

TRUTH ANALYSIS OF THE GETTIER ARGUMENT

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Abstract: Gettier (1963) presented the now famous Gettier problem as a challenge to epistemology. The methods Gettier used to construct his challenge, however, utilized certain principles of formal logic that are actually inappropriate for the natural language discourse of the Gettier cases. In that challenge to epistemology, Gettier also makes truth claims that would be considered controversial in analytic philosophy of language. The Gettier challenge has escaped scrutiny in these other relevant academic disciplines, however, because of its façade as an epistemological analysis. This article examines Gettier's methods with the analytical tools of logic and analytic philosophy of language.

Keywords: definite description, Russellian quantification, Edmund Gettier, referents and truth, classical logic.

Introduction

Gettier cases are hypothetical scenarios that purport to demonstrate, contrary to the standard epistemological view, that justified true belief (JTB) is not a sufficient condition for knowledge. In a typical Gettier-type case, a premise that “justifiably” leads an agent to a belief turns out to be false, but the belief the agent derives turns out “by coincidence to be true.” The believing agent in question is thus deemed to have a true belief that is justifiably reached, and he therefore, while satisfying the conditions for knowledge, nevertheless does not have knowledge, because the premise upon which he formed his belief is false.

Epistemologists have generally taken Gettier's arguments against JTB to be successful, and have been trying, for the five decades since Gettier's paper, to come up with a definition or conception of knowledge that would not be undermined by the Gettier-challenge (Zagzebski 1994; Shope 2002, 33; Sosa 2007; see also Kvanvig 2011, 29). As Zagzebski declares, “The moral drawn in the thirty years since Gettier published his famous paper is that either justified true belief (JTB) is not sufficient for knowledge, in which case knowledge must have an ‘extra’ component in addition to JTB, or else justification must be reconceived to make it sufficient for knowledge” (1994, 65). All such

efforts appear to have come to an impasse, and some scholars have, in fact, suggested that the Gettier problem might not be soluble (Williams 2001; Zagzebski 1994; Schreiber 1987; Kirkham 1984). Could this intractable difficulty posed by the Gettier challenge be due to the fact that the challenge itself is dubious? For, as the discussion here will show, the Gettier challenges rest upon truth claims that analytic philosophers of language would view as controversial, if not outright illegitimate.

The Proposition in Question

In all Gettier-type cases an agent forms a belief on the basis of an antecedent belief that is false. Accordingly, the derived “belief would ordinarily be false,” epistemologists agree, but is true nonetheless, “albeit in such a way that it is unconnected to the justification” for the belief (Prichard 2009, 13). The proposition that expresses the new (derived) belief is central to the Gettier-type challenges, and it is the subject of this discussion. Proposition (e), in Gettier’s famous seminal example (Gettier 1963, 122), is the archetype, and I use it to illustrate many of the points in this discussion. Gettier’s CASE II has a format identical to that of his CASE I, but he invokes a different logical rule to justify inferring the central proposition (h) in that case. I address that separately where appropriate in this article. This is how Gettier’s proposition (e) is derived:

Smith has strong evidence to believe that:

(d) Jones is the man who will get the job, and Jones has ten coins in his pocket.

On the basis of that belief (d), Smith deduces:

(e) The man who will get the job has ten coins in his pocket. (Gettier 1963, 122)

It turns out, however, as Gettier writes, “that unknown to Smith, he himself, not Jones, will get the job. And, also, unknown to Smith, he himself has ten coins in his pocket.” Gettier asserts that, under the given circumstances: “Proposition (e) is then true, though proposition (d), from which Smith inferred (e), is false” (1963, 122). Gettier asserts further:

In our example, then, all of the following are true:

- (i) (e) is true,
- (ii) Smith believes that (e) is true, and
- (iii) Smith is justified in believing that (e) is true. (1963, 122)

Now, there is really not much that I can say about (ii) because Smith, and for that matter, anybody, can believe whatever they want to believe, and I can't argue with that. If S says that he believes that *p*, then S believes it. I cannot argue she does not believe that *p* unless I am arguing she is being disingenuous in her assertion (that is, lying) or is confused. If, however, someone asserts, as in Gettier's proposition (i) above, that P is true, or as in (iii) above, that S is justified in believing that P is true, these are claims that can be evaluated for truth or accuracy using the appropriate analytical tools. And that is what I set out to do with Gettier's claims in (i) and (iii). I focus my analysis mainly on the truth claim in the Gettier cases. The justification claim of the Gettier cases is under discussion in a separate project.

