

# Knowledge Judgments in “Gettier” Cases\*

John Turri

john.turri@gmail.com

Abstract: Gettier cases have played a major role in Anglo-American analytic epistemology over the past fifty years. Philosophers have grouped a bewildering array of examples under the heading “Gettier case.” Philosophers claim that these cases are obvious counterexamples to the “traditional” analysis of knowledge as justified true belief, and they treat correctly classifying the cases as a criterion for judging proposed theories of knowledge. Cognitive scientists recently began testing whether philosophers are right about these cases. It turns out that philosophers were partly right and partly wrong. Some Gettier cases are obvious examples of ignorance, but others are obvious examples of knowledge. It also turns out that much research in this area of philosophy is marred by thought-experimenter bias, invented historical claims, dysfunctional categorization of examples, and mischaracterization by philosophers of their own intuitive judgments about particular cases. Despite these shortcomings, lessons learned from studying Gettier cases are leading to important insights about knowledge and knowledge attributions, which are central components of social cognition.

keywords: social cognition; knowledge; assertion; intuitions; experimental philosophy

---

\* This is the penultimate draft (08/11/14) of a chapter to appear in *A Companion to Experimental Philosophy*, ed. Justin Sytsma and Wesley Buckwalter. Please cite the final, published version if possible.

## Introduction

We are essentially social beings motivated to gather and retain information about other people (Lieberman 2013). Knowledge looms large in social cognition. Indeed, it looms largest. “Know” is the most commonly used mental state verb in the English language (<http://www.oxforddictionaries.com/words/the-oec-facts-about-the-language>). In some corpuses of young children’s speech, “know” features in 75% of mental state attributions (Shatz, Wellman and Silber 1983). Knowledge sets the standard for appropriate assertion and recent evidence suggests that it might also set the standard for appropriate belief and decision-making (Turri 2014; Turri in preparation; Turri under review a; Turri under review b; Turri and Buckwalter under review; Buckwalter and Turri 2014). Governments spend hundreds of millions of dollars to support the creation, transfer, and “mobilization” of knowledge (e.g. [http://www.sshrc-crsh.gc.ca/about-au\\_sujet/facts-faits/budget-eng.aspx](http://www.sshrc-crsh.gc.ca/about-au_sujet/facts-faits/budget-eng.aspx)). Knowledge matters.

Reflecting knowledge’s importance, one main goal of philosophy is to help understand knowledge. According to some textbooks, traditionally philosophers defined knowledge as justified true belief (Chisholm 1989, 90; BonJour 2002, 43; Shope 2002, 29; Feldman 2003, 15; Pritchard 2013, 23). However, to the best of my knowledge, no evidence supports this grand historical claim and it is just a myth that this definition was traditionally popular (compare Plantinga 1993, 6-7). Some authors tentatively cite a passage in Plato’s *Meno* (97e-98) as “perhaps” endorsing the definition (Gettier 1963, 121, n. 1; Moser 2010, 771-772), but this is highly misleading because the passage does no such thing. But, to return to the fictitious textbook narrative, in 1963 a short paper, “Is Justified True Belief Knowledge?” shattered the allegedly traditional view. The paper included two cases that the author, Edmund Gettier, claimed were ex-

amples of justified true belief without knowledge (Gettier 1963). Gettier did not argue for this claim. Rather, he said, the examples simply “show” that the traditional view is false.

### **Thought-experimenter bias**

Another short paper was published in 1963, “The Effect of Experimenter Bias on the Performance of the Albino Rat.” The paper began with the observation, “That an experimenter can very easily influence his subjects to give him the response he wants is a problem that every investigator recognizes and takes precautions to avoid” (Rosenthal and Fode 1963, 183). Philosophers have created a dizzying array of “Gettier case” thought experiments. In doing so, many have been guilty of experimenter bias. This includes some original players who helped set the agenda for decades to come. I provide two examples.

Gettier’s original cases are stilted and tendentiously described. One of them involved Smith, who has known his friend Jones for a long time (Gettier 1963, 122-3). During this time Jones has always owned a Ford and Smith just saw Jones driving a Ford. Smith of course believes, reasonably, that Jones owns a Ford. Next we are to “imagine” that Smith — weirdly and for no stated reason — selects “at random” some “place-names” to associate with his other friend, Brown, “of whose whereabouts he is totally ignorant.” This leads Smith to realize that if Jones owns a Ford, then *either* Jones owns a Ford *or* Brown is in Barcelona. So Smith concludes — very unnaturally and even though he “of course has no idea where Brown is” — that either Jones owns a Ford or Brown is in Barcelona. Smith reasons similarly — and equally unnaturally and pointlessly — to the conclusions that either Jones owns a Ford or Brown is in Boston, and that either Jones owns a Ford or Brown is in Brest-Litovsk. Despite the unnaturalness and point-

lessness of these inferences, Gettier tells us that Smith is “completely justified” in making them. Finally we are to “imagine” two further additions to the story: Jones does not currently own a Ford but instead is driving a rental, and Brown “happens really to be” in Barcelona. The case ends with Gettier *telling* us that “Smith does *not* know” that either Jones owns a Ford or Brown is in Barcelona, even though Smith has a justified true belief that either Jones owns a Ford or Brown is in Barcelona.

