Gettier Cases: A Taxonomy*

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Short Abstract: The term "Gettier Case" picks out a wide array of thought experiments involving a justified true belief that, many philosophers allege, is intuitively not knowledge. We argue that the radical diversity of these thought experiments warrants abandoning the notion of a "Gettier Case" in favour of more finely grained terminology.

Long Abstract: The term "Gettier Case" is a technical term frequently applied to a wide array of thought experiments in contemporary epistemology. What do these cases have in common? It is said that they all involve a justified true belief which, intuitively, is not knowledge, due to a form of luck called "Gettiering." While this very broad characterization suffices for some purposes, it masks radical diversity. We argue that the extent of this diversity merits abandoning the notion of a "Gettier Case" in a favour of more finely grained terminology. We propose such terminology, and use it to effectively sort the myriad Gettier cases from the theoretical literature in a way that charts deep fault lines in ordinary judgments about knowledge.

Keywords: knowledge; luck; social cognition; modality; philosophical method

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1. Introduction

Gettier cases are a type of thought experiment featuring a protagonist (a "Gettiered subject") who has a justified true belief which, according to philosophical consensus, falls short of knowledge. A longstanding challenge in epistemology is to understand *why* the Gettiered subject lacks knowledge. This challenge goes by the name of the "Gettier problem." The cases, subjects, and problem are all named in honour of Edmund Gettier's (1963) seminal critique of the view that justified true belief and knowledge are equivalent.[1]

Proposed solutions to the Gettier problem are numerous. Many come in the form of new theories of knowledge that are specifically designed to exclude Gettiered beliefs. Examples include theories that identify knowledge with safe justified true belief (e.g. Pritchard, 2005), sensitive true belief (e.g. Nozick, 1981), true belief formed through a reliable cognitive process (e.g. Goldman, 1979), and true belief formed through the exercise of intellectual virtue (e.g. Zagzebski, 1996). These leading theories of knowledge have not only been motivated in part by the need to solve the problem posed by Gettier's original cases, but they also continue to be tested and evaluated against *new* Gettier cases.

In other words, a very popular litmus test for any proposed theory of knowledge is whether it correctly classifies a wide range of Gettier cases. The procedure of developing new theories of knowledge and then testing them against new Gettier cases has, as a result, become *business as usual* in epistemology. And make no mistake, there have been *a lot* of different Gettier cases proposed over the past fifty years (see Shope, 1983).

But given that so many different Gettier cases have been proposed in the literature, is it possible to draw any systematic distinctions amongst them? Philosophers appear to have sensed,

[1] Though similar ideas can be found in the works of Bertrand Russell and the Indian philosopher Sriharsa (see Turri, 2012 for citations).

sometimes explicitly (e.g. Lycan, 2006) but mostly implicitly, that not all Gettier cases are alike. After all, if they are completely alike, then nothing of substance could turn on inventing a new one. And philosophical arguments do, of course, turn on whether or not a particular theory adequately classifies some newly invented Gettier case. It would therefore be utterly surprising if these cases exhibit no important differences.

Our aim is this paper, accordingly, is to provide a framework for thinking about the differences amongst Gettier cases. The framework is based on three structural dimensions along which Gettier cases are observed to vary (Turri, Buckwalter, & Blouw, 2015). The first dimension concerns whether an agent forms a belief by becoming directly acquainted with a "truth-maker," or a state of affairs that makes his or her belief true. In some Gettier cases, an agent perceives or infers the existence of a truth-maker, but in other cases, the agent does not. The second dimension concerns whether an agent's acquaintance with an initial truth-maker is preserved over time. In some cases, the truth-maker is threatened but ultimately left undisturbed. In other cases, the threat is successful and the initial truth-maker is replaced with a backup. The third dimension, finally, concerns the degree of resemblance between an initial truth-maker and a backup that replaces it. In some cases the two are highly similar. In other cases, the two are highly dissimilar. For the sake of brevity, we refer to these three structural dimensions in terms of *detection, threat,* and *replacement*.