Gettier's seminal work inspired many similarly crafted counterexamples to JTB. The general format has been a situation in which an agent forms a belief (e) on the basis of an antecedent belief (d) that is false. Here are some other examples. Lehrer writes:

I [am] completely justified in believing [that]:

(d) Mr. Nogot, who is in my office, owns a Ford. I might deduce from this that:

(e) Someone in my office owns a Ford.

I would then be completely justified in believing (e). (1965, 169)

As it turns out, in a typical Gettier fashion, Mr. Nogot does not really own a Ford, but someone else in the office does own a ford. Is Lehrer's belief (e) therefore true?

From Zagzebski (1996) we find in Turri (2011, 2): "Mary enters the house and looks into the living room. A familiar appearance greets her from her husband's chair. She thinks, 'My husband is sitting in the living room,' and then walks into the den. But Mary misidentified the man in the chair. It's not her husband, but his brother, whom she had no reason to think was even in the country. However, her husband was seated along the opposite wall of the living room, out of Mary's sight, dozing in a different chair." In this example, too, there is the general form

(d) X, who is sitting in the chair, is my husband; and X is in the living room.¹

From (d) Mary deduces:

¹ This is according to Russell's analysis. He asserts, for example, that the proposition "I met a man" ought to be interpreted as "I met x, and x is human" (1905, 481).

(e) My husband is in the living room.

It is important to note the common form that ties the Gettier cases together. Notice that Mary is not aware of the presence of her husband in the living room, and when she says, “My husband is in the living room,” she has in mind (or refers to) the person in her husband’s chair, who is actually not her husband. Similarly, in Gettier’s CASE I, Smith is not aware that he gets the job, so when he says, “The man who will get the job,” he has Jones in mind. To say that Mary has a true belief because her husband is indeed in the room is to ignore the distinction between the different propositions that the different referents yield.

From the three sample cases here, the discernible pattern, which is quite general for Gettier-type cases, is that an agent forms a belief about a particular individual or object, which, unbeknown to the agent, is false. The agent then proceeds to express this belief in a statement that is not true about the particular individual or object the agent has in mind but true about some other individual or object that the agent is not at all aware of. Once we recognize this pattern, limitless cases can be created. There are some purported Gettier cases that fall outside this format. Such cases are not true Gettier cases and may fail to establish a clear absence of knowledge under satisfied JTB conditions. In the “Barn façade” case, for example (see Goldman 1976), the belief in question is arrived at through direct visual perception of the particular barn and is not influenced at all by the presence of the fake barns.

For the bona fide Gettier cases, however, an agent believes, for example,

(g) $P_j \ \& \ Q_j$,

which is false. The agent then expresses it in a statement that could be construed logically as:

(h) $\exists x(Px \ \& \ Qx)$,

which, according to epistemologists, “would ordinarily be false” (Pritchard 2009, 13). Coincidentally, however, and unknown to the agent, there exists

(i) $P_b \ \& \ Q_b$,

which is true. Gettier argues that if an agent is justified in believing (g), even though (g) is actually false, then that agent is justified in deducing (h) from (g) and therefore believing that (h). Under such circumstances,

(h) is false, because it depends upon (g), which is false. On the basis of the truth of (i), however, we say that the agent's belief, (h), is true. This is the basis of Gettier's claim that Smith's belief, (e), is true, and it is what the discussion here will show to be questionable.

The Gettier-style truth claims may be exploiting the weakness of classical logic, where form, rather than content of statements and arguments, is of interest. This exploitation of the foibles of classical logic is best illustrated by Gettier's CASE II, where Gettier argues that if Smith is justified in believing (even though falsely) that

(f) Jones owns a Ford,

then Smith is justified in believing that

(h) Either Jones owns a Ford, or Brown is in Barcelona,

that is, from classical logic:

p

$\therefore p \vee q$ (disjunction introduction)

As we all know, however, the form of a statement alone does not provide sufficient basis for judging its truth in normal everyday discourse, that is, natural language, which happens to be the domain of the Gettier cases. Content, context, state of mind, and many other circumstances factor essentially in the judgement of the truth of propositions in natural language. A great deal of discourse has taken place in analytic philosophy of language on that subject, and as we shall see below, it is generally about the way context and other extra-locutionary factors affect the truth of propositional claims in natural language. Because classical logic does not take these extra-locutionary factors into consideration, some logically proper inferences yield paradoxical claims in natural language. Logicians are well aware of the gap between classical logic and natural language, and are proposing other systems of logic with the view to narrowing that gap.

