

## WHAT IS KNOWLEDGE?

Most of the topics I shall be concerned with in this book concern kinds of knowledge: *a priori* knowledge, observational knowledge, and the possibility of having knowledge about objects and processes that, like the feelings of others or the micro-objects of current physics, cannot possibly be perceived. But these kinds of knowledge make sense only as instances of knowledge in a generic sense. Plato discussed knowledge of this generic sort in his *Theaetetus*, the first analytical study in epistemology, and the nature of knowledge so understood has been the most widely discussed topic in recent work on the subject. Since current disputes about the general nature of knowledge are closely tied to competing strategies for making progress in philosophy, a discussion of this topic is an appropriate starting point for the argument of this book. What I say here provides a foundation for what I shall argue in later chapters.

## Conceptions of Knowing

An analytical study of knowledge ought to acknowledge that the word “knowledge” is significantly ambiguous—as are its equivalents in other languages, such as the Greek *epistēmē*, from which “epistemology” is derived. The principal meanings of these words can be arranged into three groups. The first group concerns abilities of various kinds, primarily cognitive abilities that result from learning but sometimes even motor abilities. One can know German or know how to walk on stilts; one can know how to give a rousing speech, how to use the library, how get to the airport, but also how to do a handstand or back flip. Another group involves acquaintance, familiarity, personal experience, and corresponding recognitional abilities. One can know a former teacher; one can know a person by name or by sight; one can know fear, love, or disappointment; and can know New York, Boston, or the neighboring university campus. The last group of meanings—perhaps it is a single meaning—concerns “facts gathered by study, observation, or experience,” and conclusions inferred from such facts (as when one has an in-depth knowledge of particle physics).<sup>1</sup> What the dictionary describes as knowledge of facts can be described more plainly as knowledge-that: knowledge that snow is white, that grass is green, or that  $2+2 = 4$ . It is this last sort of knowledge that is central to recent work in epistemology.

In the early part of the last century some philosophers, notably Bertrand Russell, considered acquaintance or direct experience the fundamental source of empirical knowledge; for them, knowledge-that ultimately arises from knowledge of. As they saw it, our subjective experiences are elements of our consciousness, and everything we know by perception arises from our experiences. This view is no longer widely held: most philosophers now contend that acquaintance involves a substantial amount of knowledge-that, and the directly experienced residue in experience is little more than a stimulus for interpretive acts that result in more knowledge-that. Just think of your knowledge of your own hometown. You know that it has various buildings, various streets, various parks; you know where your house or apartment was—you know that it was in such and such a place. You can call up memory images of places you recall, but these images simply bring more facts to mind. The prevalence of this new view of acquaintance—the idea that it is not a distinctive kind of knowledge more basic than knowledge-that—owes a lot to Wittgenstein’s attack on what he called “private languages,”<sup>3</sup> and it may or may not be right or defensible. I shall have more to say about acquaintance in chapter five.

Before 1963 analytically-minded philosophers mostly agreed that knowledge-that could be understood as justified true belief. Edmund Gettier’s now famous criticism of this account destroyed the agreement and stimulated a plethora of attempts to provide an improved definition.<sup>4</sup> The philosophers seeking an improvement had two desiderata specifically in mind. They wanted a definition incorporating standards that would make it possible for ordinary human beings to know most of what they think they know, and they wanted a definition that would avoid Gettier examples and others relevantly like them. A definition having the first feature would be instrumental in avoiding skepticism, an outcome that could be expected if the required standards of evidence were set too high. They also assumed that a definition having the desired features would require a knower to possess an appropriate true belief.

<sup>1</sup> See the entry under “knowledge in” *The Oxford American Desk Dictionary and Thesaurus*.

<sup>2</sup> I here assume that knowledge-who, knowledge-what, knowledge-when, and so on, are special cases of knowledge-that. For example, “Tom knows who wrote the *Declaration of Independence*” attributes to Tom the knowledge that X wrote the *Declaration of Independence*, where X is the person, namely Thomas Jefferson, who wrote that document.

<sup>3</sup> See Wittgenstein (1959), §§ 243–272. I critically assess Wittgenstein’s argument in Aune (1991), pp. 115–130.

