

Gettiering Goldman

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ABSTRACT: This paper examines the causal theory of knowledge put forth by Alvin Goldman in his 1967 paper “A Causal Theory of Knowing.” Goldman contends that a justified, true belief is knowledge if and only if it is causally connected to the fact that makes it true. This paper provides examples, however, of justified, true beliefs with such causal connections that are clearly not knowledge. The paper further shows that attempts to salvage the causal theory are unsatisfactory.

I. Introduction

Identifying what instances of belief are knowledge has long been a problem of philosophy. From Plato until the 1960s, the traditional position was that knowledge was simply justified, true belief. Since Edmund Gettier showed in 1963 that justified, true belief is not sufficient for knowledge, various modifications to the traditional position have been suggested.¹ Chief among these suggestions was Alvin Goldman’s suggestion in 1967 that a justified, true belief is knowledge only if that belief is causally connected with the fact that makes it true.²

In this paper, I will show that Goldman’s causal condition is not, in combination with a justified, true belief, sufficient for knowledge. I will

1. Edmund L. Gettier, “Is Justified True Belief Knowledge?” *Analysis* 23.6 (1963): 121.

2. Alvin Goldman, “A Causal Theory of Knowing,” *The Journal of Philosophy* 64.12 (1967): 358.



Gettiering Goldman

do so first by giving an example in which a justified, true belief is causally connected only incidentally with the fact that makes it true. My second counter-example to Goldman will show that self-fulfilling prophecies present a problem for Goldman and the causal theory of knowledge. I close the paper with a suggested revision to the causal theory.

Edmund Gettier, in his 1963 paper "Is Justified True Belief Knowledge?," famously demonstrated that a true, justified belief is not necessarily knowledge.³ Gettier gave two cases of justified, true beliefs (JTBs) that are not knowledge.⁴ We may imagine that Smith has applied for a job. Smith is told by the president of the company that Jones will actually get the job. Smith also just saw Jones count the coins in his pocket, seeing him count to 10. Smith then forms the following justified belief: 'The man who will get the job has 10 coins in his pocket.' Smith, not Jones, actually gets the job. Coincidentally and unbeknownst to Smith, Smith also has 10 coins in his pocket, and so his belief 'The man who will get the job has 10 coins in his pocket' is justified and true. It clearly is not the case, however, that Smith knew 'The man who will get the job has 10 coins in his pocket' when he formed the belief.

Alvin Goldman, in his 1967 paper "A Causal Theory of Knowing," attempted to resolve the problem presented by the Gettier cases by amending the traditional definition of knowledge to include the requirement that a subject's justified true belief (JTB) of some fact (p) must be causally connected with that fact (p).⁵ Goldman offers the following interesting case where his causal theory triumphs over the traditional JTB analysis. Suppose there is some person, T, who intends to go downtown on Monday. T communicates the intention to S on Sunday, who forms the justified belief (p): 'T will go downtown on Monday.' T then decides not to go downtown, but is kidnapped and taken downtown, and so (p) is true. Under the tra-

3. Gettier, "Is Justified True Belief Knowledge?" 121.

4. Gettier, "Is Justified True Belief Knowledge?" 122.

5. Goldman, "A Causal Theory of Knowing," 358.

ditional, JTB account of knowledge, *S*'s belief of (*p*) is knowledge. According to Goldman's position, however, since there is no causal connection between *S*'s belief of (*p*) and the fact that (*p*) is true, *S*'s belief of (*p*) is not knowledge. Since, intuitively, *S*'s belief of (*p*) is not knowledge, Goldman's theory triumphs over the traditional theory.

I now hope to show that Goldman's JTB+C (that is: justified, true belief with causal connection) is not sufficient for knowledge. I claim that there are cases of justified true beliefs with causal connections to the facts making them true which are not proper instances of knowledge.

II. Complex Kidnappings

In this section, I will present an example of a case in which a justified, true, belief is causally connected to the fact that makes it true but is not knowledge.