Another influential case from early in the literature also focuses on Ford ownership (Lehrer 1965, 169-170). The agent in this example, Keith, has an “honest and reliable” friend named “Mr. Nogot.” Nogot gets out of a new Ford, walks into Keith’s office, tells Keith that he has “just purchased the car,” and — weirdly — “shows [Keith] a certificate that states that he owns the Ford.” On this basis, Keith believes, reasonably, “Mr. Nogot, who is in my office, owns a Ford.” Then Keith deduces, “Someone in my office owns a Ford.” Despite the unnaturalness and apparent pointlessness of this inference, we are told that Keith is “completely justified” in making it. We are then told that Mr. Nogot has “deceived” Keith and does not own a Ford. We are left to guess why Mr. Nogot, honest and reliable friend that he is, would do this. Nevertheless, Keith also sees another person in his office, “Mr. Havit,” who does own a Ford. But Keith has “no evidence that [Mr. Havit] owns a Ford.” Thus it is true that someone in Keith’s office owns a Ford. However, we are told, Keith “do[es] not know that it is true.”

Despite the stilted and tendentious presentation of these cases, arguably we can still detect the relevant underlying structure. It involves a person with imperfect but impressive evidence for thinking that a certain proposition is true. This person notices that this first proposition entails a second proposition, which he concludes is true. And it is true. However, the impressive evidence

he began with turns out to be misleading and he never detected that the first proposition is true. In fact, the first proposition is false. Now we are to decide two things. First, does the person have a justified true belief that the second proposition is true? Second, does the person know that the second proposition is true? If our answers are “yes” and “no,” respectively, then we are committed to denying that knowledge is equivalent to justified true belief. Others have recently made serious unbiased attempts to test cases structured this way. I discuss the results below.

### **First put your own house in order**

One philosopher labeled Gettier’s paper “Gettier’s survey” (Jackson 2011, 480-1). Gettier’s survey “invited” philosophers “to agree with his intuition” that the examples were not cases of knowledge (Jackson 1998, 28). As the literature developed, nearly all published contributors agreed with Gettier’s intuition. Only a few “holdouts” resisted (Jackson 2011, 468). During this time, Gettier cases have served as a litmus test for theories of knowledge. If a proposed theory of knowledge implies that the subject in a Gettier case has knowledge, then the theory is disqualified (see Shope 1983; Turri 2012a). Similarly, a theory of knowledge is expected to explain why a Gettier subject does not know (see Goldman 1967; Harman 1973; Zagzebski 1996; Sosa 2007; Greco 2010; Turri 2011).

The description of Gettier’s “survey” is inaccurate and misleading. Gettier did not “invite” philosophers to share his intuition. He used language apt to prime attributions of ignorance. He confidently and unqualifiedly inserted his own verdict into the description of the case. In short, he manipulated his audience. Others followed his example. The manipulation might have been unconscious, as experimenter bias often is, but its effect is the same.

Recently when confronted with experimental evidence — discussed below — that generally people might not share Gettier’s intuition, philosophers have worried that the experiments are “defective” or do not meet “high” methodological standards for social science research (Jackson 2011). These are legitimate concerns. However, philosophers overlook that the concerns apply equally to their own thought experiments. In particular, they apply to Gettier’s original “survey,” which was miserably designed and conducted. Relatedly, some philosophers have wondered whether non-philosophers “competently enough assess” Gettier cases (Turri 2013, 2). But given the evident experimenter bias in the Gettier genre, these philosophers should be equally concerned whether their own assessment was sufficiently competent in the first place. At the very least, we should want to see the results of unbiased studies with proper controls before assuming that philosophers set the standard by which non-philosophers’ competence should be judged.

### **Questionable consensus**

It is actually not known whether most philosophers agree with Gettier’s intuition. No relevant empirical study has been published. The vast majority of opinion expressed in professional publications does agree with Gettier’s intuition (dissenters include Sartwell 1991, Hetherington 2013 and, in a qualified way, Turri 2012b). But from this we should not automatically infer that most philosophers share Gettier’s intuition, for at least two reasons.

First, and somewhat speculatively, there is a possible gatekeeper effect. The speculation is based on my own experience, which might not be representative. I have published many philosophy papers related to Gettier cases. The peer review process tends to be random and hostile to begin with (Smith 2006). But early in my career the strongest and most dismissive hostility I

faced came in response to arguments that questioned Gettier's original intuition (ultimately appearing as Turri 2012b). I persevered but can imagine giving up due to frustration or demoralization. Gettier's paper and many other influential early contributions appeared in the journals *Analysis* and *Journal of Philosophy*. That is mainly where the literature gained momentum and reached a critical intellectual mass. A small group of like-minded editors and anonymous referees could have ensured that published contributions agreed on the founding assumption that Gettier's intuition was correct. Early attempts to express alternative intuitions or opposing arguments could have been dismissed on the grounds that the authors "just didn't get it." Of course, no intentional covert conspiracy existed. None of these people colluded for this specific purpose.

Second, there is a possible selection effect. Once an assumption is firmly rooted in a philosophical debate, the costs of challenging it are high. You may assume without penalty that Gettier's intuition is correct, but you must argue mightily to defend the contrary assumption. Savvy researchers who do not share the intuition will direct their energy elsewhere. For the most part only researchers who share or at least grant the sacred assumption will participate in the discussion. Over time this affects how the theory of knowledge is taught. Eventually students will learn from resources that take the Gettier intuition for granted and treat "the Gettier problem" with utmost seriousness. Students who have different intuitions about the cases or see the problem as trivial will specialize in another area of philosophy or another discipline. Only those committed to playing the game, or at least willing to play along, make it all the way through graduate school and publish on the topic (compare Buckwalter and Stich 2014). If someone breaks protocol and seriously argues against the intuition, they are "not invited to the next conference" (Lycan 2006, 165, n. 22). Agreement achieved by including only like-minded participants has no probative

value.

