I am being drugged or hypnotized to believe that I am being drugged or hypnotized—then it may be the case that the causes of my belief are incompatible with the falsity of what I believe. My belief may be anchored. But if I recognize that—that is, if I believe it from causes which are incompatible with the falsity of that belief—then what has the manipulator of my belief gained? Nothing. It cannot be that I have been drugged or hypnotized to believe that my belief in p is anchored. Or rather, if I have, this belief will not meet condition 4., for it will be fully compatible with the hypothesized falsity of 3. This sort of manipulated belief fails to damage the account of knowledge as double anchored true belief.

Too Much to Believe. At least one more source of objection to the recognition condition remains, however. Granted that knowledge that p requires belief that p, it still may be objected that the recognition condition requires too much belief. Surely there must be cases in which people know things (as opposed to having true belief) and yet have no beliefs which could be described as "believing that the belief in p is anchored." I do not think that such an objection is sound, but I want to consider two possible versions of it.

One concerns "tacit" or "latent" knowledge. I take it that no apology has to be made for cases in which one is simply not attending to, or not conscious of, some proposition one knows (e.g., as when one is asleep). But what about cases in which I have had proof of a proposition (say, some version of Godel's incompleteness theorem), and though I remember the theorem, I do not remember anything more than the general outlines of the proof? Have I then lost the knowledge I once had?

The answer to that question shows, I think, the commonsense quality of the account of knowledge proposed here. If I remember that I once had a proof, then I believe that my belief of the theorem is anchored—that is, I believe that the causes of my belief in the theorem (the proof I once had) are incompatible with the falsity of the theorem. Let us say here that I have a "recognition belief." The question now is whether that recognition belief is anchored. I suggest that if it is a memory of having had the proof which causes the recognition belief (as opposed to the illusion of a memory which causes it), then that recognition belief is anchored. On the other hand, if the recognition belief is not caused by memory, but rather by an illusion of a memory, then that belief is not anchored, and I do not know the theorem. There is nothing paradoxical about the notion of losing knowledge by forgetting, and one can do this not only by forgetting the proposition once known, and by forgetting whether one had ever known it, but also by forgetting but seeming to remember things which were required for that knowledge.
Doubly Anchored True Belief

So the account of knowledge as doubly anchored true belief accounts for "latent" knowledge and cases of forgetfulness. There is one other version of this worry about the recognition condition, however. It may be objected that requiring "awareness" of the source of true belief is just wrong—that there are cases we want to describe as knowledge which do not involve any such awareness. Not that people can be said to know that p without an awareness of the meaning of p, or belief in the truth of p, or a belief that they do in fact know, as opposed to merely believe, that p. But to require that they believe that their belief in p is anchored seems either too strong or too specific.

I am aware of such discontent with the account of knowledge proposed here, and I cannot answer it directly. All I can say is that I cannot think of any examples which are clearly cases of knowledge in the sense of undefeatably justified true beliefs and which fail to meet the conditions for doubly anchored true belief.

Explaining Belief as Opposed to Explaining Knowledge.

The final objection I want to consider is a wholesale rejection of causal theories of knowledge. Some theorists reject all forms of the causal theory on the ground that they contain a fundamental error: They purportedly confuse an explanation of why a person believes something with how a person knows something.\(^\text{13}\) Suppose I come to believe p for the wrong reasons (e.g., as a result of jealousy or a belief that what my horoscope says must be true). I certainly cannot be said to know that p in this case. But now suppose, after I already believe that p, I find conclusive evidence that p is true. Now I apparently know that p, even though I still believe it for the wrong reasons.