<sup>4</sup> See Gettier (1963).

The great number and variety of attempts to provide a definition satisfying the desiderata I mentioned<sup>5</sup> make it fairly clear that the philosophers attempting to provide such an improvement were not working with a single knowledge concept that already existed and was generally accepted. They may have had illusions about what they were doing, but the reality is that they were attempting to *create* a knowledge concept that was philosophically preferable to the simple one that Gettier criticized. They wanted a better analytical account of what knowledge could be taken to be. As it happened, they did not definitely succeed in this endeavor: no generally accepted conception or account of the desired kind was ever created. Many philosophers continue with the hunt, but some have basically given up on it. Among the latter, Timothy Williamson came to the conclusion that “knowing does not factorize as standard analyses require.”<sup>6</sup> Instead of attempting to provide a definition of knowledge, Williamson offered a “modest nonreductive analysis,” describing knowing as “the most general factive, stative [human] attitude”—factive in being attached only to truths, and stative in being a state rather than a process.<sup>7</sup> But Williamson’s nonreductive analysis does not appear to have attracted many adherents. Most philosophers appear to want a more informative account of knowing than Williamson’s analysis provides.<sup>8</sup>

The consensus that once existed on seeking an improved justified-true-belief (or JTB+) analysis of knowing broke down for other reasons. Some philosophers, such as Peter Unger and Robert Fogelin, did not believe that skepticism should be ruled out by easily satisfied standards for knowing. These philosophers even wrote books supporting versions of that generally abhorred doctrine.<sup>9</sup> In taking a skeptical line they had little trouble satisfying the other desideratum for a JTB+ analysis of knowledge, the one requiring the avoidance of Gettier examples. Each of the examples Gettier actually gave presupposed that a person might know that P on the basis of inconclusive evidence—evidence that does not exclude the possibility that P is actually false.<sup>10</sup> But supporters of skepticism normally endorse higher standards for knowing; they seek evidence that is logically conclusive.<sup>11</sup> Since a skeptical scenario featuring Descartes’ evil genius or Putnam’s brains in a vat cannot be conclusively refuted (or ruled out with utter certainty) by any evidence plausibly available to an observer, a philosopher requiring conclusive evidence for knowing will end up with the view that no alternative scenario incompatible with skepticism can possibly be known to be true.

Thus far I have been speaking of assumptions about knowledge that philosophers have held since 1963. Before that further differences existed, particularly if we go back far enough. Plato held that knowledge (*epistēmē*) is infallible and, unlike belief, directed to an immutable object.<sup>12</sup> Aristotle held knowledge to be either immediately certain or a demonstrative consequence, via the syllogism, of immediately certain premises.<sup>13</sup> Descartes did not limit necessary inference to the syllogism, but like Aristotle he thought properly scientific knowledge, or *scientia*, required rational certainty: the subject’s evidential basis for such knowledge must be conclusive.<sup>14</sup> Earlier twentieth-century philosophers had a more flexible attitude to knowing. G. E. Moore held that “I know that P” sometimes does, and sometimes does not, imply “I know that

<sup>5</sup> The principal definitions given in the first twenty years after Gettier’s paper was published are ably discussed in Shope (1983).

<sup>6</sup> See Williamson (2000), p. 4.

<sup>7</sup> *Ibid.*, p. 34.

<sup>8</sup> Hilary Kornblith (1999) defends a singular account of knowing that I do not consider here. He argues that knowledge is a natural kind, instances of which may be possessed by birds or monkeys as well as human beings. I do not deny that a knowing concept with a wide application of this kind is possible, but like Hacking (2005), I find problems in the very concept of a natural kind, and I think the word “knowing” is in any case applied to a more diverse variety of instances than is happily accommodated by Kornblith’s single conception. As I see it, when we describe birds or monkeys as knowing things, we are using the word “knowing” in an extended, analogical sense.

<sup>9</sup> See Unger (1975) and Fogelin (1994) and (2000).

