

Chapter 1

The Analysis of Knowledge

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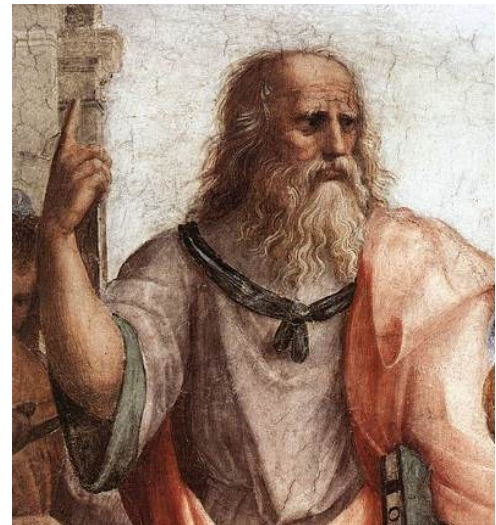
Chapter Learning Outcomes

Upon completion of this chapter, readers will be able to:

1. *Identify* the main types of knowledge, the relationships among them, and their distinguishing characteristics.
2. *Evaluate* analyses of concepts, in particular the traditional analysis of knowledge.
3. *Assess* the value of conceptual analysis, including its relevance to other topics in epistemology.
4. *Explain* the role of analysis in shaping the history of the field.

Introduction: Conceptual Analysis

Knowledge is the central concept of traditional epistemology. But what *is* knowledge? This is the most basic question about the central concept, and so the appropriate starting place. Answers traditionally come in the form of **conceptual analysis**: a set of more basic concepts out of which the analyzed concept is built, arranged to form a definition. The concept “square,” for example, is analyzable into components such as “four-sided figure,” “right-angled,” and “equilateral.”¹ Our focus here is the analysis of knowledge. But we’ll also consider critiques of this focus, which yield useful insights and prompt new directions of inquiry. The chapter closes with a reflection on the value of epistemological conceptual analysis.



Kinds of Knowledge

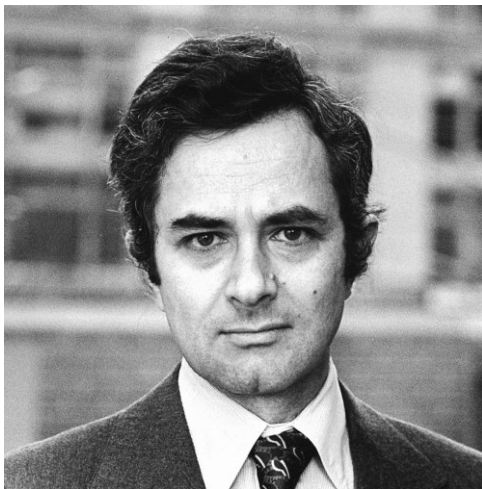
Before undertaking analysis, our target concept needs refinement. “Knowledge” is an umbrella term, capturing a family of related meanings:

1. **Ability (procedural) knowledge**: knowledge-*how* (e.g., I know how to ride a bike.)
2. **Acquaintance knowledge**: knowing a person, place, or thing (e.g., Plato² knew Socrates. He also knew Athens well.)

3. **Phenomenal knowledge:** knowing “what it’s like” to have a given experience (e.g., Stella knows what strawberries taste like.)
4. **Propositional knowledge:** knowledge-*that* (e.g., Everybody reading this chapter knows that it is about knowledge.)

What the first three have in common is that they require direct experience with their objects. I know how to ride a bike because I’ve had practice; I don’t know how to fly a plane, since I lack training—despite having memorized the manual. Plato knew Socrates and Athens because he studied under the man and lived in the city; Plato knew neither Homer nor London because he neither met the poet nor visited the place. Plato knew *of* Homer, and propositions *about* him, but nothing concerning London. Stella knows what strawberries taste like (having eaten them before), but not what it’s like to be a bat given her lack of bat experiences (see Box 1).³

Box 1 – Nagel’s Bat



In his influential 1974 paper “What Is It Like to Be a Bat?” philosopher Thomas Nagel explains that for something to be conscious, “there is something it is like to *be*” that thing—“something it is like *for*” that thing to be (436).⁴ Thus, consciousness essentially has a “subjective character” in that it requires a first-person “point of view.” As such, no conscious state can be fully grasped or explained from the purely objective third-person perspective (nor from a God’s eye “view from nowhere”). From this, Nagel draws a metaphysical conclusion: that the mental cannot be reduced to the physical. More pertinent to this chapter is an important epistemological implication: that we cannot *know* “what it’s like” to have experiences that are radically unlike those we’ve actually had. He uses his now-famous bat example to illustrate:

Bats, although more closely related to us than those other species, nevertheless present a range of activity and a sensory apparatus so different from ours that the problem I want to pose is exceptionally vivid (though it certainly could be raised with other species). Even without the benefit of philosophical reflection, anyone who has spent some time in an enclosed space with an excited bat knows what it is to encounter a fundamentally alien form of life.

I have said that the essence of the belief that bats have experience is that there is something that it is like to be a bat. Now we know that most bats (the microchiroptera, to be precise) perceive the external world primarily by sonar, or echolocation, detecting the reflections, from objects within range, of their own rapid, subtly modulated, high-frequency shrieks. Their brains are designed to correlate the outgoing impulses with the subsequent echoes, and the information thus acquired enables bats to make precise discriminations of distance, size, shape, motion, and texture comparable to those we make by vision. But bat sonar, though clearly a form of perception, is not similar in its operation to any sense that we possess, and there is no reason to suppose that it is subjectively like anything we can experience or imagine. This appears to create difficulties for the notion of what it is like to be a bat. (438)

Whereas Eastern and some recent Western epistemology emphasize experiential knowledge (see Monica C. Poole on feminist epistemologies in Chapter 8 of this volume), traditional Western epistemology emphasizes propositional knowledge.⁵ Such knowledge can be expressed with a *that*-clause, which expresses a **proposition**: a statement or claim with a **truth value** (that is, something that is either true or false).⁶ The proposition that this chapter is about knowledge is true; the proposition that it's about waterfall photography is false.⁷

Propositional knowledge can be interpersonally communicated or acquired by evidence or argument. By contrast, experiential knowledge can be neither argued for nor linguistically transferred. Try as I might to describe the taste of strawberries, it's not the same as knowing what they're like. Someone who has never had the pleasure will still learn something new upon their first bite.