There is also positive evidence that philosophers tend to attribute knowledge in some Gettier cases, which I will discuss more below. On the one hand, philosophers are people too, so if the vast majority of people attribute knowledge in certain Gettier cases, then philosophers probably share this intuition. And it turns out that the vast majority of people do attribute knowledge in certain Gettier cases. On the other hand, some philosophers claim that certain things are obvious about some Gettier cases, which imply that the agent in the case has knowledge. In particular, philosophers claim that the agent in a Gettier case obviously should make certain assertions (see below for more discussion and citations). But one should make an assertion only if one knows that it is true. So it follows that there is knowledge in these Gettier cases.

Even if we assume, contrary to the evidence, that most philosophers agree with Gettier's intuition, two facts diminish the significance of this "expert" consensus. On the one hand, there is the problem of experimenter bias, illustrated above. This problem could be responsible for some of the agreement, though how much cannot be known. Manipulated agreement has no probative value (compare Swain, Alexander and Weinberg 2008, 145-146). Second, there is the effect of conformism (Asch 1956; Bond and Smith 1996). For decades young philosophers have been introduced to Gettier cases in a context where, they are told, everyone shares the Gettier intuition. The perception of consensus can cause us to express agreement even when doing so contradicts the way things appear to our senses. If, as Solomon Asch wrote, "the tendency of conformity in our society [is] so strong that reasonably intelligent and well-meaning young people are willing to call white black," then presumably it is strong enough that they are willing to call knowledge ignorance (Asch 1955, 34). Philosophers are people too, and there is no evidence that they are



less susceptible to conformism than the average person is. Agreement due to low-level conformist mechanisms has questionable probative value.

### **Experimental studies of Gettier cases**

Cognitive scientists recently began seriously investigating knowledge judgments (for some overviews, see Pinillos 2011; Beebe 2012; Alexander 2012; Beebe 2014). This work has studied a variety of scenarios, including Gettier cases. The first study of Gettier cases was motivated by work in psychology showing important cultural differences in reasoning styles and moral judgments (Nisbett, Peng, Choi, and Norenzayan 2001; Haidt, Koller, and Dias 1993). Researchers tested a story about car ownership on U.S. undergraduates from a variety of cultural backgrounds. The story was similar to some cases from the early Gettier literature, but it was phrased much more naturally and unbiasedly. Approximately 25% of those with Western backgrounds attributed knowledge but more than half of those with eastern or southern Asian backgrounds attributed knowledge. The results fit nicely with prior cross-cultural work on other sorts of judgment, but followup work has been unable to replicate this cultural difference when using the exact same materials on undergraduates in the United States (Kim and Yuan under review), or when using modified materials and procedures to test residents of the U.S. and India (Turri 2013, section 7). Instead this followup work has observed uniformly low rates of knowledge attribution of around 20%. Some of this work included minimally matched control conditions where people attributed knowledge. Overall, then, existing evidence makes it likely that, for at least some Gettier cases, people deny knowledge because of the Gettier element.

Perhaps the most important study of Gettier cases distinguished between *apparent* and *au-*

*thetic* evidence (Starmans and Friedman 2012). Apparent evidence is “evidence that appears to be informative about reality, but is not really,” whereas authentic evidence is, roughly, evidence that makes the belief true when based on it (Starmans and Friedman 2012, 280). To illustrate the difference, consider two versions of a story about Corey, who collects coins in his piggy bank. One day Corey looks at a quarter he is putting into his bank and notices that it looks pretty old. He checks the date and reads “1936.” In the authentic-evidence version of the story, the coin is from 1936. In the apparent-evidence version it is from 1938 and part of the date has rubbed off. In each version there is already a 1936 quarter buried deep in the piggy bank, but Corey isn’t aware of this other quarter. Then Corey takes a short nap, during which his roommate comes home, takes the quarter that Corey just deposited in the bank, and leaves. Corey wakes up soon after and doesn’t realize what his roommate did.

When Corey wakes up from his nap, does he know, or does he only believe, that there is a 1936 coin in his piggy bank? People who read the authentic-evidence version tended to attribute knowledge, but people who read the apparent-evidence version tended to deny knowledge. The basic finding that people tend to deny knowledge in apparent evidence cases has been replicated (Turri 2013, section 2), and so has the finding that people tend to attribute knowledge in authentic evidence cases (Nagel, San Juan, and Mar 2013, in light of Starmans and Friedman 2013, 664; Turri, Buckwalter, and Blouw in press).

This raises an important question. A wide range of thought experiments are labelled “Gettier cases” in contemporary epistemology. There might be as many Gettier cases as authors who have written on the topic. What, if anything, do these cases have in common? Some philosophers have recognized that the label “Gettier case” masks radical diversity and, accordingly, claimed

that not all Gettier cases should be handled the same way (e.g. Lycan 2006; Turri 2011, 8). But the point is both understated and not well enough appreciated. The finding on authentic versus apparent evidence forces the point front and center.