<sup>10</sup> This is easily seen. In setting forth his counter-examples, Gettier described cases in which a subject, S, has an adequately justified belief that P, which nevertheless happens to be false. Not knowing that P is false but knowing elementary logic, S forms the belief that Q, and this belief, because of its known logical relation to the adequately justified P, is adequately justified as well. But Q, unlike P, happens to be true, and true for reasons having nothing to do with the evidence S possesses. S therefore satisfies the justified-true-belief conditions for knowing that Q, but because of the logically fortuitous character of Q’s truth, S clearly does not possess this knowledge.

<sup>11</sup> The adjective “logical” here is customary but it is not really happy, since P can provide conclusive evidence for Q without it being a *logical* truth that P only if Q. It is not a logical truth that if Sarah is a sister, Sarah is female, but the former provides conclusive evidence for the latter. I pursue matters of this kind in chapter three.

<sup>12</sup> *Republic* 511d.

<sup>13</sup> *Posterior Analytics* I, 71b.

<sup>14</sup> In *The Principles of Philosophy* Descartes described this as “perfect” knowledge; his Latin equivalent was “*scientia*”; see Cottingham, *et al* (1985), vol. 1, pp. 10n and 179. In addition to the “absolute certainty” provided by perfect knowledge, Descartes accepted a conception of moral certainty, which is close to what Malcolm (see note 14 below) considered knowledge in the weak sense; see Cottingham, *ibid.* p. 290.

P with utter certainty";<sup>15</sup> and in 1952 Norman Malcolm distinguished a strong from a weak sense of "knows," one implying that the subject is certain of something, the other not.<sup>16</sup>

In everyday life we often apparently do speak of knowledge in what Malcolm called the weak sense; we seem to assume that people often have genuine knowledge when their evidence is logically inconclusive, when it does not exclude the possibility of error. We seem to assume this when, having looked at our watch, we say we know what time it is; we seem to assume it when, watching a television newscast, we say we know the Twin Towers have been destroyed by a terrorist attack; and so on. But sometimes we speak of it in what is pretty clearly a stronger sense, one requiring that a subject's evidence be logically conclusive or very close to it. (One way of describing logically conclusive evidence is to say that E is logically conclusive for P when the evidential probability of P on the basis of E is 1, an idea I explain fully in chapter six.) In a recent letter to the *Scientific American*, a man calculated that to win the \$160-million with his lottery ticket, he would have to beat the winning odds of 1 to 120,526,770. In spite of these odds, he was willing to buy the ticket, and when he bought it we would not agree that if his friend Tom believes he will lose, Tom knows he will lose if that is what will happen. In spite of the very strong evidence Tom possesses, the possibility remains that the man will win—and this is enough to defeat Tom's claim to know he will lose. In this case, actually knowing that the man will lose seems to require rational certainty: our evidence must be sufficient to rule out the possibility that he will win.

The idea that we do in fact commonly apply different standards of evidence or different levels of certainty in deciding whether this or that person has knowledge under these or those circumstances is now widely accepted,<sup>17</sup> but some philosophers give "invariant" accounts of this diversity.<sup>18</sup> According to some, knowledge-ascriptions based on weak standards are usually in fact false, though they may have some practical value;<sup>19</sup> according to others, negative ascriptions ("S does not know that P") based on exceptionally strong standards are actually false, though they seem plausible in the context of some well-known skeptical arguments.<sup>20</sup> The key issue in the whole debate is how the diversity that is apparent in assertions involving "knows that" is best accommodated theoretically, and what account of how knowledge may be understood is most illuminating. As it happens, I shall be defending a dual account in what follows, one in which a concept of knowing for certain is distinguished from a minimal concept that does not require rational certainty. My approach is not widely accepted at the present time, however; the most widely discussed alternative in recent years is some form of contextualism. Because of its popularity as well as its complexity and suggestiveness, I want to consider this sort of view first.