Despite the importance of experiential knowledge, we'll explore the traditional approach in this chapter. For brevity's sake, then, "knowledge" here refers to the propositional variety.

The Traditional Analysis

The most influential analysis of propositional knowledge derives from Plato (ca. 428–347 BCE). In his *Meno* dialogue, Plato's character Socrates (modeled after his real-life teacher) argues that "knowledge differs from correct opinion in being tied down" by "an account of the reason why" ([ca. 380 BCE] 2009, 98a).⁸ Table 1 below shows how this translates into modern parlance.

Table 1 – Platonic to Modern Translation

Platonic Term	Modern Term	Abbreviation
Opinion	Belief	B
Correct	True	T
Account of the reason why (<i>logos</i>)	Justification	J
Knowledge	Knowledge	K

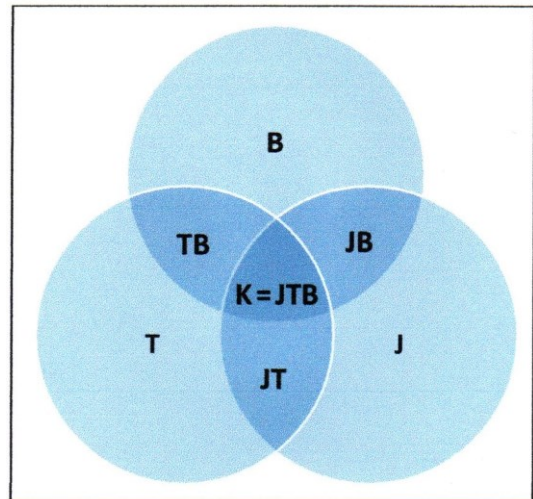


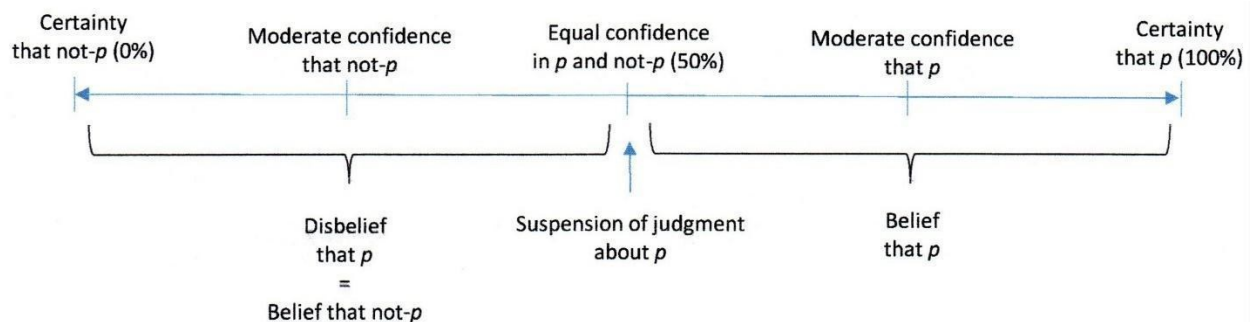
Figure 1 – The Traditional Analysis

This translation yields the **traditional analysis of knowledge**, or “**JTB**” analysis: knowledge is “justified true belief.” On this account, there are three concepts that pairwise overlap, and knowledge is the convergence of all three (see figure 1 above). Let’s consider each in turn.

A. Belief

Belief (in this context⁹) means accepting the proposition as true (equivalently: *assenting* to the proposition, *thinking* that it’s true, *agreeing* with it, or holding it as an *opinion/view*). Belief can range from a slight leaning to moderate assurance to absolute certainty—the entire positive half of the confidence spectrum (see Jonathan Lopez on degrees of belief in Chapter 6 of this volume).¹⁰ Belief excludes both the negative half of the spectrum (**disbelief**, or belief that the proposition is false) and the neutral, halfway point (**suspending/withholding judgment**).¹¹ Belief, disbelief, and suspension are the main **doxastic attitudes** (stances on the truth value of a proposition).

Figure 2 – The Doxastic Spectrum



On the traditional analysis, knowing a proposition requires believing it. If a truth you’ve never thought of is “out there” awaiting discovery, you don’t know that truth. If you are now thinking about it but form no opinion (suspension), you still do not know. This is why, when asked about the truth value in cases of suspension, the natural answer is “I don’t know.” And if you have settled your opinion *against* the proposition (*disbelief*), you again do not know it. Suppose I ask, “Do you know that Marie Curie led the underground railroad?” You won’t say, “Yes, I do know that.” Instead, you’ll deny it, perhaps offer a correction. This reaction is not best explained by what is *actually* correct but by what you *believe* is correct, since you would respond in the same manner if the question were instead about a matter on which you were convincingly misled (say, by reading a misprint in a seemingly trustworthy textbook). Bringing these points together gives us a process-of-elimination argument. So far, we have determined that you lack knowledge of (a) propositions you have not considered, (b) propositions on which you suspend judgment, and (c) propositions you disbelieve. The only remaining candidates for knowledge are propositions you do believe, such as that Marie Curie did *not* lead the underground railroad but Harriet Tubman *did*.