Case 1: Jack decides, on Saturday, that he would like to have lunch downtown on Sunday, and sends an e-mail to Renee on Saturday telling her he will be downtown Sunday without giving her an explanation. Renee, knowing Jack to be honest and reliable, forms the justified belief that Jack will be downtown on Sunday. Unfortunately, the e-mail is intercepted by terrorists planning to kidnap the President, who is (unknownst to Jack) going to be downtown on Sunday. Since Jack is a highly trained government operative, the terrorists fear his interference and kidnap him Sunday morning, taking him to their base downtown.

It is convenient now to introduce notation for our causal diagrams. Let (*x*) represent a designated fact and *B*(*Y*,*x*) represent *Y*'s belief of *x*. As with Goldman's analysis, arrows represent causal connections. Unlike Goldman's diagrams, I will just use solid arrows and assume that solid arrows between beliefs indicate inferences.



Gettiering Goldman

Returning to our example, let (p)=Jack's being downtown Sunday, (j)=Jack's intending to go downtown Sunday, (k)=Jack's getting kidnapped, (t)=Jack's telling Renee he intends to go downtown on Sunday, R=Renee, and (u), (v) be auxiliary facts that provide justification for Renee's inference that Jack actually will go downtown, such as Jack's honest, reliability, etc. The causal diagram for this situation looks, roughly, like the following:

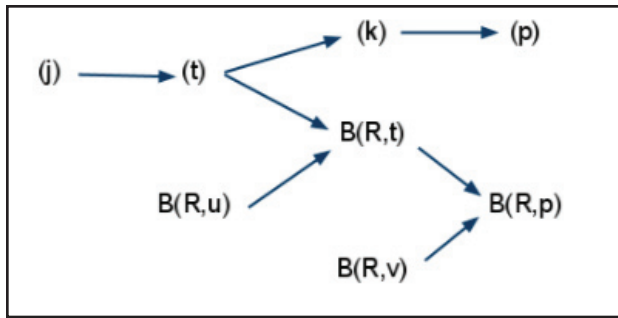


Figure 1. Causal diagram for case 1.

It is clear that there is a causal link between Jack's being downtown Sunday and Renee's believing Jack will be downtown Sunday, but intuitively, Renee does not know on Saturday that Jack will be downtown on Sunday.

The causal theorist must give an account of either where the causal chain is broken or how the theory can be adjusted to accommodate these cases. The causal theorist might just require that the believer have complete knowledge of the causal chain. This is obviously too strong a requirement on knowledge, however. For example, it might be the case that I discover a series of incorrect, hand-written multiplication tables in the library and correct them, thus allowing future readers to learn the multiplication tables. Future readers need not know that I corrected the tables in order for them to learn multiplication from them. Thus we see that for a belief to be justified the believer need not know the entire causal connection between the belief and the fact that makes it true.

The causal theorist might be uncomfortable with the role that intention plays in this example. He might hold that Renee does not just believe (p), she believes more strongly that Jack will go downtown of his own volition. Renee's belief that Jack will go downtown is contingent on her belief that his intention to go downtown of his own volition will be satisfied. If she had reason to believe that terrorists would kidnap Jack, she likely would not believe he would wind up downtown (unless of course she knew that's where the terrorists would take him). Thus the causal theorist might suggest that Renee's belief that Jack will go downtown voluntarily be included in the causal diagram. Since this belief is false, the causal chain fails and Renee does not have knowledge.

Since the best route of escape for the causal theorist is to show that what Renee really believes is false, I will present a pair of brief modifications of the original case to show that attempts to state Renee's belief in a way that works for the causal theory will either (i) be too complex, allowing us to construct a case where what Renee supposedly believes is false but in which she clearly has knowledge or (ii) be too simple, allowing us to construct a case where what Renee supposedly believes is true but insufficient for knowledge.

The causal theorist cannot get too stingy about what Renee thinks of Jack's intentions. To see this, consider the following:

Case 1a: Just like Case 1, except Jack escapes the terrorists and accomplishes his original goal of having lunch downtown.