### Epistemic Contextualism

Although the term "contextualism" has been applied for more than a decade to the view that ascriptions of the form "s knows that p" are properly evaluated by stronger or weaker standards in differing contexts, some writers have recently emphasized that this view is more aptly described as "epistemic relativism."<sup>21</sup> The new terminology is supported by the consideration that many knowledge ascriptions whose truth-values differ in different contexts do so for reasons having nothing to do with varying epistemic standards.<sup>22</sup> A representative example is "Tom knows that George is six feet tall," which, since "knows that P" implies "P," conveys the idea that George is six feet tall at the time Tom is said to have this knowledge. But George's height changes over the course of his life. For most of his boyhood George is far from tall; at maturity he may be six feet tall; and as an old man he will be shorter than this. So if George is six feet tall when Tom is said to know he has that height, the knowledge ascription is true; if he is taller or shorter when Tom is said to be this tall, the knowledge ascription is false. As a general matter, the indexical elements—the pronouns, tensed verbs, and other contextual indicators—in both the "that"-clause and the words preceding it in a knowledge ascription (for instance in "Tom once knew") may have a decisive effect on the ascription's truth, and this effect has nothing to do with varying standards of evaluation.

<sup>15</sup>Moore (1959), p. 236f.

<sup>16</sup>Malcolm (1963). Malcolm's position is actually more complicated than I indicate in the text; it involves qualifications that are difficult to spell out in a brief statement.

<sup>17</sup> See, e.g., DeRose (1995), Lewis (1996) and Cohen (2000).

<sup>18</sup> This adjective is commonly used to identify the opponents of epistemic contextualists. See Conee (2005) or Bach (2005). Macfarlane also uses the adjective but he distinguishes two kinds of invariantism, strict and sensitive, only the former being incompatible with contextualism. See Macfarlane (2005), p. 199.

<sup>19</sup> Unger (1975), Fogelin (1994)

<sup>20</sup> Bach (2005).

<sup>21</sup> See Macfarlane (2005), offers an illuminating taxonomy of recent views about the semantics of "know."

<sup>22</sup> Feldman (1999) may have been the first to emphasize this.

Are there clear cases in which different utterances of a knowledge-ascription type are rightly evaluated by epistemic standards of varying stringency? The word “rightly” is the crucial modifier here. Contextualists or epistemic relativists say yes; invariantists, as they are sometimes called, say no. How are we to decide who is right? Or is there perhaps no fact of the matter to be right about? The differing parties here obviously have access to the same linguistic or behavioral data. They might not, of course, attend to all the data equally well. I have shown that different philosophers have had in the past, and have now, different convictions about the nature of knowledge; and recent investigation shows that different groups of non-philosophers—and sometimes even the same ones—speak about knowledge in inconsistent ways.<sup>23</sup> Philosophers almost always say that knowing that P implies it is true that P, but ordinary people sometimes say that they have known things that turned out to be false.<sup>24</sup> Similarly, although most philosophers insist that knowing that P implies believing that P, David Lewis rejects this implication, building his conception of knowledge on its denial.<sup>25</sup> Contextualists and invariantists (whether skeptics or dogmatists) who argue about the plurality of proper or acceptable epistemic standards augment these instances of disagreement. A plethora of varying usages also turn up in Google searches focused on “‘knows’ and evidential standards” and “‘knows’ and certainty.”<sup>26</sup> The only reasonable conclusion to draw from these incompatibilities in belief and usage, it seems to me, is that there is really no single objective fact of the matter—no single property, concept, or standard—that is available to prove that one position in the debate is right and the others wrong.

I hasten to add that even if there is no decisive fact of the matter here, one position may nevertheless be philosophically more satisfactory, all things considered, than the others. Respecting existing usage is not a decisive requirement for an acceptable philosophical analysis or conceptual clarification. Some usage is clearly more discerning than others; some is better informed and more relevant to philosophical issues than others; and some is even inconsistent, raising more problems than it solves. As I shall argue at length in chapter three, philosophical analysis is inherently and inevitably revisionary or, to use Carnap’s term, reconstructive.<sup>27</sup> If contextualism is preferable to the alternatives I have mentioned, it is so only because it can be spelled out in such a way that it succeeds in resolving pertinent philosophical issues more satisfactorily than those alternatives are capable of doing.