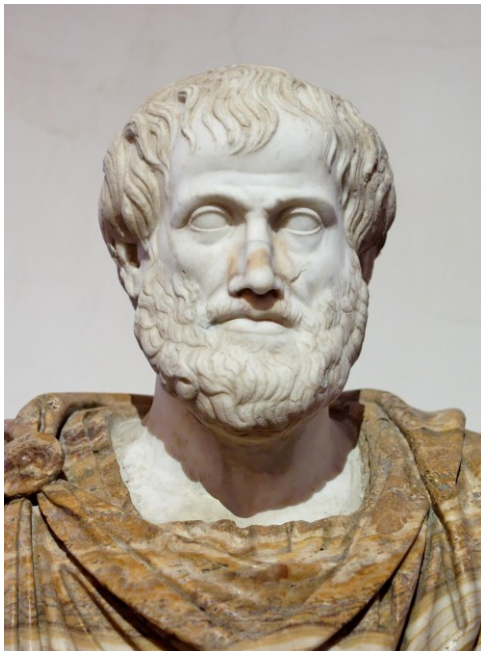
A word of caution: people often speak loosely. **Loose talk** is language that is inaccurate by strict literal standards—such as metaphor, hyperbole, approximation, and ellipsis (word omission). This phenomenon sometimes causes mistaken evaluations of conceptual analyses, since the aim of analysis is the strict literal truth. Consider the expression “I don’t believe it; I know it.” A natural interpretation is

that one doesn't *merely* believe it, where "merely" is omitted to achieve brevity (and for rhetorical effect). We use such elliptical speech routinely. Consider: "She's not good at math; she's great!" But if she's not even good, she's not great, since greatness is a degree of goodness. Let's rephrase: "She's not *just* good at math; she's great." This illuminates what was previously disguised—that the "not" negates a lesser degree rather than goodness altogether.¹²

B. Truth

Belief is one thing; truth is another. There are unbelieved truths (the Earth was an oblate spheroid long before it occurred to anyone) and believed falsehoods (such as Ptolemy's geocentric model of the universe). The problematic phrase "true for me" confuses this issue. Ptolemy's view may have been "true for him," but this merely means he accepted it, not that it was actually true.

Acceptance and truth can come apart because human opinion is not a perfect measure of reality. We are capable of mistakes. Acknowledging this is not a weakness but an expression of **intellectual virtues** (such as intellectual honesty and humility) that motivate inquiry, open-mindedness, and collaboration. Just as we sometimes recognize our own mistakes, we sometimes recognize that others are mistaken. The situation may require speaking up about this (in an appropriate fashion); in other cases, we should keep it to ourselves. Either way, prospective falsehood is why it's a bad idea to believe just anything anyone says. We often need to reflect for ourselves and formulate beliefs independently. Between intellectual deference and autonomy lies virtuous inquiry. (For more on social dimensions, see William D. Rowley on social epistemology in Chapter 7 of this volume.)



But what is truth? In Aristotle's famous words, "To say of what is that it is not, or of what is not that it is, is false, while to say of what is that it is, and of what is not that it is not, is true" (1011b).¹³ This is an ancient precursor to a popular modern starting point—the **Correspondence theory**: a proposition is true if it corresponds to reality, and false otherwise. While there are alternative theories, it is possible to interpret them as different takes on "correspondence." Details won't matter here.¹⁴

Only true beliefs can qualify as knowledge on the traditional analysis. Suppose you claim to know the answer to a trivia question. The answer is revealed and you got it wrong. Your friend exclaims, "See, you didn't know it!" This reaction is perfectly natural because false belief isn't knowledge. This explains why teachers often grade factual questions based on whether students give correct answers: their purpose in such cases is to test knowledge, and whether students answer correctly is such a test—precisely because of the truth condition on knowledge.

Again, loose talk skews intuition. Several books and a Weird Al Yankovic album are titled *Everything You Know Is Wrong*. Even Mark Twain purportedly quipped, “It ain’t what you don’t know that gets you into trouble. It’s what you know for sure that just ain’t so.” However, Shakespeare’s King of Denmark had it right when he proclaimed, “what we know must be” (*Hamlet*, I.ii.98). For, if it ain’t so, you don’t really know it. At best, you merely *think* you know it. Knowledge is **factive** (entails truth), whereas belief is non-factive (possibly wrong).¹⁵

C. Justification

We’ve seen that knowledge requires true belief. But even true beliefs can be unjustified. A **justification** is a good reason for belief (see Todd R. Long in Chapter 2 of this volume for theoretical accounts). On the traditional analysis, justification is necessary for knowledge. To understand why, suppose you are playing trivia again (apparently, you’re hooked):

“What is the name of those tiny bumps on blackberries?”

Your guess: Choice D – Druplets.

Desperate to win, you rationalize: “Yeah, this *has* to be right.”

The answer is revealed, prompting your proud reaction: “See, I *knew* it!”

Your friend remarks, “No, you didn’t. You were just guessing!”

Your friend’s response is natural. Absent good reason, one does not know.

Plato offered an analogy. Consider the statues of the mythical inventor and sculptor Daedalus, which were said to be so realistic they could run away.¹⁶ Unless they were tethered down, you never knew where to find them. Mere true beliefs are akin to the untethered statues: they are sometimes found by sheer luck. Justification is similar to the tethering: it anchors true beliefs in good reasons, turning them into knowledge. Another oft-used analogy is that justification functions as a good road map to the desired destination (truth). Knowledge, like the successfully navigated journey, like the tethered statues, enjoys a kind of stability. This makes evident why justification plays a crucial role in the value of knowledge (see Guy Axtell in Chapter 5 of this volume on epistemic value).

Here, too, loose talk misleads: “The thermometer ‘knows’ the temperature”—but surely lacks justification. The justification condition is also dubious if inflated, as in Plato’s description. Knowledge doesn’t require “an account of the reason *why*” a belief is true so much as a reason *that* it’s true.¹⁷ One can know *that* a computer works but be clueless *why*. A reason-*that* need not be sophisticated. No argument or scientific demonstration is necessary. Just turn on the computer and see it working, recall this from



memory, or be told by the technician testing it. Nor do good reasons have to be perfect. The concept *good* is weaker than *perfect* (maximally good). If perfect reasons were required, justification would be impossible (mere mortals are always subject to error).¹⁸ Tolerating imperfect reasons fits everyday judgments. In grade school, I had reason to believe Newtonian physics: I had testimony from trustworthy teachers and textbooks and no reason to suspect oversimplification. My belief was justified—a belief I now recognize as false given quantum mechanics and Einsteinian relativity. Justified beliefs can be false—a view called **fallibilism**.¹⁹ For this reason, a separate truth condition on knowledge is not redundant.