In what follows, we first use this framework to characterize a handful of well-known cases from the epistemology literature. We then demonstrate that the framework generates a taxonomy of at least five "Gettier case" types that correspond to strikingly different patterns of knowledge ascription in ordinary people. On the basis of these structural differences and folk-psychological regularities, we argue that there are groups of Gettier cases that have almost nothing in common

with one another. We propose that the notion of a "Gettier case" ought to be abandoned and replaced with a range of more finely distinguished case types.

2. *A Three Dimensional Framework*

To analyze Gettier cases, theorists have often thought in terms of a simple "double-luck" structure (Zagzebski, 1996; see also Sosa, 1991, p. 238; Turri, 2011).[2] First, an agent forms a justified belief that P. Then, an element of bad luck makes it such that P would normally be false. Finally, a subsequent element of good luck counteracts the bad, such that P ends up being true. The overall result is a case in which an agent has a justified true belief that P but, intuitively fails to know that P. Within this basic structure, though, there can be very different *kinds* of bad and good luck.

Our first dimension — *Detection* — tracks the presence of a particular sort of bad luck. More specifically, the dimension tracks whether or not an agent initially *succeeds or fails* to detect the truth regarding a believed proposition. Take, for example, a case adapted from a recent paper by Nagel et al. (2013):

> [DIAMOND] Emma has just purchased a diamond from a reputable jeweller and placed it in her coat pocket. She accordingly believes that there is a diamond in her pocket. Unfortunately, the stone Emma bought is a fake. But the coat she is wearing used to belong to her grandmother, who secretly stitched a diamond deep

[2] The original formulation due to Gettier (1963) characterizes the structure of these cases in terms of the closure of justification under deductive entailment: first, have a subject form justified false belief; then, have them deduce a further belief that just so happens to be true. The result is a Gettier case. Arguably, there is no significant difference between luck and closure-based structural descriptions, since the initial formation of a justified false belief can be characterized in terms of bad luck, while a true belief subsequently acquired through deductive inference can be characterized in terms of good luck.

> into the pocket, directly under the button so that no one would detect it. The grandmother died before revealing this secret, and no one, not even Emma, has noticed the hidden diamond since.

Clearly, Emma fails to detect the truth about the stone she purchased from the jeweller, and her belief is formed on the basis of the misleading appearance of the fake diamond. This failure to detect the truth, moreover, sets the stage for the good luck that is characteristic of Gettier cases to take effect: The grandmother's hidden diamond acts as a backup truth-maker for Emma's belief.

The bad luck in Gettier cases need not work this way, though. Alternatively, a subject can *succeed* at detecting the truth, before subsequently encountering misfortune. Our second dimension of evaluation – *Threat* – tracks the presence of such misfortune. Consider the following classic case as an illustration:

> [NEWS] Smith reads a true newspaper account of a political assassination written by a trustworthy reporter. But the victim's associates, wishing to forestall a panic, have blanketed the media with (false) reports that the assassination attempt failed and that the intended victim is alive. Nearly everyone has heard these other reports and believes them. However, by a fluke, Smith misses those reports and continues to believe that the victim is dead. (Lycan 2006, p. 157, adapted from a case originally due to Gilbert Harman, 1973, p. 143-144)

If things had turned out slightly differently, Smith would have read false media reports and subsequently formed a false belief. Thus, he is merely lucky that he detected the truth, and according to some, he fails to possess knowledge of the political assassination as a result. Since the presence of this sort of unsuccessful threat to the truth of a belief is often said to make the difference between knowing and not knowing, the threat dimension captures an important feature

of Gettier case structure.

Often, however, a threat to the truth of an agent's belief is successful rather than unsuccessful. A recent case from Starmans & Friedman (2012) nicely illustrate this phenomenon:

> [PEN] Katie is in her locked apartment writing a letter. She puts the letter and her blue Bic pen down on her coffee table. Then she goes into the bathroom to take a shower. As Katie's shower begins, two burglars silently break into the apartment. One burglar takes Katie's blue Bic pen from the table. But the other burglar absentmindedly leaves his own identical blue Bic pen on the coffee table. Then the burglars leave. Katie is still in the shower and did not hear anything. (p. 276)

Clearly Katie forms a straightforwardly true belief by detecting a pen on her coffee table. But then bad luck strikes in the form an unnoticed burglary that changes the explanation for why her belief is true. The belief, many philosophers assume, thereby ceases to count as knowledge.