Thus, natural language and classical logic have different standards for truth, a fact the Gettier cases do not seem to recognize. This appears to have slipped under the radar in the epistemological discourse, and the Gettier truth claims have been taken for granted, even though epistemologists think the justification for the claims is dubious. Hetherington, for example, writes regarding the Gettier-type cases: "Each of these situations contains a belief which is true and well-even-if-fallibly justified by evidence" (2011, 178). And Pritchard writes,

“[Smith’s] belief is true, albeit in such a way that it is unconnected to the justification he has for his belief” (2009, 13). Others have described it as true by luck or coincidence (Turri 2011; Zagzebski 1994; Schreiber 1987; Kirkham 1984).

The Gettier-style truth claims may be justified if we take definite descriptions, as Russell (1905) argued, to be devices of quantification rather than reference (see Ludlow and Neale 1991). Many scholars, however, starting with Strawson (1950), have since demonstrated that such noun phrases are more often used to mention or refer than to quantify. This is even more so in natural language. Even some of the strongest defenders of Russell do concede that “definite descriptions admit of referential uses” (Ludlow and Neale 1991, 171). Given this controversy over what is probably the best possible justification for the Gettier truth claims, it will be a worthwhile endeavour to evaluate the epistemic propriety of those truth claims. The reader will notice that most of the discussion here is centered on Gettier’s CASE I, which is quite popular with epistemologists. CASE II does not appear to be as interesting and is also not as popularly replicated. Nevertheless, I do address it here, with an amount of space that is commensurate with its impact on epistemological scholarship.

Truth Analysis

In ordinary everyday discourse, it is possible for two people to express the belief “Smith lives in Washington, D.C.,” and one of them would have asserted a true proposition and the other a false one. The truth-values of the different beliefs and propositions need not be synchronised simply because they are expressed by the same sentence. Ordinarily, we do not assess the truth of propositions that are expressed by one particular sentence on the basis of whether at least one of those propositions expressed by that sentence is true. That would be the Russellian quantificational approach to truth assessment, which has been broadly criticised, as we shall see in this discussion. Different beliefs that are expressed by the same sentence do not all become true (or false) because we can find, at least, one instance in which the sentence is true. The truth of each is determined by its unique context. That is why the truth of such sentences is said to be context dependent.

For example, if Jones tells Susan “Smith lives in Washington, D.C.,” I don’t think Susan will construe Jones to be saying “There is at least one Smith who lives in Washington, D.C. (that is, $\exists x(Sx \ \& \ Dx)$). Jones has to be talking of a Smith they mutually know. And Susan will ask Jones to specify if she is in doubt as to which particular Smith Jones is referring to. Ordinarily, you will not hear Susan say something like

“Actually, I got an e-mail from Smith yesterday in which he said he now lives in Boston. But I had a co-worker called Smith, who now lives in Washington, D.C. So your belief is true.” This just does not happen in serious ordinary discourse. So, when we claim that Gettier’s proposition (e) is true because Smith, who got the job, has ten coins in his pocket, even though the statement was made with Jones in mind, we are taking Susan’s statement above seriously, even though in ordinary discourse it would be nothing but facetious.

Views from Analytic Philosophy of Language

Strawson explains that “we cannot talk of *a sentence* being true or false, but only of its being used to make a true or false assertion, or (if this is preferred) to express a true or a false proposition” (1950, 325). In other words, only when the sentence is applied to a situation can we judge its truth, which must be based on the specifics of that situation. Consequently, Strawson distinguishes between (i) a sentence and (ii) a use of a sentence. These are two different considerations that are often conflated, an error the Gettier analysis appears to be committing. Quine describes this common error as the “carelessness over the distinction of use and mention” (1953, 163). Thus, as Strawson (1950, 325) illustrates, the sentence “The king of France is wise,” for example, may have been uttered by various people at different times, and whether it is true or not depends on when it was used and, particularly, which king of France it denotes.