Another challenge to the justification condition is the common attribution of knowledge to infants and (non-human) animals. Are such attributions mere loose talk? It’s unclear. Do infants and animals have a kind of weak justification? Difficult to say. Perhaps they know without justification. If so, we can distinguish two kinds of knowledge. Infants and animals have **lightweight knowledge** (true belief) but lack **heavyweight knowledge**—the kind we seek beyond mere correct opinion, where guessing and poor reasoning are precluded (Hawthorne 2002). The traditional analysis is meant to capture this heavyweight variety.

Table 2 – Justification: The Fine Print

To equate the justification condition with having good reasons is a simplification. According to the standard fine print, the belief must be:	Explanation	Examples
Properly based on ...	It is possible to have a justification but fail to use it. One might instead base one’s belief on something unjustified. Knowledge requires believing <i>because of</i> good reasons.	I know a mathematical proof of the Pythagorean theorem. But suppose I don’t care about that. I like the word “Pythagorean” and have an odd habit of believing anything appealingly expressed. My belief would not be properly based.
good epistemic reasons ...	Pragmatic (prudential) reasons are considerations that provide a practical benefit. Pragmatic reasons provide pragmatic (prudential) justification . Knowledge, specifically its epistemic justification component, requires epistemic reasons (ones that are truth-directed).	I believe my favorite sports team will win because the thought makes me happy. This is a pragmatic reason, not epistemic. It won’t help me know who will win. If I discover the game has been rigged in my team’s favor, I won’t be happy. This reason is not pragmatic, but it is epistemic: it could give me knowledge of who will win.

of sufficient strength ...	Good epistemic reasons can be weak (e.g., making the proposition more slightly probable than not). Knowledge may require sufficiently strong justification (though how this degree is determined is up for debate).	There is a 51% chance that the next marble randomly drawn from the urn will be blue. I have a weak epistemic reason but do not <i>know</i> that it will be blue.
that are undefeated.	Even strong epistemic reasons can be outweighed or undermined by competing reasons (defeaters). If so, one's justification is defeated. Only undefeated justification can supply knowledge.	I see the flower before me. It appears rose-colored. I have strong epistemic reason for believing it is rose-colored—until I realize someone has planted rose-colored glasses on my face. My initial reason is defeated, and I don't know whether the flower is really rose-colored (even if luckily it is).

Counterexamples to the Traditional Analysis



Since justification seems to distinguish mere true belief from (heavyweight) knowledge, its addition completes the analysis—or so it seemed to many for 2400 years! The JTB analysis became Western philosophical heritage until Edmund Gettier²⁰ (1927–2021) with his three-page article in 1963.²¹

Gettier argued against the traditional analysis by **counterexamples** (examples that refute). His counterexamples are cases of JTB that aren't knowledge. Since the original examples are intricate, we will consider more straightforward examples with the same gist. Such examples are called **Gettier cases**.

You're driving through sheep country. Passing a field, you seemingly see a sheep and think, "There's a sheep in the field."²² Normally, this suffices for knowledge: you have a belief, a visual perception supports it, and there's a sheep in the field. The kicker: you're looking at a sheep-shaped rock,²³ or a wolf²⁴ in sheep's clothing!²⁵ There's no way to tell from your angle. You have no reason to suspect. How is it true, then, that there's a sheep in the field? Unbeknownst to you, there happens to be one out of sight, in some far-off corner of the field. Intuitively, you don't know there's a sheep.



You may not initially share this intuition (I didn't at first). Sometimes intuitions need to be massaged or pumped before they surface. Here's an **intuition pump**. Consider a revised scenario: the real sheep has been removed. Since it was out of sight, you won't be able to detect any change. So, *for all you know*, nothing has changed. This means your state of knowledge should be the same as before. But in the revised scenario, it's clear you don't know: a sheep you don't know about can't help you know there's a sheep. Since your state of knowledge is untouched by the revision, you didn't know in the first place.



Thinkers had discovered this **Gettier problem** long before Gettier rediscovered it and made it famous, including the fourteenth-century Italian logician Peter of Mantua (Boh 1985). As early as the eighth century, the Buddhist philosopher Dharmottara devised a case: a desert traveler seeing a water mirage

where there is real water underneath a rock has a justified true belief without knowledge (Dreyfus 1997). Spanning time and culture, such intuitions are widely and independently attested.

Box 2 – The Lottery Problem

Lottery cases present a further challenge to the JTB analysis. Suppose you have a ticket in the state lottery. You haven't checked whether it has won. But you reason that it's a losing ticket, given that it's only one of many millions. And you're right: you lost. You have a justified true belief, but as the New York State lottery motto says, "Hey, you never know."

Assuming the motto is apt, one might explain lack of knowledge via the JTB analysis by denying justification for the belief that you lost. Perhaps what's justified is merely the belief that you *probably* lost. Unfortunately, this subtle move doesn't clearly solve the problem so much as shift it to a separate problem for justification. Just as you can be wrong about whether you lost, you can be wrong about the probability of losing. So, the very same move plausibly suggests that what's justified is merely the belief that it's *probable that you probably* lost—a belief which then succumbs to the same problem all over again. An infinite regress is generated, leaving no belief unscathed.

Questions about justification aside, what's fundamentally troubling here is that like lottery beliefs, *all* beliefs seem based on some uncertainty (assuming fallibilism). Even after you check the ticket numbers, you could have misread them, they could have been misreported, or you are dreaming the results. **The lottery problem**, noted Gilbert Harman (1968), thus potentially threatens that we literally "never know" —*anything*.

One escape route is to maintain that we *do* know in lottery cases. After all, many people never bother with lottery tickets. When explaining why, it can seem natural to say something like, "There's never a real chance of winning those things. To be realistic, I *know* I'd lose." On the other hand, few would bother purchasing tickets if they *knew* they'd lose ahead of time. So, it appears, intuition can cut both ways.

What do *you* think about knowledge attributions in lottery cases?

Revised Analyses

Gettier never published a solution to his own problem, but he did prompt others to search for a fourth condition on knowledge. The idea is that knowledge is JTB *plus* some extra condition that rules out the problematic cases—**JTB+ accounts**. There's insufficient space to review these proposals here. Suffice it to say that the extra condition remains elusive. Perhaps the problem is that JTB+ carves up knowledge

such that the + fails to match any natural concept. Cut out all the best-decorated pieces from a birthday cake; those portions may be nice. But the remainder has no identifiable shape.