At this point, it is useful to more explicitly contrast PEN with NEWS. Both are Gettier cases involving a protagonist who succeeds at initially detecting the truth. In PEN but not NEWS, misfortune disrupts the truth initially detected. The burglary in PEN is a stroke of bad luck that disrupts the truth-making relation for Katie's belief. Moreover, this disruption sets the stage for a necessary stroke of good luck: the second burglar leaves behind a similar pen that acts as a replacement truth-maker for Katie's belief.

NEWS, on the other hand, involves an unbroken truth-making relation. Smith forms a true belief about the death of a politician on the basis of good evidence, and the connection between this belief and the fact in the world that makes it true is *not* disrupted. Rather, Smith's belief is unsuccessfully threatened, and thus is improbably true rather than unfortunately false. This

comparison indicates that there can be Gettier cases involving initially truth-detecting agents who face both *successful and unsuccessful* threats to the truth of their beliefs.

Our third dimension — *Replacement* — concerns the kinds of good luck that lend truth to an agent's belief following the occurrence of a successful threat or initial failure to detect. To illustrate, contrast NEWS with both PEN and DIAMOND. In NEWS, nothing restores truth to Smith's belief because nothing disrupts the relation between Smith and the fact in the world that makes his belief true in the first place. In PEN and DIAMOND, by comparison, something happens at the end of each story that makes the protagonist's otherwise false belief turn true. Moreover, the nature of this turn differs across the two cases. In PEN, the backup-truth maker is very similar to the thing that made Katie's belief true to begin with; the burglar leaves a replacement pen of the same type as Katie's original in roughly the same location. In DIAMOND, by comparison, what actually makes Emma's belief true is quite dissimilar from what she takes to make her belief true. The diamond in her coat pocket has been there for decades, while the fake diamond on which she bases her belief has only been there for a few seconds. So intuitively, the difference between the actual and perceived explanations of the truth of the protagonist's belief is greater in DIAMOND than in PEN. Thus, the similarity of the backup truth-maker to the state of affairs on which the belief is based is greater in PEN than it is in DIAMOND. This final dimension – *Replacement* – thereby also captures an important aspect of Gettier case structure.

As a final illustration of the application of our three dimensional framework, consider the following adaptation of a case from Gettier's (1963) original paper:

> (BARCELONA) Smith has strong evidence that Jones owns a Ford. Smith has another friend, Brown, of whose whereabouts he is totally ignorant. On the basis

> of his evidence about Jones, Smith accepts the proposition that "Either Jones owns a Ford, or Brown is in Barcelona," even though he has no idea where Brown is. It turns out that Jones does not own a Ford and is presently driving a rented car. However, by the sheerest coincidence and entirely unknown to Smith, Brown is traveling in Barcelona. (Turri, Buckwalter, & Blouw, 2015, adapted from Gettier, 1963, pp. 122-3)

This case admits of a straightforward analysis within our three dimensional framework. Smith has failed to detect the truth, because Jones does not in fact own a Ford. However, there is a replacement truth-maker in the form of Brown's improbable presence in Barcelona, and this replacement truth-maker is highly *dissimilar* to what Smith took to be true when forming his belief (in contrast to a case like PEN).

Overall, the structure of this case can be summarized in terms of the following configuration: *No Detection + Dissimilar Replacement.* Comparable analyses of cases like PEN, DIAMOND, and NEWS can be given, and in the next section, we examine the range of possible such analyses to produce a clearly organized taxonomy of case types.

3. A Taxonomy of Case Types

As a baseline for comparison, it is helpful to first configure the three dimensions to correspond to ordinary instances of perceptual knowledge.

> *Knowledge - Detection* W*ithout Threat.* An agent perceptually detects the truth and there is no salient threat to the truth of her judgment.

Next, by simply introducing the threat of disruption into the formulation, we can obtain a structure of the kind found in NEWS:

> *Gettier Category 1 - Detection with Unsuccessful Threat.* An agent perceptually detects the truth, and there is a salient but failed threat to the truth of her judgment.