Apart from the use/mention mix-up, there is the analytic/synthetic dichotomy, which determines when context should be a factor in judging the truth of propositions. As an illustration, if I put up a statement such as “A bachelor is an unmarried man,” anyone who knows the meanings of the constituent words ought ordinarily to be able to judge whether it is true or false. She does not need to know which, if any, specific man is denoted in the statement. On the other hand, if I put to a random person in the street, the sentence “Smith lives in Washington, D.C.,” she would need to know which specific Smith I mean, in order to be able to judge the truth of the statement. This, as we all know, is because the statement can represent a true proposition or a false proposition depending on which individual we are referring to. Knowing the meaning of the constituent words alone will not be enough in this case, since there are some Smiths who live in Washington, D.C., and some Smiths who do not live there. Thus, the latter statement is empirical, and its truth is context dependent, while statements of the former category are said to be universally true. Immanuel Kant dubbed the former *analytic*, the latter, *synthetic*.

As the discussion in the previous section suggests, by treating statements like (e) as Russellian quantifications, the Gettier truth analysts disregard context, and by doing so they treat synthetic propositions as though they were analytic propositions. The importance of the analytic/synthetic distinction, however, is underscored by the number of key philosophers who have emphasized it. As Quine notes, “Kant’s cleavage between analytic and synthetic truths was foreshadowed in Hume’s distinction between relations of ideas and matters of fact, and in Leibniz’s distinction between truths of reason and truths of fact. Leibniz spoke of the truths of reason as true in all possible worlds” (1951, 20). Even though Quine was critical of Kant’s analytic/synthetic division, citing examples that do not fit neatly on either side, we can be sure that the Gettier cases are not among those borderline cases.

Consistent with this distinction, Strawson, in further analysis, identifies what he calls “uniquely referring” expressions, which according to him are used “to mention or refer to some individual person or single object or particular event or place or process” (1950, 320, 325). For example, the expression “the whale” is used differently in the sentences “The whale is a mammal” and “The whale struck the ship.” In the first use of it, any whale fits the expression “the whale,” whereas in the second, we use the expression to mention a particular whale. The Gettier cases, given their context, are generally expressions of the latter nature: for example, “The man who will get the job has ten coins in his pocket” is a claim about a particular individual, Jones, and not about any other man who will get the job or who has ten coins in his pocket (more detailed discussion of this will follow). In the Gettier cases, however, we conflate the two distinct forms of expression and construe such expressions, which are of Strawson’s latter example and therefore “uniquely referring,” as if they were of his former example. Thus, if the particular whale we refer to did not strike the ship, the Gettier-type analysis would still proclaim we have a true belief if some other whale struck a ship in some other instance, even though the statement that expresses the two events would have different denotations.

We have to agree with Strawson that this is the way we ordinarily use and understand such sentences. Thus, the sentence

(e) The man who will get the job has ten coins in his pocket

can be true in one context and false in another. It is obviously false in the context of the Gettier case. The Gettier cases, however, seem to assert, quite wrongly, that regardless of which specific individual Smith had in mind when he uttered (e), the statement is true as long as some individual has ten coins in his pocket and gets some job. Thus, Smith refers to Jones as the one getting the job in that proposition; someone other than Jones gets the job, yet we still say Smith has a true belief.

The fact is, the same statement can be used to express different propositions, as noted by Bolzano (1837) (more on Bolzano below). That is the basis of context and what Strawson describes as “different utterances of the same sentence” (1959, 326). In the Gettier case therefore, there are two different propositions expressible by (e). In one, the subject idea has Jones as the man who will get the job. In the other, the subject idea has Smith as the man who gets the job. The former is false, the latter is true.

The Referential/Attributive Distinction

In another example, Donnellan (1966) points out that a *definite description* (the definite article together with a noun) can occur “referentially” or “attributively” in the same sentence, depending on the context of use. In the referential use of a definite description, the speaker has a specific object in mind that she wants to talk about, and it is that specific object that she refers to when she uses the definite description “the F” in a sentence. In the attributive use of a definite description, the speaker says something about “the F,” without knowing specifically who or what object is actually “the F.” In order to forestall objections that not all Gettier propositions involve definite descriptions, I should point out here that Donnellan’s discussion is about “denoting phrases” generally, not just those that contain the definite article. In fact, his key example does not even feature the definite article. Here is Donnellan’s illustration. Suppose Smith is murdered and the killer is still unknown and somebody comments:

1. Smith’s murderer is insane.

The speaker is using the phrase “Smith’s murderer” attributively because he does not know which particular individual killed Smith. So whoever fits the description “Smith’s murderer” is the one being suggested to be insane. On the other hand, suppose Jones is on trial for Smith’s murder and the speaker believes Jones is the killer and consequently comments:

2. Smith’s murderer is insane.

In this case, “Smith’s murderer” is being used referentially, because the speaker has Jones in mind and is referring to Jones when he says “Smith’s murderer.”