Building on the apparent/authentic distinction, more recent work has shown that the structure of Gettier cases differ in at least three important ways (Turri, Buckwalter, and Blouw in press; Blouw, Buckwalter, and Turri in press). First, many differ in whether the agent *initially perceives* a state of affairs that makes his or her belief true (a “truth-maker,” for short). In some examples, the agent perceives a truth-maker, but in others the agent perceives a convincing fake or something which seems to entail that the relevant proposition is true. Second, many examples differ in whether the agent’s perceptual relation *remains intact* throughout. Sometimes the agent perceives a certain truth-maker and events threaten to disrupt that truth-maker, but the threat ultimately fails. Other times the threat succeeds in disrupting the original truth-maker, which is then replaced by a “backup” truth-maker. Third, many examples differ in *how similar* the perceived truth-maker and backup truth-maker are. Sometimes they very closely resemble one another, while other times they differ greatly.

Consider four specific cases from recent debates in philosophy and psychology.

(Barn) Henry and his son are driving through the country. Henry pulls over to stretch his legs, and while doing so tells his son a list of items currently in view along the roadside. “That’s a tractor. That’s a combine. That’s a horse. That’s a silo. And that’s a fine barn,” Henry added, pointing to the nearby roadside barn, which is indeed very fine. But Henry is unaware that the locals recently replaced nearly every barn in the county with papier-mâché fake barns. Henry is looking at the one real barn in the

whole county. (Adapted from Goldman 1976).

(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 absent-mindedly 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. (Starmans and Friedman 2012, 276)

(Husband) 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 is seated along the opposite wall of the living room, out of Mary's sight, dozing in a different chair. (Adapted from Zagzebski 1996)

(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. (Adapted from Gettier 1963)

These cases exhibit the three important differences noted above. First, in Barn and Pen the

agent initially perceives a truth-maker, but this does not happen in either Husband or Barcelona. Second, in Barn the agent's perceptual relation to the truth-maker remains intact throughout, despite the threat, made salient to the reader, that he could have perceptually misidentified the relevant item. By contrast, in Pen the truth-maker is not only threatened but also disrupted and replaced, thereby changing the explanation for why the agent's belief is true. Third, in Husband, even though the agent does not perceive the truth-maker, her belief is nevertheless made true by a state of affairs that very closely resembles the state of affairs which she thinks makes her belief true. By contrast, in Barcelona the agent's belief is made true by a state of affairs that differs greatly from the one that he thinks makes his belief true. In other words, the "backup" truth-maker in Husband is very similar to what the agent had in mind, whereas in Barcelona it is very dissimilar. Despite these differences, all four examples pass for "Gettier cases" in the literature. It would be astonishing if these differences didn't affect knowledge judgments.

The differences do affect knowledge judgments, as a recent study vividly illustrates (Turri, Buckwalter, and Blouw in press, Experiment 4). Participants read one of seven versions of a story. One version was a "knowledge control," intended to elicit very high rates of knowledge attribution. Another version was an "ignorance control," intended to elicit very low rates of knowledge attribution. The other five versions combined different permutations of the three structural variables noted above. The basic storyline featured an agent, Emma, admiring jewelry in a fancy department store. Emma purchases a stone from the diamond display, puts it in her pocket, browses for another minute, then leaves the store. The different versions of the story vary whether the stone is a real diamond or a fake, whether there is a threat to the stone remaining in Emma's pocket, whether the threat fails or succeeds, and whether any other stone also ends up in

Emma's pocket. In the terminology introduced above, the different versions manipulated whether Emma *detects* an initial truth-maker for her belief that there is a diamond in her pocket as she leaves the store, whether Emma's truth-detection is saliently *threatened*, whether the threat *succeeds* in disrupting the initial truth-maker, and whether the backup truth-maker is highly *similar* or *dissimilar* to the initial.