Moreover, by introducing both a successful threat and a replacement truth-maker, the case structure evident in PEN emerges:

> *Gettier Category 2 - Detection + Successful Threat + Similar Replacement.* An agent perceptually detects the truth, there is a salient and successful threat to the truth of her judgment, and a replacement truth-maker that is similar to the original truth-maker is present.

Allowing for the possibility of the dissimilar form of replacement illustrated in DIAMOND, there is one further Gettier variant involving an agent who initially detects the truth:

> *Gettier Category 3 - Detection + Successful Threat + Dissimilar Replacement.* The agent perceptually detects the truth, there is a salient and successful threat to the truth of her judgment, and a replacement truth-maker that is dissimilar to the original truth-maker is present.

The rest of the taxonomy comprises categories involving an initial failure to detect the truth. These categories correspond more closely to the structure of Gettier's (1963) original thought experiments.

> *Gettier Category 4 – Failure to Detect + Similar Replacement.* The agent fails to detect the truth, but her judgment is nonetheless made true by a state of affairs similar to what she based her belief on.

A slight change to the restoration variable yields the structure of BARCELONA, wherein the

backup truth-maker is highly dissimilar to the state of affairs upon which the agent forms her belief:

> *Gettier Category 5 – Failure to Detect + Dissimilar Replacement.* The agent fails to detect the truth, but her judgment is nonetheless made true by a state of affairs dissimilar to what she based her belief on.

Last of all, taking restoration out of the picture entirely generates a case structure that corresponds to paradigmatic instances of ignorance:

> *Ignorance – Failure to Detect + No Restoration.* The agent fails to detect the truth, and nothing makes her judgment true.

It is worth observing that each category structure just described stems from a simple variation on the category structure that precedes it. Thus, the taxonomy can provide an approximate measure of the structural similarity between a given Gettier case category and paradigmatic instances of knowledge and ignorance. Category 1 cases, for example, are closer to paradigmatic knowledge than Category 3 cases are. We return to these points below, as they underlie a central theoretical virtue of the three-dimensional framework.

4. Virtues of the Taxonomy

To motivate the idea that the taxonomy illustrates some philosophically valuable distinctions, it helps to first point out one prominent *disadvantage* to thinking about Gettier cases primarily in terms of their signature feature of a justified true belief that is not knowledge.

Put simply, a failure to differentiate amongst kinds of Gettier cases fosters terminological confusion. Consider again the difference between Gettier Category 1, which corresponds to what are known as “fake-barn” cases in the literature, and Gettier Category 5, which corresponds more

naturally to Gettier's original thought experiments. If one looks at the variable settings for these categories, it becomes clear that they describe *radically* different structures. More to the point, an agent in a Gettier Category 1 case detects the truth without ever losing grasp of it, while an agent in a Gettier Category 5 case *never* grasps the truth and only possesses a true belief due to improbable luck. Intuitively, the agents are not on equivalent epistemic grounds. Yet if the term "Gettier case" is used in the absence of further qualification to describe both situations, then these important differences are simply glossed over.

To turn now to the direct advantages of the taxonomy, a first one stems from wildly different results reported on "Gettier" intuitions. There has been an explosion of recent research in philosophy, experimental epistemology, and psychology on the epistemic judgments that people make about Gettier cases. But the results of these experiments are mixed. Some studies have suggested that people intuitively treat some "Gettier cases" much as they do clear cases of knowledge (Colaco et al., 2014; Starmans & Friedman 2012). Other studies, it has been argued, suggest that people readily distinguish between "Gettier cases" and clear cases of knowledge (Nagel et al. 2013). And still further studies conclude that intuitions in Gettier cases depend on factors such as the manner in which individuals are questioned (Turri, 2013) or the involvement of normative or moral judgements in our epistemic practices (Beebe & Shea, 2013; Buckwalter, 2013; Turri, 2014).