Therefore, according to Donnellan’s analysis, if somebody utters a proposition such as (e) and does not know or think that either Jones or Smith will get the job, then the person would be using (e) *attributively*, and (e) would be true in that context, if either Smith or Jones gets the job. When, however, Smith used the proposition (e), in

Gettier's example, he used it *referentially*, because he had Jones in mind, since he derived (e) from his belief "(d) Jones is the man who will get the job, and Jones has ten coins in his pocket." The scenario under which (e) would be attributive in the Gettier example is if Smith did not think any person in particular was getting the job but knew that (for some reason) all interviewees were required to have ten coins in their pocket. In such a case, the quantificational expression $\forall x(Jx \rightarrow Tx)$ applies: that is, any person who will get the job will have ten coins in her pocket

In the Gettier cases, we seem to suppose that all the propositions that are expressible by some particular sentence are true, if we can find at least one instance of them that is true. That sort of analysis disregards context and allows false propositions to pass as true. The examples from Strawson and Donnellan effectively repudiate that conception of true propositions. The truth of (e) is context dependent, and (e) was actually false in the context in which Gettier said (e) satisfied the JTB requirement for truth.

Someone may argue that whether (e) is referential or attributive depends on what Gettier wants it to be, and it would appear that Gettier intended (e) to be read in the attributive sense. The reason such an argument does not hold is that the meaning and denotation of (e) is not something for Gettier to stipulate or declare by fiat. It arises logically from the context of the case, which Gettier cannot override without undermining the legitimacy of his analysis. In what he calls the Cooperative Principle (CP), Grice points out that conversations would not be rational if they consist of a succession of disconnected remarks. "They are characteristically, to some degree at least, cooperative efforts" between speaker and audience, he suggests, "and each participant recognizes in them, to some extent, a common purpose or set of purposes, or at least a mutually accepted direction" (1975, 45). Thus, if Gettier wants (e) to be understood attributively by his audience (the reader), then he needs to set the context of the case to make it so. The context as it stands now does not, and Gettier cannot arbitrarily make it so.

Thus, to say that Smith has a belief (e), which is true because "Smith got the job and Smith has ten coins in his pocket," is to say that Smith believes (e) to mean "Smith will get the job and Smith has ten coins in his pocket," or Smith believes (e) to mean "Some unspecified person will get the job and has ten coins in his pocket." Those are the two possible meanings (e) has to have in order to be true. The analysis here, however, shows that Smith could not possibly believe (e) to mean either of the two.

The above analysis also explains why we cannot possibly invoke Grice's (1975, 45) *conversational implicature* to claim any object other than Jones as the "implicatum" in (e). We cannot just point to these ideas of Grice as possible exceptions to Strawson and Donnellan

without demonstrating that those implicatures are indeed at play in the Gettier cases. Nowhere in Grice's discussion of the pragmatics of conversations can we find support for the claim that we should understand (e) to mean "Any man other than Jones would get the job," or that such an idea is implied in some Gricean way from the statement "(d) Jones will get the job and Jones has ten coins in his pocket." I am not aware of any extra-linguistic understanding among philosophers in general, or epistemologists in particular as a conversational community, under which we should disregard the objectuality, extension, or denotation of the propositions in the Gettier cases. In other words, we could not say that my analysis that suggests that (e) refers to Jones is entirely *conventional* but that there are cues in the given *conversational* context that suggest that (e) refers to Smith. It is entirely an analytical error when the Gettier cases flout all these rules of denotation. That is what Strawson, Donnellan, and the other scholars discussed here have tried to point out generally.