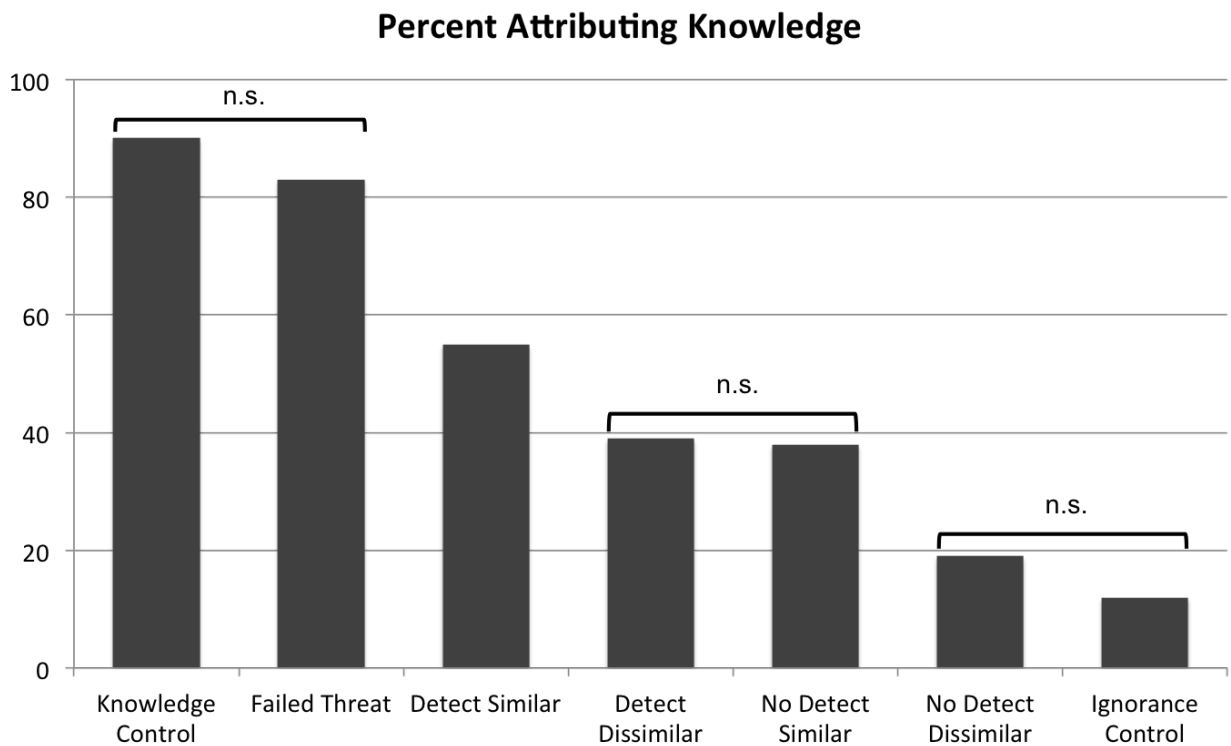
In all versions, Emma purchases a stone from a jewelry store, puts it in her pocket, and soon walks out of the store. In all the stories that involve detection, the stone she purchases is a diamond. In all the stories that do not involve detection, the stone is a fake. In all the stories that involve similar backup truth-makers, the backup truth-maker is that, one way or another, a diamond is put into Emma's pocket before she leaves the store. In all the stories that involve dissimilar backup truth-makers, the backup truth-maker is that a real diamond was secretly sewn into Emma's pocket by a previous owner long ago. Table 1 summarizes the seven versions of the story.

Table 1. Description of the seven versions of the story (from Turri, Buckwalter, and Blouw in press, Experiment 4).

<i>Condition</i>	<i>Description</i>
1. Knowledge Control	The stone Emma purchases is a diamond. She walks out of the store and nothing else happens.
2. Failed Threat	The stone Emma purchases is a diamond. A skilled jewel thief tries to steal it from her pocket before she leaves the store, but he fails.
3. Detection Similar Replacement	The stone Emma purchases is a diamond. A skilled jewel thief tries to steal it from her pocket before she leaves the store, and he succeeds. Someone secretly slips a diamond into Emma's pocket before she leaves the store.
4. Detection Dissimilar Replacement	The stone Emma purchases is a diamond. A skilled jewel thief tries to steal it from her pocket before she leaves the store, and he succeeds. Long ago, Emma's grandmother secretly sewed a diamond into the pocket of Emma's coat.
5. No Detection Similar Replacement	The stone Emma purchases is a fake. A skilled jewel thief tries to steal it from her pocket before she leaves the store, and he succeeds. Someone secretly slips a diamond into Emma's pocket before she leaves the store.
6. No Detection Dissimilar Replacement	The stone Emma purchases is a fake. A skilled jewel thief tries to steal it from her pocket before she leaves the store, and he succeeds. Long ago, Emma's grandmother secretly sewed a diamond into the pocket of Emma's coat.
7. Ignorance Control	The stone Emma purchases is a fake. She walks out of the store and nothing else happens.

Some researchers would count stories 2-6 all as Gettier cases, or at least clear cases of justified true belief without knowledge (e.g. Goldman 1967, 1976; Sosa 1991, 238-239; Zagzebski 1996, 283-285; Pritchard 2005; Greco 2010, chapter 5). Story 2 is structurally similar to the infa-

mous “fake barn” case, and story 6 is structurally similar to some very early Gettier cases. But people judged the stories very differently, as illustrated in Figure 1. Rates of knowledge attribution for story 2 were very high (over 80%) and did not differ from rates observed for the knowledge control story. By contrast, rates of knowledge for story 6 were extremely low (under 20%) and did not differ from rates observed for the ignorance control story. Rates for the other three stories fell somewhere in between. Researchers replicated this same basic pattern of results using different cover stories and procedures.



**Fig. 1.** Percent of participants attributing knowledge across conditions. Except where non-significance is indicated, significance for all comparisons at the  $p < 0.01$  level (from Turri, Buckwalter, and Blouw in press, Experiment 4).



If intuitions about Gettier cases vary this widely — from patterns matching cases of paradigmatic knowledge to patterns matching cases of paradigmatic ignorance — then “Gettier case” is a theoretically useless category. The fact that something is a Gettier case is consistent with its being both overwhelmingly judged knowledge and overwhelmingly judged ignorance.

### **Other applications**

Research on Gettier cases has contributed to at least two other active areas in experimental philosophy. The first area is the relationship between knowledge attributions and other sorts of evaluative judgment. Researchers recently discovered that non-epistemic evaluations can affect knowledge attributions in surprising ways. For example, people are more likely to attribute foreknowledge of a bad outcome than of a good outcome (Beebe and Buckwalter 2010). The basic finding has been extended and replicated many times (Beebe and Jensen 2012; Dalbauer and Hergovich 2013; Turri 2014). For present purposes, the most interesting extension concerns Gettier cases. When comparing Gettier cases that involve bad and good outcomes, researchers have found that people are more likely to attribute knowledge for bad outcomes (Beebe and Shea 2013; Buckwalter 2013). This important finding suggests that knowledge might depend on factors that twentieth-century analytic epistemologists assumed were “non-epistemic.”