In Case 1a, it would make sense to say that Renee's belief about Jack being downtown constituted knowledge (since the kidnapping was just an unexpected diversion that resulted in his being downtown), even though her belief that he would go downtown of his own volition was false (since,



Gettiering Goldman

although he remained downtown voluntarily, he went downtown involuntarily). Moreover, any of Renee's beliefs about how Jack was going to get downtown would be false. Once we take this into account, the causal theorist is left saying that Renee believes something like 'Jack will at some point on Sunday be downtown of his own volition'. This belief is not specific enough, however.

Case 1b: Just like Case 1 except Jack escapes the terrorists and instead of having lunch downtown he runs to warn the President about the terrorists.

In Case 1b, Renee's JTB 'Jack will at some point on Sunday be downtown of his own volition' would not constitute knowledge, even though it is still causally connected to the fact that makes it true (the e-mail that caused her belief caused Jack to be kidnapped which in turn caused him to be downtown of his own volition to warn the President of the attack). This forces the causal theorist to amend Renee's belief yet again to say something like 'Jack will at some point on Sunday be downtown in an effort to satisfy some expectation that prompted his e-mail.' It is clear that this is far more complicated than the belief that Renee intuitively has, namely just that Jack will be downtown on Sunday.

These complications suggest that complex beliefs should be avoided in the causal diagram in favor of their simpler constituents (that is, Renee actually has a collection of beliefs: {Jack will be downtown, Jack wants to go downtown, Jack will voluntarily get downtown...} some of which are true and some of which are false), otherwise one winds up with lengthy, convoluted beliefs that are intuitively very different from anything Renee actually believes. Notice that Goldman requires that enough of Renee's beliefs to be true to "ensure the existence of at least one causal connection."⁶ This being the case, if Renee's beliefs about Jack's going downtown are

6. Goldman, "A Causal Theory of Knowing," 368.

broken into their simplest possible constituents, it is clear that there is some causal connection of true beliefs that lead to Renee's belief that Jack will be downtown on Sunday, even if there are many false beliefs (about Jack's intention, method of getting downtown, etc.) that also support that conclusion.

The causal theorist might yet be convinced that Renee's beliefs about Jack's intentions are critical to her conclusion that he will be downtown. I will now present a case of JTB+C which requires no discussion of intention and yet presents a problem for the causal theory; this is the case of the self-fulfilling prophecy.

III. Self-fulfilling Prophecies

Case 2: Gene, who has an impeccable track record and is highly skilled at stock analysis, and who knows that company A is going to announce a new product this month, comes to the conclusion that the price of stock A will rise by \$100 over the next month. Gene tells some friends of this expectation and his prediction quickly becomes the talk of Wall Street. Knowing Gene's track record, traders everywhere start buying stock A at higher and higher prices until by the end of the month the stock has risen by over \$100. However, because the media is saturated with talk of Gene's report, when company A announces the new product, no one pays any attention. That is, the only factor that causes anyone to buy stock A that month is Gene's prediction. Did Gene know, at the start of the month, that the stock would rise by over \$100?

Let the following be our notation, G=Gene, P1 through Pn=people who invest in stock A, (a)=The fact that company A is going to make a product announcement this month, (m)=The fact that stock A goes up \$100 over the next month, (u)=Auxiliary beliefs about stock A and company A, (pi)=Person Pi buys stock A (where i goes from 1 to n for some large n), and A(Y,x)=the assertion of belief x by believer Y. Then the causal diagram for this case looks something like the following:



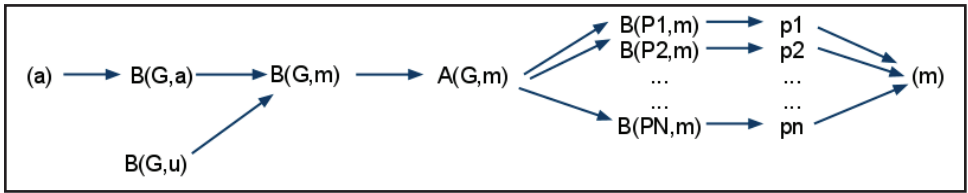


Figure 2. Causal diagram for Case 2.