Semantic Reference and Speaker's Reference

Kripke has stated that he has "no doubt that the distinction Donnellan brings out exists and is of fundamental importance, though [he adds] I do not regard it as exclusive or exhaustive" (1977, 257). In particular, Kripke claimed Donnellan's distinction does not exactly coincide with the *de dicto* and *de re* distinction as some scholars are suggesting. We cannot, however, count the Gettier-type propositions among Kripke's exceptions to Donnellan's theory. Kripke (1977) suggests, in agreement with Grice (1975), that the more relevant distinction is between what *a speaker's words mean* on a given occasion and what *the speaker means* in saying those words on that occasion. Kripke calls the two "semantic reference and speaker's reference," respectively. Notice, however, that Kripke's "speaker's reference," in some sense, connotes the same idea as Donnellan's "referential definite description" as well as Strawson's "uniquely referring phrase" and in fact Grice's "conversational implicature." They all try to point out that the truth-value of a proposition must track the intended referent of the speaker rather than the abstract meaning of the proposition. That means analysing such propositions under the rules of natural language rather than abstract logic, which disregards context and reference, thus allowing false propositions to pass as truths. Consider the following examples that Kripke gives to illustrate the point that the truth of a proposition must track the intended referent of the speaker.

- (i) Suppose someone at a gathering, glancing in a certain direction, says to his companion, "The man over there drinking champagne is happy tonight." Suppose both the speaker and hearer are under a false impression, and that

the man to whom they refer is a teetotaler, drinking sparkling water. He may, nevertheless, be happy. . . . Suppose that “over there,” exactly one man *is* drinking champagne, although his glass is not visible to the speaker (nor to his hearer). Suppose that he, unlike the teetotaler to whom the speaker refers, has been driven *to* drink precisely by his misery. (1977, 256)

(ii) Someone sees a woman with a man. Taking the man to be her husband, and observing his attitude towards her, he says, “Her husband is kind to her,” and someone else may nod, “Yes, he seems to be.” Suppose the man in question is not her husband. Suppose he is her lover, to whom she has been driven precisely by her husband’s cruelty. (1977, 256)

Kripke suggests that in these “and similar cases, “her husband,” for example, can refer to her lover, as long as we are under the misapprehension that the man to whom we refer (the lover) *is* her husband.” In other words, the truth of such propositions should be based on the person the speaker has in mind, rather than some other person who is actually drinking champagne (as in (i) above). He emphasizes that in this third example.

(iii) Suppose members of a religious community believe and refer to a particular man, consistently, as the messiah. Kripke suggests here, as in all the other examples, that we judge the truth of any claim made about the messiah based on the person intended by that religious community rather than whoever fits the description by coincidence. [As he writes regarding the messiah] — On the contrary, if someone other than the person intended were really the Messiah, and if, by a bizarre and unintended coincidence, the narrative gave a fairly true account of his life, we would not for that reason call it “historically true.” On the contrary, we would regard the work as historically false if the events mentioned were false of its intended protagonist. (1977, 257)

Therefore, applying Kripke’s analysis to the Gettier case, if the attributes mentioned are false of Jones, whom Smith has in mind, then (e) is false. So (e) says two things about Jones—that he is the man who will get the job and has ten coins in his pocket. One of the claims is true and the other is false. So, by the rule of conjunction, the entire statement (e) is false. An alternative consequence of Kripke’s analysis for the Gettier cases is that we could suppose that “the man who will get the job” is a noun phrase that is used to pick out Jones; and even though it mischaracterizes Jones, we the audience understand that it is intended to mean Jones. In this case, what is important is the predicate that is attributed to Jones, that is, that he has ten coins in his pocket, which is true; hence, (e) is true. If Gettier scholars accept this switch from (e) being true on account of Smith having ten coins in his pocket to (e) being true on account of Jones having ten coins in his pocket, then their reasons for saying that

Smith has no knowledge that (e) is true would no longer hold. For, in Gettier's explanation, Smith lacks knowledge that (e) is true, because (e) is true of Smith and not of Jones, whereas Smith had Jones in mind when he uttered (e). That reason no longer holds if (e) is true in reference to Jones.

One point to note is that Gettier's proposition (e) differs a bit from the usual framing of the discussion around denoting phrases, in the sense that neither of the constituent propositions in the compound statement (e) is used to pick out the referent. Instead, Smith designates the subject, Jones, by a proper name and links him to two predicates in (d), that is:

1. Jones is the man who will get the job, and
2. Jones has ten coins in his pocket.

In this case, neither of the two ideas in proposition (e)—that is, (i) “the man who will get the job” and (ii) “the man who has ten coins in his pocket”—actually performs a denoting role. They both seem to be predicates. They assert things about a rigid designator (in 1 and 2) whom both the speaker and the audience already have in mind. One of the claims is true, and the other is false. That is why (e), which expresses that conjunction, is false.