The answer to this objection may be brief.\(^\text{14}\) Either the evidence I find for the truth of p "reinforces" my belief—that is, becomes part of the full set of causes for my belief—or it doesn't. If it does, then my knowledge that p can meet the causal conditions for doubly anchored true belief. But if it doesn't—that is, if I continue to believe p solely for the wrong reasons and the evidence I have found in no way causally contributes to that belief—then it seems very odd to say that I "have" (as opposed to have found) evidence at all. The fact that I have found evidence is irrelevant to my assertion of p; I do not assert it, believe it, or think I know it because I now have evidence. I assert it, believe it, and think I know it just because I am jealous, or persuaded of the infallibility of horoscopes. I am no better off than before I found the evidence, for the evidence has contributed nothing to my belief. I do not "recognize" the evidence as conclusive proof of p. I do not know that p.

Keith Lehrer argues against this response by construct-
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...ing an example in which a person becomes "completely convinced" of the truth of \( p \) for the wrong reasons, thereupon (because he is already convinced) finds and believes there is adequate evidence for \( p \). The evidence supposedly cannot causally contribute to his belief in \( p \), partly because he is already "completely convinced" (so what could it add?), and partly because—in the example—were it not for his pre-existing belief, he would no longer be able to regard his new found-evidence as adequate.

My answer is, first, that the mere fact that a set of causes is sufficient for believing that \( p \) does not mean that the set cannot be added to at a later date—so as to "over-determine" belief, if you will. And second, the fact that, were it not for a pre-existing belief, a person would not be able to find or believe the evidence adequate for \( p \), is irrelevant. All this means is that emotional sets, belief structures and so on often determine whether or not we can find and recognize the force of evidence—in short, whether we can turn our true beliefs into knowledge. The account of knowledge proposed here thus remains undisturbed.

In summary, then, I hold that doubly anchored true belief is an intuitively plausible characterization of knowledge as distinct from true opinion, and that it is immune from the counterexamples which have defeated—or at least produced serious complications for—other accounts. It remains to be seen whether there are counterexamples I have overlooked.

FOOTNOTES

* This paper was written while I held a Fellowship from the American Council of Learned Societies. I am indebted to Robert Nozick for renewing my interest in the topic, and to him and to Judith Thomson for profitable preliminary discussions. A shorter version was read at the 1976 meeting of the Virginia Philosophical Association. I am grateful to the members of that body—and particularly to my commentator, James P. Harris—for the help they gave me.

1. For example, uses which are explicit about whether knowing that \( p \) requires knowing that you know, or at least having some awareness of the fact that you are justified in believing it. The issues raised by such uses will be discussed below.


3. Keith Lehrer has shown this in "Belief and Knowledge," *The Philosophical Review*, 77 (1968), 491-9. A more imposing argument...
against the belief condition has been advanced by Zeno Vendler in Chapter V of his book Res Cogitans (Ithaca, NY, Cornell University Press, 1972). He argues that the verbs 'to know' and 'to believe' take an interestingly different range of grammatical objects (a point with which I agree fully), and then claims that this damages—or perhaps invalidates completely—accounts of knowledge which are based on the belief requirement. If what Vendler means is that his arguments have shown that an account of knowledge per se (including "knowing how") cannot be built up from an account of belief, then I agree. But I fail to see how his arguments are at all damaging to the claim that for S to know that a proposition is true, S must believe that the proposition is true.


10. Jaakko Hintikka has argued in Chapter 5 of his book Knowledge and Belief (Ithaca, NY, Cornell University Press, 1962) that "m knows that S" and "m knows that m knows that S" are "virtually equivalent." But see arguments to the contrary in Arthur C. Danto, "On Knowing that We Know," in Avrum Stroll, Epistemology: New Essays in the Theory of Knowledge, 32-53; E.J. Lennon, "If I Know, Do I Know That I Know?" Ibid., 54-82; and Ronald DeSousa, "Knowledge, Consistent Belief, and Self-Consciousness," The Journal of Philosophy, 67 (1970), 66-73. Care should be taken not to confuse this issue with the one of whether belief that p is required.

11. Judith Thomson called this objection to my attention.

12. Robert Nozick called this form of the counterexample to my attention.


17. A.D. Woozley, *Theory of Knowledge* (London, Hutchinson and Company, 1949), Chapter VIII, is instructive on these points.