One might conclude from this that, overall, the only thing that's obvious about "Gettier" intuitions is that they are not a unified class. Perhaps subtle structural differences in the Gettier cases used throughout this literature are responsible for the variation we see in people's intuitions. Working off this suspicion, we sought to put our taxonomy to the test (Turri, Buckwalter, & Blouw, 2015). We presented subjects with a series of Gettier cases satisfying the

structural properties of each of the above categories. We observed that our categories correspond to salient divisions in people's willingness to attribute knowledge:

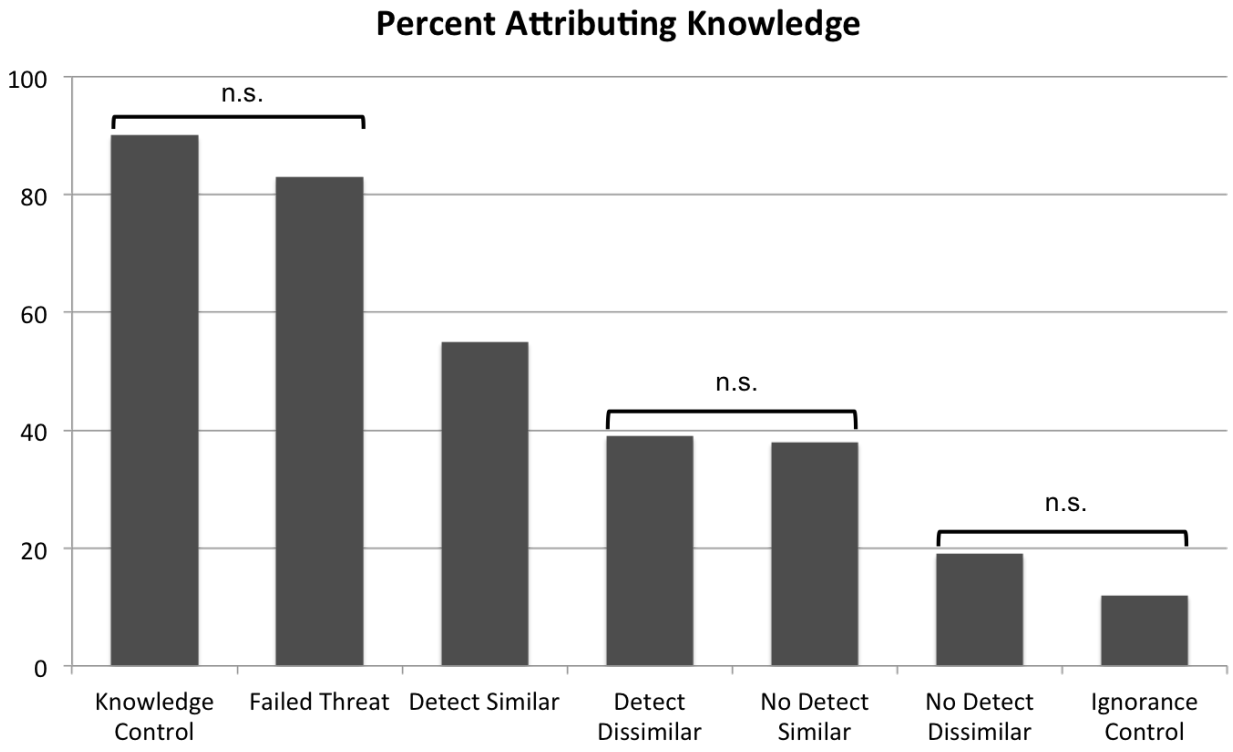

Fig. 1. Percentage of participants ascribing knowledge across five Gettier case categories (1-5) bookended by clear cases of knowledge (Knowledge Control, left) and ignorance (Ignorance Control, right). Except where non-significance is indicated, significance levels for all comparisons are at the $p < .01$ level.

These findings support our observation that the three dimensional framework allows for rough measures of similarity between a particular Gettier case and uncontroversial case of knowledge or ignorance. Subjects judging a case with a Category 1 structure, for example, were much more likely to ascribe knowledge than subjects who judged a case with a Category 5 structure. And on a related note, the findings also provide interesting evidence of the psychological significance of changes to specific variables. The shift from "similar" to

"dissimilar" replacement between Categories 4 and 5, for instance, results in a significant drop in knowledge attributions.