The *De Dicto* and *De Re* Distinction

The Gettier cases also disregard a well-known and very well-emphasised distinction in the literature of analytic philosophy and the philosophy of language. It is the *de dicto* and *de re* interpretations of sentences. Thus, suppose for instance that Smith did not know which individual would get the job but knew that every interviewee for the job had ten coins in his pocket. If on the basis of this knowledge Smith declares

- (e) The man who will get the job has ten coins in his pocket

Smith's sentence would be expressing a *de dicto* thought, because it would not be about any specific individual but rather be about the set of people who are interviewing for the job. In such a case, Smith's belief, that (e), would be true if anyone at all had the job and also had ten coins in his pocket. On the other hand, if, as in the Gettier example, Smith thinks

- (d) Jones is the man who will get the job, and Jones has ten coins in his pocket,

as a consequence of which he declares:

- (e) The man who will get the job has ten coins in his pocket.

That would be a *de re* statement on account of its specificity, and it will be true only if Jones is indeed the man who gets the job and has ten coins in his pocket. The *de re/de dicto* distinction has been in existence (largely in logic rather than epistemology) since Aristotle and has been used to distinguish valid deductions from fallacies (Burge 1977).

Further Elaboration

Another treatise on the truth of propositions that would throw more light on this issue is found in the work of the nineteenth-century mathematician and logician Bernardo Bolzano. In his *Theory of Science* (1837), Bolzano renders a very comprehensive treatise on propositions. His analysis is seen in some respects to fine-tune Kant's *analytic/synthetic* distinction (LaPointe 2011). Bolzano conceives of a proposition as an expression containing variables, since a proposition generally has two ideas, a subject and a predicate, which are connected by a copula. For example, in the proposition "[The man who will get the job] has [ten coins in his pocket]," the copula—has—connects the two ideas in square brackets on either side of it. Thus propositions have the general form:

X has/is Y.

The truth-value of every proposition expressed in this form depends upon what ideas the variables X and Y represent. For that purpose, according to Bolzano, the subject idea (X) of the proposition needs to be analysed further in terms of its *objectuality*. Some ideas represent or refer to no objects and are therefore said to be *objectless* (for example, Golden Mountain, Round Square). Ideas that are *objectual* represent or refer to one or more objects. The collection of objects an idea refers to or represents is called its *extension*. Thus, the extension of the idea, the whale, in the proposition "The whale is a mammal" covers every whale, whereas the extension of the idea, the whale, in the proposition "The whale struck the ship" contains only one particular whale.

In contemporary literature, objectuality is discussed more frequently as "singular" and "general" term propositions. The extension of a singular term is an individual: for example, the extension of "France" is a particular country (France). The extension of a general term is a class: for example, the extension of "cat" is a particular class of animals (the class of cats) (see Chalmers 2002).

If we apply this objectuality analysis to the proposition that is proclaimed to be true in the Gettier example, we see that it is quite obviously false. This is because the extension of the idea—"the man who will get the job"—in the Gettier context has only one object in it—"Jones." Therefore, since Jones does not get the job, the proposition (e), as expressed by Smith, is false. The claim that (e) is true in the Gettier cases is based upon illogically stretching the extension of the idea—"the man who will get the job"—beyond Jones to include Smith and any other person who gets the job; thus making it an *attributive* claim. We cannot, however, interpret the extension of that idea (in the Gettier context) to include anything other than Jones. The reason is that Smith did not think anybody other than Jones would get the job, and he did not think anybody other than Jones had ten coins in his pocket. Consequently, Smith would not be justified to assert that by "the man who will get the job" he meant any man and not necessarily Jones. What he knew did not provide grounds to draw such a generalized conclusion.