Two matters that should be explained by a satisfactory contextualist (or epistemically relativist) theory are (a) what, according to it, knowledge is or consists of and (b) how the alternative epistemic standards it postulates are to be identified. The only contextualist theory so far developed that deals with both matters in a detailed way is the one developed by David Lewis. I shall therefore comment briefly on the basic elements of his view. I shall, as I implied, reject his contextualism, but I shall nevertheless accept some of the key ideas on which it is based. Although the distinction I mentioned between the context-dependence owing to a formula’s indexical features and its alleged susceptibility to evaluation by stronger or weaker standards needs to be incorporated into Lewis’s theory, I shall ignore it here. It is not pertinent to the issues that concern me.

### Lewis’s Contextualism

Instead of holding that there is more than one sense of “knows,” Lewis says that the formula “S knows that P” can be given a single definition by means of which we may ascertain the truth-conditions for utterances conforming to it in this or that context. If “knows that P” is truly ascribed to a subject S in a context C, S must possess evidence, Lewis says, that eliminates every alternative possibility relevant in C. Possibilities relevant this way have two distinguishing features: they include  $\neg P$  and they are properly ignored in C. Lewis does not intend that a subject’s evidence should eliminate the possibilities including  $\neg P$  at one fell swoop, by directly supporting the truth of P, which is incompatible with these possibilities. He intends that the evidence should eliminate each relevant not-P possibility directly; and as the result of eliminating all these possibilities, it will thereby support the proposition P as the only remaining alternative.

To understand Lewis’s position fully, we need to know what he means by evidence, how he thinks evidence can rule out a possibility, and how he identifies the possibilities that are relevant in a given epistemic context. As for a subject’s evidence, Lewis takes this to be the subject’s “entire perceptual experience and memory.”<sup>28</sup> If I were observing an Airedale terrier, I would

<sup>23</sup> See Nichols, Stich, and Weinberg (2003).

<sup>24</sup> Bach (2005), p. 62. Jay Rosenberg is a philosopher who comes close to siding with the ordinary people on this point; he holds that “S knows that P” is consistent with “Not-p.” See Rosenberg (2002), pp. 1-2. I discuss Rosenberg’s view thoroughly in “Rosenberg on Knowing” (in preparation).

<sup>25</sup> Lewis (1996).

<sup>26</sup> See Ludlow (2005).

<sup>27</sup> See below, footnote 41.

have a characteristic perceptual experience, one different from what I would have if I were observing a tiger, a phone booth, or a Volkswagen beetle. Of course, my perceptual experience in observing an Airedale is not itself sufficient for knowing that what I see is an Airedale; I must have some background knowledge about Airedales and other things I might be observing. I possess this knowledge because I remember what I have previously learned about these things and what I have experienced in connection with them. What I perceive in a given context and everything I remember pertinent to it is the evidence at my disposal for the case at hand.

The evidence, thus understood, that I have in a given context rules out any relevant possibility in which my entire perceptual experience and memory are not as they are in actuality. Lewis understands actuality to be the possibility that actually obtains. My evidence thus rules out any relevant possibility that does not match actuality with respect to my entire perceptual experience and memory. If a possibility does match reality in this way, it is *uneliminated* by my evidence. It is important to emphasize that some possibilities that do match actuality with respect to my evidence may yet be ruled out because they are deemed *not relevant* to the subject at hand. My evidence may match the possibility that I am being deceived by Descartes' evil demon, but that possibility can normally be disregarded as not relevant to the question of what I now know: normally, it is not a possibility that must be ruled out by my evidence here and now.

Lewis provides seven rules for identifying possibilities that may or may not properly be ignored in a given context. Since the criticism I shall make of Lewis's definition does not depend on the details of these rules, I shall describe them briefly and not comment on subtleties pertinent to them. I shall say just enough to give the reader a sense of how they may be deployed in responding to objections that might be raised against Lewis's definition.