The second area is the norm of assertion. Assertion is ubiquitous, unavoidable and extremely important in human society. It is the central means of sharing information and coordinating actions. Unsurprisingly, then, researchers have taken a keen interest in the norm of assertion: under what conditions *should* you make an assertion? The correct answer is that you should assert a proposition only if you know that it’s true. A wealth of theoretical and empirical evidence

supports the knowledge account (Turri in preparation). However, critics charge that the knowledge account is counterintuitive and mischaracterizes our ordinary practice of evaluating assertions. To support these charges, critics have tried to produce counterexamples to the knowledge account. One common strategy is to try to identify cases where we would ordinarily judge that assertability is present even though a necessary condition of knowledge is lacking. For example, critics have claimed that reasonable false beliefs are ordinarily judged to be assertable. But when researchers tested this claim, they found that it mischaracterizes how reasonable false assertions are actually evaluated (Turri 2013b; Turri and Blouw 2014).

An equally popular claim among critics is that “Gettiered” beliefs fall short of knowledge but, intuitively, there is no sense in which you should not assert them (e.g. Hill and Schechter 2007; Lackey 2007; Smithies 2012; Coffman 2014; Pritchard 2014). But when researchers tested this claim, they found that it too mischaracterizes how Gettiered assertions are actually evaluated (Turri under review c). For example, in one experiment people read one of two versions of a story about a woman who sees a barn while driving with her son. In one version she is looking at the only “expensive barn” amidst many “cheap barns.” In the other version she is looking at the only “real barn” amidst many “fake barn facades.” At the end of the story her son points and asks if it is a barn. People were then asked to select which option best describes the agent:

- She knows that it’s a barn, and she should tell her son that it’s a barn.
- She knows that it’s a barn, and she should not tell her son that it’s a barn.
- She does not know that it’s a barn, and she should tell her son that it’s a barn.
- She does not know that it’s a barn, and she should not tell her son that it’s a barn.

People overwhelmingly selected one option as best: she knows that it’s a barn, and she

should tell her son that it's a barn. Which version they read did not affect their response. In the “cheap barn” version 94% selected this option, as did 83% in the “fake barn” version. (For important related findings on knowledge attribution in fake barn cases, see Colaco, Buckwalter, Stich, and Machery 2014.) Across a variety of Gettier cover stories and different procedures for questioning participants, a very strong majority consistently responded by linking knowledge and assertability.

Knowledge attributions are social judgments and many aspects of social cognition, including moral cognition, occur automatically and unconsciously (Bargh, Schwader, Hailey, Dyer & Boothby 2012; Haidt 2007). The overwhelming ratings of knowledge and assertability in fake barn cases suggest that some philosophers have been out of touch with their implicit assessment of such cases when they confidently claim that these are obvious examples of assertability without knowledge. I propose the following hypothesis. These philosophers' intuitions about assertability track their implicit judgments about knowledge, courtesy of their ordinary competence in applying that concept. It seems obvious that the agent should make the assertion *because* she obviously knows. But contemporary philosophers have also been trained to say, perversely, that someone in “fake barn country” obviously lacks knowledge. So the default knowledge judgment is explicitly reversed. These philosophers do not realize that they are explicitly denying the intuitive basis for attributing assertability.

## **Conclusions**

The philosophical literature and lore on Gettier cases is a vast and confusing labyrinth built adventitiously over many decades. Perhaps in an effort to lend credibility to their enterprise,

philosophers invented and nurtured a myth that the literature's founder and namesake vanquished the "classical" definition of knowledge, extending all the way back to Plato, setting off a race to restore balance in the epistemological universe. Philosophers claim that it is obvious that Gettier cases are cases of ignorance. But from the very start this research program has suffered from thought-experimenter bias and it seems likely that philosophers have mischaracterized their own intuitive reaction to some key cases. The nominal category "Gettier case" includes a variety of cases with radical structural differences that are extremely important in both theory and ordinary practice — so important as to render the nominal category, as we have inherited it, utterly useless. Some Gettier cases elicit rates of knowledge attribution exceeding 80%, while others struggle to top 20%. Thus the mere fact that something is a "Gettier case" is consistent with its being both overwhelmingly judged knowledge and overwhelmingly judged ignorance, depriving the category of any diagnostic or predictive value.

Philosophers can learn some important lessons from this saga. They should take precautions to avoid thought-experimenter bias in their research. They should stop grouping into one category cases with radically different causal structures. They should be more careful before proclaiming consensus on an issue and more mindful of the possibility that they lack unproblematic transparent access to their intuitions and attitudes about cases (Carruthers 2011). That there is considerable room for improvement should not obscure the fact that reflecting on Gettier cases has produced valuable insights about the nature of knowledge and knowledge attributions. But the path to discovery was far longer and more difficult than it might have been. More rigorous methodology, humility, and interdisciplinary cooperation would have produced similar insights much more quickly and efficiently. To my mind, this is the most important lesson of all.

*Acknowledgments* — Thanks to Angelo Turri for helpful feedback. This research was supported by the Social Sciences and Humanities Research Council of Canada and an Early Researcher Award from the Ontario Ministry of Economic Development and Innovation.