The Abstract and the Real

The Gettier crisis is rooted in the conflation of the abstract and the real. Notice that Gettier hinges his two famous examples on rules taken from classical logic, even though they are synthetic propositions that involve everyday discourse. In CASE I he takes inductive entailment as sufficient for epistemic justification and assesses the truth of propositional entailments solely on the basis of form, without consideration of content and context.² Then in his CASE II he invokes the classical logic *rule of disjunction*, where he again duels on form to the neglect of content and context. There is much reasoning, however, that seems quite justified in abstract logic but makes no sense in natural language. That is why we have logical paradoxes such as *material implication*, for example. That is also why Leibniz, Hume, Kant, and others have tried to delineate contingent propositions from universal propositions.

In fact, the rule of disjunction, which Gettier invokes in his CASE II, is one rule of abstract logic that is particularly problematic in practical matters and natural language. It asserts that with a true proposition, p , we can assert $p \vee q$ (either p or q), where q can be any claim imaginable. While this makes sense in abstract logic, it has really no basis in most practical matters. As an illustration, suppose Smith and Jones are on a plane, which they both believe is bound for New York. Suppose Smith turns to Jones and says, "Either this plane is bound for New York or it is bound for Tokyo." Naturally, Jones would ask Smith

² That is a consequence of the Russellian quantificational approach.

why he says so. If Smith, the logician, answers that it is simply from the fact that “this plane is bound for New York,” I don’t think Jones or most other people will accept that as sufficient reason to assert “either New York or Tokyo.” If it happens, as often in Gettier cases, that Smith and Jones got on the wrong plane, which is actually not bound for New York, it becomes logically necessary that the plane be bound for Tokyo in order to preserve the truth of the disjunction — “either New York or Tokyo.” There is no basis, however, to think that the plane would be bound for Tokyo rather than any other city, if it turns out not to be bound for New York.

Now suppose that Susan, who is seated behind Smith and Jones, overhears their conversation and offers the following information: “I noticed it indicated on the information board that gate 3, where we boarded, was for flights bound for New York and Boston.” So we can say then, that flights at gate 3 are bound for “New York or Boston,” which clearly is not the same as “New York or Tokyo.” In the given practical circumstances, one is true, and the other is false, even though under classical logic both are true. Again, suppose John, on the basis of the same information board message at gate 3, tells some other passenger that gate 3 is for flights bound for “either Boston or Chicago.” He has spoken a truth as far as classical logic is concerned. In the given practical circumstances, however, that would be a false statement. These examples illustrate that the classical logic rule of *disjunction introduction* generates truths that do not qualify as truths in natural language. That is why it is problematic that Gettier relies on that kind of truth in his analysis of matters of practical discourse.

These paradoxes arise because in classical logic, entailment can be constructed between propositions that have absolutely no relevance to each other. Gettier takes that very low threshold of logical entailment as the basis of his analysis and takes it to be sufficient for epistemic justification. It is not surprising that such a flimsy justification frequently fails to yield true beliefs in natural language. This is the source of the problem for epistemology, where justification is good enough for a belief but not for its truth. As I pointed out earlier, logicians are not unperturbed by these problems of classical logic. In order to ensure that propositions joined by truth-functional operators are relevant to each other and meaningful in natural language, alternative logics such as modal logic, relevance logic, intuitionistic logic, and so on, which try to relativize truth to worlds, have been developed. These appear to me as attempts to inject context into abstract logic. In these logics, the set of conditions under which a proposition is true is referred to as a set of possible worlds, after Leibniz. Thus, according to Leibniz, as we saw in the quote from Quine above, some propositions are true in all possible worlds. Gettier proposition (e) and the other Gettier-type

propositions do not fall under that category of propositions that are true a priori. Thus, we need to specify the conditions under which such Gettier-type propositions are true, rather than treating them as quantified generalizations that allow false propositions to ride on the coattails of true propositions. It is a practice that is justifiable in classical logic but not in natural language. An analysis that incautiously deploys the tools of classical logic in evaluating the truth of propositions in practical discourse involving natural language courts error, and the Gettier cases involve analysis of this kind.

Even if we grant the possible criticism that there is no complete consensus on some or even all of the analytical tools I have invoked here, and even if the current state of affairs were typified by Ludlow and Neale's claim that "it is now widely held that definite and/or indefinite descriptions [for example] are semantically ambiguous between quantificational and referential interpretation" (1991, 171), that would suggest, at minimum, that Gettier's methods are controversial. And that indeed, should be sufficiently compelling a reason for the scholarly community to take a critical look at Gettier's methods, given the enormity of the implications that the conclusions from those methods have had for epistemology.

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