Returning to Plato's footsteps, it may be more promising to seek what distinguishes true belief from knowledge—a **TB+ account**. As Alvin Plantinga defined the term, **warrant** is that "elusive quality or quantity enough of which, together with truth and belief, is sufficient for knowledge" (1993, v).²⁶ It follows that knowledge is sufficiently warranted true belief, yielding an **sWTB account**. Now our question shifts: What is warrant?

This shift has potential advantages. First, while the sWTB approach is compatible with JTB+ accounts, it is also compatible with abandoning the justification condition, as some prefer.²⁷ So, sWTB may bypass this debate. Second, there's a kind of unity to warrant that justification lacks. To see this, we need to explore the concept of **epistemic luck**: the kind of luck that affects one's epistemic status.

Let's take stock of the various forms of epistemic luck. Gettier cases are ones in which good luck cancels bad (Zagzebski 1994). In the sheep case, you're unluckily misled by a sheep shape over here, but luckily this mistake is corrected by a real sheep over there. By contrast, lottery cases seem better construed as involving a single element of chance. Luck in Gettier and lottery cases doesn't threaten justification. So, plausibly, the luck involved in acquiring truth via unjustified belief (e.g., pure guesswork) is yet another kind.

Matters aren't so simple. Some epistemic luck *contributes positively* to knowledge. Suppose you read a newspaper and tell me all about it. I attribute knowledge to you. When I find out that you only read it because you luckily won a free subscription, I am not inclined to retract my knowledge attribution. This knowledge is founded on *good* epistemic luck, the kind which enables one to be lucky to know. **Veritic luck** is the knowledge-precluding kind, which includes all of the various forms identified in the previous paragraph: Gettier-luck, lottery-luck, and lucky guessing (Engel 1992). One fascinating aspect of warrant, unlike justification, is that warrant rules out all and only veritic luck.

But what connection between belief and truth accomplishes this? What exactly are the conditions that secure warrant and exclude veritic luck, resulting in knowledge? We don't have space to explore all candidates. I'll mention one promising direction as an example, which draws the parallel between belief and action. Imagine an expert archer, Artemis (the Greek goddess of wild animals and the hunt, also known as the Roman goddess Diana).²⁸ Her aim is perfect. Her release is perfect. The arrow is going to hit the bullseye—until Poseidon (the Greek god of the sea) mischievously slams his trident into the seabed, causing an earthquake, which shifts the target. A simultaneous gust of wind from the breath of Aeolus (the keeper of the winds) alters the arrow's path, serendipitously correcting course. In this scenario, skilled Artemis sees success, yet her skill is not the reason for success. Whenever her success is instead attributable to skill, it is to her credit rather than luck. Similarly, perhaps knowledge is "credit for true belief" (Greco 2003). Knowledge is achieved when intellectual skill/excellence/virtue manifests in success (truth). So, knowledge is virtuously achieved true belief (Sosa 1980). From this observation originates **virtue epistemology**, the study of intellectual virtue and its relationship to knowledge.



Conclusion: Post-Gettier Epistemology

Fast-forward several decades. Thousands of pages of ink have been spilled on the fourth condition, warrant, veritic luck, the knowledge-yielding virtues, and so forth. Some believe they have the solution. Others continue to pursue new solutions. Perhaps you will be the one to find it! For now, there's no agreed-upon answer. We live in a post-Gettier age: the problem no longer occupies center stage. Still, it inspired what came next.



In the aftermath, some epistemologists came to suspect that knowledge is not subject to analysis—that no component can be added to (J)TB to get knowledge (Zagzebski 1994). If true, this doesn't render knowledge mysterious. Some concepts are basic, and perhaps knowledge is one of them. Yes, knowledge may entail JTB, but this does not mean it can be divvied into neat chunks that seamlessly reassemble without remainder. This gave birth to **knowledge-first epistemology**, advocated most prominently by Timothy Williamson (2000).²⁹

Others abandoned concern with knowledge altogether. What Gettier (and lottery) cases reveal, they say, is that knowledge is a concept with quirks. Who cares whether one is Gettiered (or “lotteried”)? What matters is acquiring the truth, having good reasons, or achieving intellectual virtue more generally (e.g., understanding, open-mindedness, curiosity, humility).³⁰ Thus, virtue epistemologists began investigating the intellectual virtues in their own right (Zagzebski 1996).

Whatever tack one takes, there is one remarkable thing on which we can agree: Gettier’s little paper permanently transformed the world of epistemology. It planted seeds in an ever-growing garden of fruitful new directions, producing some of the most fascinating work the field has seen: work on epistemic luck, epistemic value, intellectual virtue, and more. Thus, conceptual analysis, even when unsuccessful, reveals insight. Much of what follows in this book we owe in large part to that.

Questions for Reflection

1. Practice conceptual analysis. Choose a concept that seems relatively easy to break into a short list of components (e.g., a mathematical object). First, produce a simplistic analysis. Second, offer a counterexample to it. Third, revise the analysis to avoid the counterexample. Repeat the process until you are satisfied with the result.
2. Return to figure 1. Notice that there are eight distinct bounded regions in the Venn diagram (including the space outside all three circles, which represents unjustified false non-beliefs). State one proposition that you can confidently place in each region.
3. In Philosophy 101, students are often reluctant to formulate their own philosophical views. One oft-cited reason is that the arguments for a given view, though strong, are not “definitive” or “conclusive.” They don’t “prove” the conclusion with “100% certainty.” Given what was said about justification in this chapter, what epistemological mistake(s) might this exhibit?
4. Consider the following speech excerpt from former US Secretary of State Donald Rumsfeld (during a 2002 press conference about weapons of mass destruction and the War in Iraq):

As we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns—the ones we don’t know we don’t know. (Graham 2014)

Write a few paragraphs analyzing Rumsfeld’s claims about knowledge. What do they mean (setting aside political context)? Do you agree? Try to use examples and the JTB analysis (as an approximation to knowledge) to justify your view.

5. Construct your own Gettier case. Hint: Use Zagzebski’s recipe: (a) start with something you think you know but could possibly be wrong about; (b) add an element of bad luck to make your belief turn out false; then (c) add an element of good luck to cancel out the bad luck, making it true after all.