Another advantage of our framework is that it connects theorizing about Gettier cases and epistemic luck. Valuable discussions of the nature of epistemic luck exist (e.g. Pritchard, 2005), yet current results suggest that there is much yet to be learned about luck in the context of the Gettier cases specifically. For example, Ichikawa and Steup (2012) note in a recent review of anti-luck conditions on knowledge, "Whether a belief is true by luck, presumably, comes in degrees — just how much luck does it take to be inconsistent with knowledge?" In addition to this remark, they note the importance of documenting the *kinds* of luck that are inconsistent with knowledge. Both issues stand in need of a great deal of clarification, and our taxonomy provides a fruitful framework for doing so. In particular, the taxonomy helps clarify the candidate configurations of *kinds* and *degrees* of luck from which a correct account of the relationship between knowledge and luck can be drawn. We do not propose that the specific taxonomy we proposed is definitely correct in all its details, nor do we propose that it definitely identifies all the relevant forms of luck. Nevertheless, we do propose that a framework of this sort is required to clearly formulate a theory of epistemic luck. For example, we need a framework that helps makes sense of the fact that knowledge *is* ruled out by bad luck in the form of failures to detect the truth, but *need not* be ruled out by bad luck in the form of a failed threat to disrupt an already detected truth.

Our framework also offers an interesting way of connecting modal considerations to the evaluation of luck in Gettier cases. Distinguishing between similar and dissimilar replacement, for instance, can be thought of as distinguishing between scenarios in which nearby and distant possible worlds are worlds in which the agent's beliefs constitute knowledge: much more would

have to change in the dissimilar scenario than in the similar scenario in order for the agent's belief to uncontroversially count as knowledge. Thus, there is a natural modal explanation for why cases with dissimilar replacement intuitively involve more epistemic deficiency than cases with similar replacement (this intuition, recall, is born out by our empirical findings). A modal interpretation of the framework can also naturally help to frame influential theories of knowledge that appeal to modal notions like safety (e.g. Pritchard, 2005) and sensitivity (e.g. Nozick, 1981).

Similar remarks can be made about the general difference that exists between cases that differ only with respect to the variable of detection: in general, those agents whose cognitive faculties do put them into contact with the truth are in closer modal proximity to possible scenarios in which their beliefs constitute knowledge than those agents whose cognitive faculties do not. Much more could be said about these issues, but for the time being, suffice it to say that our three dimensional framework both (a) avoids the terminological confusions associated with treating the class of Gettier cases in a homogenous manner, and (b) provides interesting new resources for drawing connections between discussions of luck and modality on the one hand, and discussions of Gettier cases and the Gettier problem on the other.

5. Moving Beyond "Gettier Cases" and "the" Gettier Problem

Why has a convincing solution to the Gettier problem been so hard to come by? If our approach is on the right track, then the answer is simple: because it isn't just one problem. The fact that "Gettier cases" vary along multiple structural dimensions indicates that different Gettier case types pose different challenges to our understanding of the conditions under which knowledge is possible. The challenge posed by NEWS, for example, is simply *not the same* as the challenge posed by BARCELONA. Moreover, being a "Gettiered subject" is consistent with being viewed both as clearly knowing *and* clearly not knowing. These observations indicate that the only

generalization that applies to all "Gettier cases" is that they might pose challenges of one sort or another to the generation of a plausible theory of knowledge. And this, needless to say, is quite a weak and unenlightening generalization. Future work on "the" Gettier problem should first specify precisely which kind of case is at issue.

The fundamental point here should be clear: *there is no one thing that counts as a Gettier case* and, thus, there is also no one thing that counts as the Gettier problem.

There are two main reasons to abandon the notion of a "Gettier case." First, it lacks predictive value. The fact that something is a "Gettier case," as that term has come to be used, is consistent with its being overwhelmingly judged knowledge and overwhelmingly judged ignorance. Second, the nominal category "Gettier case" lacks explanatory value. Different Gettier subjects lack knowledge for different reasons. Calling something a "Gettier case" doesn't illuminate which epistemically significant factors are at work.

We modestly propose that continued use of the category "Gettier case" ("Gettier problem," etc.) is not only theoretically useless, but also detrimental to progress in epistemology. To make continued progress on the important issues highlighted by Gettier's work, we need a clearer understanding of the structural differences among the various cases that go by his name, and the attendant consequences for knowledge judgments. Our proposed replacement of the notion of a "Gettier case" with a more graded taxonomy of case types is an attempt to promote progress of just this sort.

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