*Biographical note* — John Turri is a philosopher and cognitive scientist at the University of Waterloo (Ontario). He directs the Philosophical Science Lab (<http://john.turri.org/lab.html>).

*word count: 6660* (main text and references)

## References

Alexander, J. (2012). *Experimental Philosophy*. Cambridge: Polity.

Asch, S. E. (1955). Opinions and social pressure. *Scientific American*, 193(5), 31–35.

Asch, S. E. (1956). Studies of independence and conformity: I. A minority of one against a unanimous majority. *Psychological Monographs: General and Applied*, 70(9), 1–70.  
doi:10.1037/h0093718

Bargh, J. A., Schwader, K. L., Hailey, S. E., Dyer, R. L., & Boothby, E. J. (2012). Automaticity in social-cognitive processes. *Trends in Cognitive Sciences*, 16(12), 593–605.  
doi:10.1016/j.tics.2012.10.002

Beebe, J. R. (2012). Experimental epistemology. In A. Cullison (Ed.), *Continuum companion to epistemology* (pp. 248–269). Continuum.

Beebe, J. R. (Ed.). (2014). *Advances in experimental epistemology*. Bloomsbury Academic.

- Beebe, J. R., & Buckwalter, W. (2010). The epistemic side-effect effect. *Mind & Language*, 25(4), 1–25.
- Beebe, J. R., & Jensen, M. (2012). Surprising connections between knowledge and action: The robustness of the epistemic side-effect effect. *Philosophical Psychology*, 25(5), 689–715. doi:10.1080/09515089.2011.622439
- Beebe, J. R., & Shea, J. (2013). Gettierized Knobe effects. *Episteme*, 10(03), 219–240. doi:10.1017/epi.2013.23
- Bond, R., & Smith, P. B. (1996). Culture and conformity: A meta-analysis of studies using Asch's (1952b, 1956) line judgment task. *Psychological Bulletin*, 119(1), 111. doi:10.1037/0033-2909.119.1.111
- BonJour, L. (2002). *Epistemology: classic problems and contemporary responses*. Rowman & Littlefield.
- Buckwalter, W. (2013). Gettier made ESEE. *Philosophical Psychology*, 1–16. doi:10.1080/09515089.2012.730965
- Buckwalter, W., & Stich, S. (2014). Gender and philosophical intuition. In J. Knobe & S. Nichols (Eds.), *Experimental philosophy* (2nd ed.). Oxford: Oxford University press.
- Carruthers, P. (2011). *The opacity of mind: an integrative theory of self-knowledge*. Oxford: Oxford University Press.
- Chisholm, R. (1989). *Theory of Knowledge* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall.
- Coffman, E. J. (2014). Lenient accounts of warranted assertability. In C. Littlejohn & J. Turri (Eds.), *Epistemic norms: new essays on action, belief and assertion* (pp. 33–59). Oxford University press.

- Colaco, D., Buckwalter, W., Stich, S., & Machery, E. (2014). Epistemic intuitions in fake-barn thought experiments. *Episteme*, 11(02), 199–212. doi:10.1017/epi.2014.7
- Dalbauer, N., & Hergovich, A. (2013). Is What is Worse More Likely?—The Probabilistic Explanation of the Epistemic Side-Effect Effect. *Review of Philosophy and Psychology*, 4(4), 639–657. doi:10.1007/s13164-013-0156-1
- Feldman, R. (2003). *Epistemology*. Upper Saddle River, NJ: Prentice Hall.
- Gettier, E. L. (1963). Is justified true belief knowledge? *Analysis*, 23(6), 121–123.
- Goldman, A. I. (1967). A causal theory of knowing. *Journal of Philosophy*, 64(12), 357–372.
- Goldman, A. I. (1976). Discrimination and perceptual knowledge. *Journal of Philosophy*, 73(20), 771–791.
- Greco, J. (2010). *Achieving knowledge: A virtue-theoretic account of epistemic normativity*. Cambridge: Cambridge University Press.
- Haidt, J. (2007). The New Synthesis in Moral Psychology. *Science*, 316(5827), 998–1002. doi:10.1126/science.1137651
- Haidt, J., Koller, S. H., & Dias, M. G. (1993). Affect, culture, and morality, or is it wrong to eat your dog? *Journal of Personality and Social Psychology*, 65(4), 613. doi:10.1037/0022-3514.65.4.613
- Harman, G. (1973). *Thought*. Princeton: Princeton University Press.
- Hetherington, S. (2013). There can be lucky knowledge. In M. Steup, J. Turri, & E. Sosa (Eds.), *Contemporary debates in epistemology*. (2nd ed.). Malden, Mass.: Wiley-Blackwell.
- Hill, C., & Schechter, J. (2007). Hawthorne's lottery puzzle and the nature of belief. *Philosophical Issues*, 17, 102–122.