Four of Lewis's rules identify possibilities that cannot properly be ignored. The first is the *Rule of Actuality*. According to this rule, a possibility that actually obtains is never properly ignored. A possibility that actually obtains does not, of course, have to be eliminated in showing that someone knows something, but in attending to it one may become obliged by other rules to consider further possibilities that might have to be eliminated. The other three rules have this effect. According to the *Rule of Belief*, we cannot ignore anything the subject believes to obtain or, given his available evidence, should believe to obtain. Since what a subject believes or should believe to obtain may occasionally be at odds with his or her actual evidence (something belonging to actuality), the Rule of Belief may identify possibilities that have to be eliminated in deciding what the subject actually knows. The *Rule of Resemblance* introduces further possibilities of this kind. If two possibilities saliently resemble one another, then if one may not properly be ignored because of a rule other than this one, the other may not properly be ignored either. Lewis qualifies<sup>29</sup> this rule by adding that the salience of the relevant similarity should pertain mainly to the subject's evidence: if a possibility differs radically from actuality except for its resemblance to the subject's evidence, the Rule of Resemblance does not apply. This qualification has the effect of opposing skepticism. If my total evidence when I am actually perceiving a brilliant sunrise saliently resembles the evidence I would have if I were being deceived by Descartes' evil demon, the radical difference between my actual situation and the deceptive one renders the Rule of Resemblance inapplicable in this case. Another rule could conceivably require me to eliminate this skeptical possibility, but the Rule of Resemblance would not require me to do so. The final rule, *Attention*, has the effect of making knowledge elusive in philosophical contexts. It says that a possibility that is not ignored is not properly ignored, no matter how likely it may be in view of the evidence.

Lewis's last three rules tell us what we may properly ignore in determining whether someone knows something. Like his qualification to the Rule of Resemblance, the first three of these rules provide impediments to unbridled skepticism. Lewis calls the first one the Rule of Reliability. According to this rule, perception, memory, and the testimony of others may be considered generally reliable; as a result, we may—"defeasibly," Lewis says—ignore possibilities in which they fail. (In saying that ignoring these possibilities is defeasible, Lewis means that the presumption that these sources of knowledge are reliable may be defeated, or overridden, by evidence that casts doubt on them in a particular case.) Lewis's second rule in this group concerns Permissible Rules of Method. According to it, we may assume, defeasibly, that our evidence samples are representative and that the "best explanation" of our evidence—the available

<sup>28</sup>Lewis (1999), p. 424.

<sup>29</sup>The qualification is important because *in conjunction with his final three rules*, it enables Lewis to rebut objections raised by such writers as Jonathan Vogel. Vogel (1999) described several troublesome possibilities that saliently resemble actuality so far as the subject's evidence is concerned but that cannot, as he saw it, be eliminated by Lewis's rules. Vogel did not, however, at least in my opinion, take adequate account of Lewis's rules of Reliability, Method, and Conservatism, which can show that these possibilities deserve to be ignored in any normal context. (In fairness to Vogel I should add that in his appendix to the paper he expressed a cautious attitude toward his criticism, saying that it "should be taken as exploratory rather than final," p. 172).

explanatory account that, if true, would provide the best explanation of our evidence—is in fact true. Lewis's third rule is the Rule of Conservatism. We may, defeasibly, ignore possibilities that we know are commonly ignored by those around us.<sup>30</sup>

Although Lewis, in elaborating his definition, is sensitive to subtle details about the way the predicate "knows that" is commonly used, he does not explicitly say whether he intends his definition to be an analysis of what is actually meant by the predicate, at least in some favored dialect, or a reconstruction of what is thus meant. I think it is obvious that his definition does not capture what is actually meant by most careful speakers of English. According to his definition, people know many things they have no conception of, for their evidence on numerous occasions fails to match the relevant alternatives to an actual possibility that they cannot actually comprehend. As an illustration of this, consider little Patty who is standing before a kangaroo in a zoo. I am not sure what the relevant alternative possibilities to an instance of seeing an actual kangaroo may be, but little Patty's entire perceptual experience and memory on this occasion may fail to match all of them. (The experience of perceiving an adult kangaroo in good light is not realistically similar to perceiving anything else that I can think of.) Yet little Patty may have no idea what a kangaroo is, even though perceiving such a thing does fit her perceptual experience. In this sort of case her evidence does eliminate the relative alternatives to seeing a kangaroo, but most discerning speakers would not agree that little Patty therefore knows she perceives a kangaroo. There are, of course, many things little Patty does know in this situation: she knows she is seeing a large furry animal with a large funny tail, for instance. But there is nothing in Lewis's definition, which is focused on possibilities matching perceptual experience and memory, that requires a person to understand (or comprehend) the possibility that his or her evidence *fails to eliminate*.