6. The Gettier Game: Whenever you or someone you know has good reason to believe something but finds out later that something weird happened that made it turn out to be true by some sheer act of dumb luck, record it on a sheet of paper. Do this until you've found several Gettier cases. Then reflect on the rate. How common do such cases occur in real life? Given the frequency, do you think JTB is at least a good working approximation for knowledge?

(Note: In graduate school at the University of Rochester, my fellow grad students and I played something like this game. We kept a running tally in our department lounge of days since one of us had been Gettiered. As soon as it happened, we'd reset the tally to zero. It never got very high.)

7. What is the value of analyzing concepts? Would an analysis of knowledge (whether partial or complete) be useful for answering other epistemological questions? Can failed attempts to provide an analysis nevertheless provide some illumination? Keep these questions in mind as you read further chapters in this volume.

Further Reading

Engel, Mylan Jr. n.d. "Epistemic Luck." In *The Internet Encyclopedia of Philosophy*.
<https://www.iep.utm.edu/epi-luck/#H1>.

Gettier, Edmund L. 1963. "Is Justified True Belief Knowledge?" *Analysis*, 23 (6): 121–3.
<https://fitelson.org/proseminar/gettier.pdf>.

Graham, David A. 2014. "Rumsfeld's Knowns and Unknowns: The Intellectual History of a Quip." *The Atlantic*, March 27, 2014. <https://www.theatlantic.com/politics/archive/2014/03/rumsfelds-knowns-and-unknowns-the-intellectual-history-of-a-quip/359719/>.

Hetherington, Stephen. n.d. "Gettier Problems." In *The Internet Encyclopedia of Philosophy*.
<https://www.iep.utm.edu/gettier/>.

Plato. (ca. 380 BCE) 2009. *Meno*. Translated by Benjamin Jowett. The Internet Classics Archive.
<http://classics.mit.edu/Plato/meno.html>.

———. (ca. 369 BCE) 2013. *Theaetetus*. Translated by Benjamin Jowett. Urbana, IL: Project Gutenberg.
<https://www.gutenberg.org/files/1726/1726-h/1726-h.htm>.

Glossary

Ability (procedural) knowledge: Knowledge-*how*.

Acquaintance knowledge: Knowing a person, place, or thing.

Belief: In the context of this book (unless otherwise specified), "belief" refers to "belief-*that*," which is the acceptance of a proposition's truth. In other contexts, "belief" can refer to "belief-*in*," which need

not have a proposition as its object (e.g., “I believe in you.”). In contrast to belief-*that*, belief-*in* is not purely cognitive but has an affective component (e.g., hope or trust).

Belief-*that*: The acceptance of a proposition’s truth.

Conceptual analysis: The breaking down of a concept into more basic conceptual components, arranged to form a definition.

Correspondence theory: The view that a proposition is true when it corresponds to reality and false otherwise.

Counterexample: An example that refutes a claim or argument.

Defeater: That which cancels justification (a justification defeater) or knowledge (a knowledge defeater).

Disbelief: The belief that the corresponding proposition is false.

Doxastic attitude: A stance on the truth value of a proposition (belief, disbelief, or suspension of judgment).

Epistemic justification: The kind of justification necessary for knowledge, requiring good epistemic reasons.

Epistemic luck: Any kind of luck that positively or negatively affects one’s epistemic status.

Epistemic reason: A truth-indicative reason—the kind necessary for epistemic justification.

Factive: That which entails the truth of its propositional object.

Fallibilism (about justification): The view that justification does not entail truth.

Fallibilism (about knowledge): The view that knowledge-level justification (the level required for knowledge, which is perhaps more stringent than ordinary justification) does not entail truth.

Gettier case: A case of the sort made famous by epistemologist Edmund Gettier. It occurs when an element of bad epistemic luck is canceled by good epistemic luck, so that it is a justified true belief but not knowledge.

Gettier problem: The problem of how to handle Gettier cases in the analysis of knowledge.

Heavyweight knowledge: The kind of knowledge that requires more than mere correct opinion.

Intellectual virtue: A good intellectual trait, such as open-mindedness, intellectual humility, intellectual honesty, curiosity, or understanding.

Intuition pump: A device that helps bring out or strengthen an intuition.

JTB+ account: The view that knowledge is justified true belief plus some fourth condition to rule out Gettier cases (and perhaps lottery cases).

Justification: Good reasons for belief.

Knowledge-first epistemology: The view that knowledge is conceptually basic (and hence the starting point for epistemological theorizing), usually in conjunction with the claim that knowledge is of primary epistemic value (rather than, say, justification or warrant).

Lightweight knowledge: True belief.

Loose talk: Speech that is not strictly true (e.g., figurative, hyperbolic, approximate, or elliptical speech).

Lottery case: A case in which a justified belief is true on probabilistic grounds (often thought to be a counterexample to the JTB analysis).

Lottery problem: The problem of how to handle lottery cases in the theory of knowledge.

Phenomenal knowledge: Knowledge of what it's like to have a given experience.

Pragmatic (prudential) justification: The kind of justification provided by good pragmatic reasons.

Pragmatic (prudential) reason: A practical benefit of a belief or action.

Proper-basing condition: The requirement that a belief be formed or held in the right way for the right reasons.

Proposition: A statement or claim—something which has a truth value (i.e., is either true or false).

Propositional knowledge: Knowledge-*that* (where the *that*-clause expresses a proposition).

Suspending/withholding judgment: Remaining neutral about whether or not a proposition is true, neither believing nor disbelieving the proposition.

sWTB account: The view that knowledge is sufficiently warranted true belief.

TB+ account: The view that knowledge is true belief plus some third condition, often called "warrant" (or more accurately, "sufficient warrant," to allow that some minimum degree of warrant may be needed for knowledge). So, the view that knowledge is sufficiently warranted true belief, or sWTB, is an

example of a TB+ account (where sW fills in the +). The traditional JTB analysis is another example (where J fills in the +). A JTB+ account is a third (where J partially fills in the original +, with some still-unspecified remainder represented by a new +). (Note the possibility that an sWTB account is also a JTB+ account—but only if sW = J+. Those who prefer to theorize in terms of “warrant” often reject that equation, and sometimes reject the justification requirement on knowledge altogether.)