Notice that the only causal role of (a) is to cause Gene's belief of (a); (a) does not directly cause any other individuals to believe stock A is going to rise by \$100, those beliefs are all a result of Gene's assertion that the stock will rise by \$100. Figure 2 illuminates the fact that self-fulfilling prophecies have exotic causal diagrams where a belief in some fact causes that fact to be true.

The causal theorist is now faced with a dilemma: if Gene has knowledge in this case, then it seems that all justified self-fulfilling prophecies should constitute knowledge, which is counter-intuitive. If for instance, the US government announces that they're investigating company A, which would send the stock down were it not for Gene's media-saturating prophecy, we would say that Gene did not really know that the stock would reach \$100. So long as Gene is justified in his beliefs about the strength of the company, however, the causal diagram would not show any difference between this case and Case 2.

On the other hand, if Gene's belief of (m) is not knowledge, then the causal theorist has to explain where the causal chain faults, which he seemingly cannot do. The temptation is to claim that Gene has the false belief that the stock will go up as a result of how good the company is. This is not a false belief, however, as the strength of the company causes the prophecy which, in turn, causes the stock to rise. The causal theorist may simply disallow causal chains in which a belief is the cause of some fact which makes that belief true. This prohibition would be problematic first for cases where

a belief might be one of many causes of some fact that makes the belief true, and moreover for cases such as Case 2, where a completely sound prophecy is incidentally self-fulfilling.

Self-fulfilling prophecies thus present a clear problem for the causal theorist. If a belief of p is the cause of p , then clearly the belief and the fact are causally connected, but it seems a stretch to say that all self-fulfilling prophecies constitute knowledge, particularly those in which the prophecy certainly would not have come true were it not made. The consideration of what might have happened had the prophecy not been made motivates a possible way for the causal theorist to deal with the problem of self-fulfilling prophecies. A causal theorist might claim that a self-fulfilling prophecy constitutes knowledge if it is the case that, were the prophecy never made, the belief would have been justified, true, and causally linked to the fact that makes it true. Under this explanation, Case 2 seems to be a legitimate case of knowledge, assuming that without Gene's prediction saturating the media, the product announcement would cause the price of stock A to rise by \$100.

IV: Counterfactuals

Assume we accept the inclusion of counterfactuals into the causal theory, postulating something like: "A justified, true belief is knowledge if and only if it is causally connected to the fact that makes it true and only if a causal connection would be present had the belief never been asserted or acted upon."⁷ This definition of knowledge better handles cases of self-fulfilling prophecies, but is more difficult to use than the original causal theory. For example, to determine whether Gene had knowledge in Case 2, we must imagine a world in which Gene never makes the prophecy. Doing

7. At first glance, one might worry that if, for example, I do not act upon my belief that I will have a sandwich for lunch that I will never have said sandwich and thus cannot have knowledge about my future behavior. I do not take my belief that I will have a sandwich for lunch to be a cause of my having a sandwich for lunch, however, I rather take the belief and the fact to both be effects of my desire and ability to have a sandwich for lunch.



Gettiering Goldman

this, and examining the causal chain within the imagined world, is much more complicated and significantly less reliable than the empirical investigation required determining instances of knowledge under the original causal theory.

In order for the causal theory to be sufficiently repaired to handle self-fulfilling prophecies, its expedience must be sacrificed. Whereas the classic causal theory allowed for knowledge to be determined on an empirical basis, the amended causal theory requires an investigation of counterfactual situations, a much less reliable method for identifying knowledge. Ultimately, cases of the sort I have presented reveal serious defects in the causal theory that cannot be repaired without complicating the theory in suspect and unsatisfactory ways. ❖