- Jackson, F. (1998). *From metaphysics to ethics*. Oxford: Oxford University Press.
- Jackson, F. (2011). On Gettier Holdouts. *Mind & Language*, 26(4), 468–481.
- Kim, M., & Yuan, Y. (n.d.). No cross-cultural differences in Gettier car case intuition: a replication study of Weinberg et al. 2001.
- Lackey, J. (2007). Norms of assertion. *Nous*, 41(4), 594–626.
- Lehrer, K. (1965). Knowledge, truth and evidence. *Analysis*, 25(5), 168–175.
- Lieberman, M. D. (2013). *Social: why our brains are wired to connect*. New York: Crown Publishers.
- Lycan, W. G. (2006). The Gettier problem problem. In S. Hetherington (Ed.), *Epistemology futures* (pp. 148–168). Oxford: Oxford University Press.
- Moser, P. K. (2010). Tripartite definition of knowledge. In J. Dancy, E. Sosa, & M. Steup (Eds.), *A companion to epistemology* (Vol. 771). Wiley-Blackwell.
- Nagel, J., San Juan, V., & Mar, R. A. (2013). Lay denial of knowledge for justified true beliefs. *Cognition*, 1–10. doi:10.1016/j.cognition.2013.02.008
- Nisbett, R. E., Peng, K., Choi, Incheol, & Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review*, 108(2), 291. doi:10.1037/0033-295X.108.2.291
- Pinillos, N. Á. (2011). Some Recent Work in Experimental Epistemology. *Philosophy Compass*, 6(10), 675–688. doi:10.1111/j.1747-9991.2011.00440.x
- Plantinga, A. (1993). *Warrant: the current debate*. Oxford: Oxford University Press.
- Plato. (1997). *Meno*. In J. M. Cooper (Ed.), G. M. A. Grube (Trans.), *Plato: complete works*. Indianapolis: Hackett.



- Pritchard, D. (2005). *Epistemic luck*. New York : Oxford University Press.
- Pritchard, D. (2013). Knowledge cannot be lucky. In M. Steup, J. Turri, & E. Sosa (Eds.), *Contemporary debates in epistemology* (2nd ed., pp. 152–164). Malden, Mass.: Wiley-Blackwell.
- Pritchard, D. (2014). Epistemic luck, safety, and assertion. In C. Littlejohn & J. Turri (Eds.), *Epistemic norms: new essays on action, belief and assertion*. Oxford: Oxford University Press.
- Rosenthal, R., & Fode, K. L. (1963). The effect of experimenter bias on the performance of the albino rat. *Systems Research and Behavioral Science*, 8(3), 183–189.
- Sartwell, C. (1991). Knowledge is merely true belief. *American Philosophical Quarterly*.
- Shatz, M., Wellman, H. M., & Silber, S. (1983). The acquisition of mental verbs: A systematic investigation of the first reference to mental state. *Cognition*, 14(3), 301–321.  
doi:10.1016/0010-0277(83)90008-2
- Shope, R. K. (1983). *The analysis of knowing*. Princeton: Princeton University Press.
- Shope, R. K. (2002). Conditions and analyses of knowing. In P. K. Moser (Ed.), *The Oxford handbook of epistemology* (pp. 25–70). Oxford University Press.
- Smith, R. (2006). Peer review: a flawed process at the heart of science and journals. *Journal of the Royal Society of Medicine*, 99, 178–182.
- Smithies, D. (2012). The Normative Role of Knowledge. *Nous*, 46(2), 265–288.  
doi:10.1111/j.1468-0068.2010.00787.x
- Sosa, E. (1991). *Knowledge in Perspective*. Cambridge: Cambridge University Press.
- Sosa, E. (2007). *A virtue epistemology: Apt belief and reflective knowledge, volume I*. Oxford

University Press.

- Starmans, C., & Friedman, O. (2012). The folk conception of knowledge. *Cognition*, 124(3), 272–283. doi:10.1016/j.cognition.2012.05.017
- Starmans, C., & Friedman, O. (2013). Taking “know” for an answer: A reply to Nagel, San Juan, and Mar. *Cognition*, 129(3), 662–665. doi:10.1016/j.cognition.2013.05.009
- Swain, S., Alexander, J., & Weinberg, J. M. (2008). The Instability of Philosophical Intuitions: Running Hot and Cold on Truetemp. *Philosophy and Phenomenological Research*, 84(1), 138–155.
- Turri, J. (2011). Manifest failure: the Gettier problem solved. *Philosophers' Imprint*, 11(8), 1–11.
- Turri, J. (2012a). In Gettier's wake. In S. Hetherington (Ed.), *Epistemology: The key thinkers*. Continuum.
- Turri, J. (2012b). Is knowledge justified true belief? *Synthese*, 184(3), 247–259. doi:10.1007/s11229-010-9773-8
- Turri, J. (2013a). A conspicuous art: putting Gettier to the test. *Philosophers' Imprint*, 13(10), 1–16.
- Turri, J. (2013b). The test of truth: An experimental investigation of the norm of assertion. *Cognition*, 129(2), 279–291. doi:10.1016/j.cognition.2013.06.012
- Turri, J. (under review a). Evidence of factive norms of belief and decision.
- Turri, J. (under review b). Knowledge and the norm of assertion: a simple test.
- Turri, J. (under review c). Knowledge and assertion in “Gettier” cases.
- Turri, J. (in preparation). Knowledge and the norm of assertion: an essay in philosophical science.

Turri, J., & Blouw, P. (2014). Excuse validation: a study in rule-breaking. *Philosophical Studies*.  
doi:10.1007/s11098-014-0322-z

Turri, J., & Buckwalter, W. (under review). Descartes's schism, Locke's reunion: completing the pragmatic turn in epistemology.

Turri, J., Buckwalter, W., & Blouw, P. (in press). Knowledge and luck. *Psychonomic Bulletin & Review*.

Zagzebski, L. T. (1996). *Virtues of the mind: an inquiry into the nature of virtue and the ethical foundations of knowledge*. Cambridge: Cambridge University Press.