Traditional analysis of knowledge (or JTB analysis): The view that knowledge is justified true belief—a modern interpretation of Plato’s view.

Truth value: One of two possible values that a given proposition can take with respect to whether or not it is true. “True” is one possible truth value; “false” is the other. (Note that this assumes the standard or “classical” commitment to the principle of “bivalence,” according to which there are exactly two possible truth values. Some “non-classical” views reject bivalence by maintaining, for example, that there are additional, intermediate truth values, such as “half-true,” “mostly true,” or “mostly false.”)

Veritic luck: Knowledge-precluding luck.

Warrant: That which when added (in sufficient degree) to true belief yields knowledge.

References

- Aristotle. (ca. 350 BCE) 2009. *Metaphysics*. Translated by W. D. Ross. The Internet Classics Archive. <http://classics.mit.edu/Aristotle/metaphysics.html>.
- Boh, Ivan. 1985. “Belief, Justification and Knowledge: Some Late Medieval Epistemic Concerns.” *Journal of the Rocky Mountain Medieval and Renaissance Association* 6: 87–103.
- Chisholm, R. M. 1966. *Theory of Knowledge*. Englewood Cliffs, NJ: Prentice Hall.
- Dreyfus, George B. J. 1997. *Recognizing Reality: Dharmakirti’s Philosophy and its Tibetan Interpretations*. Albany, NY: SUNY Press.
- Engel, Mylan Jr. 1992. “Is Epistemic Luck Compatible with Knowledge?” *Southern Journal of Philosophy* 30 (2): 59–75.
- Gettier, Edmund L. 1963. “Is Justified True Belief Knowledge?” *Analysis* 23 (6): 121–3.
- Glanzberg, Michael. 2018. “Truth.” In *The Stanford Encyclopedia of Philosophy*, edited by Edward N. Zalta. <https://plato.stanford.edu/archives/fall2018/entries/truth/>.
- Greco, John. 2003. “Knowledge as Credit for True Belief.” In *Intellectual Virtue: Perspectives from Ethics and Epistemology*, edited by Michael DePaul and Linda Zagzebski, 111–34. New York: Oxford University Press.

- Harman, Gilbert. 1968. "Knowledge, Inference, and Explanation." *American Philosophical Quarterly* 5 (3): 164–73.
- Hawthorne, John. 2002. "Deeply Contingent A Priori Knowledge." *Philosophy and Phenomenological Research* 65 (2): 247–69.
- Hazlett, Allan. 2010. "The Myth of Factive Verbs." *Philosophy and Phenomenological Research* 80 (3): 497–522.
- Moon, Andrew. 2017. "Beliefs Do Not Come in Degrees." *Canadian Journal of Philosophy* 47 (6): 760–78.
- Nagel, Thomas. 1974. "What Is It Like to Be a Bat?" *Philosophical Review* 83 (4): 435–50.
- Plantinga, Alvin. 1992. *Warrant: The Current Debate*. New York: Oxford University Press.
- . 1993. *Warrant and Proper Function*. New York: Oxford University Press.
- Plato. (ca. 380 BCE) 2009. *Meno*. Translated by Benjamin Jowett. The Internet Classics Archive. <http://classics.mit.edu/Plato/meno.html>.
- . (ca. 369 BCE) 2013. *Theaetetus*. Translated by Benjamin Jowett. Urbana, IL: Project Gutenberg. <https://www.gutenberg.org/files/1726/1726-h/1726-h.htm>.
- Radford, Colin. 1966. "Knowledge: By Examples." *Analysis* 27 (1): 1–11.
- Ryle, Gilbert. 1949. *The Concept of Mind*. Chicago: University of Chicago Press.
- Shakespeare, William. (ca. 1600) 1998. *Hamlet*. Edited by Sylvan Barnet. New York: Signet Classics.
- Sosa, Ernest. 1980. "The Raft and the Pyramid: Coherence versus Foundations in the Theory of Knowledge." *Midwest Studies in Philosophy* 5: 3–25.
- Weatherson, Brian. 2003. "What Good Are Counterexamples?" *Philosophical Studies* 115 (1): 1–31.
- Williamson, Timothy. 2000. *Knowledge and its Limits*. New York: Oxford University Press.
- Zagzebski, Linda. 1994. "The Inescapability of Gettier Problems." *The Philosophical Quarterly* 44 (174): 65–73.
- . 1996. *Virtues of the Mind: An Inquiry into the Nature of Virtue and the Ethical Foundations of Knowledge*. Cambridge: Cambridge University Press.

Notes

¹ See K. S. Sangeetha, Chapter 3 of this volume, for more on concepts and their relationship to truth and knowledge.

² Image caption: [Plato](#) as depicted in Raphael's *The School of Athens* (detail) via Wikimedia Commons. This work is in the public domain.

³ The view expressed here (that experiential knowledge does not reduce to propositional knowledge) has been widely (though not universally) held ever since Ryle's pioneering paper on ability knowledge (1949).

⁴ Image caption: [Thomas Nagel](#) by [Nagelt](#) via Wikimedia Commons. License: [CC BY-SA 4.0](#)

⁵ Zen emphasizes non-conceptual, non-dualistic awareness. Daoism emphasizes *wuwei* (action that flows freely and spontaneously from one's nature without interruption by propositional deliberation). Confucianism emphasizes learning-*how* over (or in addition to) learning-*that*, as well as ritual participation to achieve ethical cultivation (training one's emotions and habits of action) rather than propositional argumentation about ethical truths.

⁶ The "that" is sometimes omitted from the *that*-clause in statements about propositional knowledge, but such sentences can always be accurately rephrased with the "that" included: "Readers know this chapter is about knowledge" means "Readers know *that* this chapter is about knowledge."

⁷ I have omitted knowledge-*wh*: knowledge-*who*, *-what*, *-where*, *-when*, *-why*, *-which*, *-whether*, and *-how*. Some subtypes of knowledge-*wh* are identical to those I already cover (e.g., knowledge-*how*). The others arguably reduce to the kinds I cover. For example, to know-*why* is to know-*that*, where the *that*-clause expresses a correct answer to the *why*-question. I have also omitted self-knowledge. The inscription at the Oracle at Delphi directed readers to "Know thyself." Clearly, this is more than acquaintance with oneself. It is arguable whether it consists merely in knowing certain truths about oneself, or requires some special self-illuminating experience. Finally, there is no discussion in this chapter about "group knowledge" (e.g., what the scientific community knows)—a recent and controversial topic in social epistemology. Traditional epistemology focuses on an individual's knowledge.

⁸ The *Meno* is Plato's earliest presentation of this analysis, but there it is very brief. In *Theaetetus*, a later dialogue widely considered his greatest epistemological work, Plato more fully develops the same analysis of knowledge ([ca. 369 BCE] 2013, 201c–d).

⁹ This is **belief-*that***, which takes propositions as objects. I set aside belief-*in*, which can have non-propositional objects (e.g., "I believe in you."). Belief-*in* isn't purely cognitive. It has an affective component (e.g., hope or trust). This is an important distinction in religious epistemology, since many religious believers emphasize the kind of faith that requires belief-*in* rather than mere belief-*that*.

¹⁰ Compare Moon (2017), who argues that beliefs do not come in degrees. Even assuming that they do come in degrees, it may be that the kind of belief required for knowledge is restricted to a specific degree of confidence. For example, if one is barely inclined to think a proposition is true, perhaps one doesn't really *know* it's true. Alternatively, perhaps one does know—just not *for sure*. This approach would have "knowing for sure" as only one type of knowing generally. Aside from matters of degree, a further unclarity pertaining to belief arises when we aren't thinking about a proposition (e.g., Do you know that $2 + 2 = 4$ while you're asleep?). One may say that we hold unconscious (stored) beliefs. Another possibility is that we have mere dispositions to believe, which are activated into beliefs when the propositions come to mind. This is a contentious issue. But whatever one thinks of it, one can plausibly say the same thing about justification and knowledge (unconscious justification/knowledge vs. a disposition to have justification/knowledge when prompted). So, there shouldn't be a problem here for the analysis of knowledge per se.

¹¹ Rather than pinpoint suspension of judgment to an exact 50% degree of confidence, some epistemologists prefer to extend it to a range (perhaps one with vague or contextually determined boundaries). It is also possible to be off the doxastic map altogether, avoiding even suspension—for example, if one has never even considered the proposition in question.

¹² Compare Radford (1966), who abandons orthodoxy by challenging the belief requirement.

¹³ Image caption: [Bust of Aristotle](#) from the Ludovisi Collection. Photo by [Jastrow](#) via Wikimedia Commons. This work is in the public domain.

¹⁴ For an overview of the various theories of truth, and their pros and cons, see Glanzberg (2018).

¹⁵ Compare Hazlett (2010), who abandons orthodoxy by challenging the truth requirement on knowledge.

¹⁶ Image caption: [Daedalus and Icarus](#) by Antonio Canova. Photo by [Livioandronico2013](#) via Wikimedia Commons. License: [CC BY-SA 4.0](#)

¹⁷ To be fair, in his *Theaetetus*, Plato's Socrates considers—and rejects—three ways of defining “account” (*logos*), sometimes translated “explanation” (206c–210b). The dialogue ends (210b–d) with no solution.

¹⁸ Global skeptics embrace this conclusion, but very few are attracted to such a strong form of skepticism. See Daniel Massey in Chapter 4 of this volume for an overview of skepticism.

¹⁹ It may be that knowledge requires an especially high level of justification (knowledge-level justification). If so, there are justified beliefs that aren't knowledge-level justified. The view that justified beliefs can be false is *fallibilism about justification*. The view that even knowledge-level justified beliefs can be false is *fallibilism about knowledge*. This form of fallibilism is likewise plausible: you know you are reading this sentence right now despite the small chance that you're merely dreaming somehow. Or do you? Explore Chapter 4 (Massey on skepticism) to consider this further.

²⁰ Image caption: [Edmund L. Gettier III](#) by [DaveGettier](#) via Wikimedia Commons. License: [CC BY-SA 4.0](#)

²¹ Plantinga (1992) gives an alternative perspective on Gettier's historical significance: that it is mere contemporary “lore.”

²² Image caption: [Sheep in a Field](#) by Sydney John Bunney via Wikimedia Commons. This work is in the public domain.

²³ Image caption: [Sheep Shaped Amulet](#) from Peru. Photo by [Coyau](#) via Wikimedia Commons. License: [CC BY-SA 3.0](#)

²⁴ Image caption: [Wolf in Sheep's Clothing](#) by [SarahRichterArt](#) via Pixabay. This work is in the public domain.

²⁵ Chisholm's (1966) famous example.

²⁶ Image caption: [Alvin Plantinga](#) by [Jonathunder](#) via Wikimedia Commons. License: [CC BY-SA 3.0](#)

²⁷ The justification condition was abandoned primarily by those who use “justification” in a certain way. There are those who inflate it (as described earlier). There are also those who inflate the concept of “good reasons” to something unnecessary for knowledge (usually externalists who understand reasons as exclusively internalist—see Todd R. Long in Chapter 2 of this volume). Still others came to use “justification” so that it is by definition a requirement on knowledge—whatever distinguishes true belief from knowledge (rendering it equivalent to warrant). However, there is at least one way of using these terms that neither inflates nor trivializes. This is the most common usage, which I adopt in this chapter.

²⁸ Image caption: [Diana as Personification of Night](#) by Anton Raphael Mengs via Wikimedia Commons. This work is in the public domain.

²⁹ Image caption: [Professor Timothy Williamson](#) by [Easyox](#) via Wikimedia Commons. License: [CC BY-SA 4.0](#)

³⁰ Others prefer to bite the bullet, dig in their heels, and revert to pre-Gettier tradition. Gettier and lottery, they say, have led us astray. Yes, intuitions favor them. But sometimes intuitions are wrong. By utilizing standard explanatory criteria for evaluating theories (e.g., overall theoretical simplicity, coherence, and other explanatory virtues), Weatherson (2003) argues that the JTB analysis is the best theory of knowledge and dismisses intuitive counterexamples as weird conceptual hiccups.