Lewis, true to my conception, at least, of routine cases of knowledge-that, insists that knowing does not require belief or even a justification the subject can give, but he overlooks a requirement that I would emphasize—namely, that a knower possess appropriate information. In speaking of information here I have in mind something propositional and true that one can mentally possess as the result of learning and then retain without necessarily believing that one possesses it or thinking that it is true. An example of information so understood is what I learned when I was taught, or discovered,<sup>31</sup> the expansion of  $\pi$  to five decimal places. One might think of this as knowledge, but I am thinking of it, perhaps idiosyncratically, as something more elemental, something one could possess unknowingly and without supporting evidence.<sup>32</sup> If I have learned that the decimal expansion of  $\pi$  to five decimal places is 3.14159, I may come to believe that I have forgotten it, have no belief about what it is, and no longer recall how or from whom I learned it. If I am urged to identify the sequence of integers defining it, I may nevertheless succeed in producing it and be surprised by my accomplishment, deciding that I did not forget it after all. If, generally speaking, I actually retain certain information, I must be able to produce it if I am called upon to do so or stimulated by some reminder. There is no doubt a fine line between being reminded and being taught in the way the slave boy in the *Meno* was taught a geometrical theorem by Socrates' questions, but it is clear that a person can genuinely possess information without realizing it and without being able to bring it to mind except by means of some information-eliciting reminder.

As I see it, then, we are prepared to say that someone knows that P only when we are convinced that he or she possesses the information that P<sup>33</sup> and that this information is adequately supported, though not necessarily insured, by appropriate evidence possessed by that person.<sup>34</sup> I myself, like Lewis, would not require a knower to have some specific belief, but unlike Lewis I would require a knower to possess corresponding information in the sense I have described.<sup>35</sup> Such information is closely related to true belief, but it is not the same thing. Belief normally accompanies it, but not always.

Another shortcoming in Lewis's definition, if it is understood as an analysis of existing discourse, can be traced to his Rule of Attention. According to this rule, a possibility that is not ignored is not properly ignored. But real speakers, if they are self-confident, would insist on

<sup>30</sup> These last three rules are described on pp. 242f of Lewis (1999).

<sup>31</sup> I am not sure how I gained this information. I probably obtained it from a teacher in middle school, but I have no doubt that I subsequently verified it by computations I carried out myself. I mention this because it is a simple example of an important phenomenon: We are generally uncertain about the source of much of our information, or the evidence we have for many of the things we say we know.

<sup>32</sup> My conception of information here is significantly different from the quantitative concept belonging to information theory that Dretske (1982) introduced into epistemology.

<sup>33</sup> This conviction is also expressed by Bach (2005); see p. 63.

<sup>34</sup> I am thinking of evidence here the way Lewis does: "the subject's entire perceptual experience and memory." Evidence so understood is a subject's total evidence at a time. See footnote 46 below.

<sup>35</sup> I therefore reject the widely accepted idea, defended by Plantinga, that knowing that P is having a true belief that P and a proper warrant for it. See Plantinga (1993).

ignoring the possibility that the thing a child takes to be her kitty is really a robot, indistinguishable to sight and feeling from a real kitten, that aliens have perversely introduced. Instead of conceding that the child really doesn't know she has a kitty, they would normally dismiss this possibility as too far-fetched to be taken seriously. Norman Malcolm would have said that the child fails to know *for certain* that she has a kitten, but he would have no doubt that she knows it in a weak sense of "knows."<sup>36</sup> The mention of possibilities normally considered remote or far-fetched may make knowledge elusive if the hearer is someone with the sensibility of David Lewis, but not every sophisticated speaker of English would respond in the same way.<sup>37</sup>

The basic idea on which Lewis's definition rests--that a definite class of relevant possibilities is always pertinent to ascriptions of knowledge--is also very doubtful so far as existing usage is concerned. If we say that little Patty knows her name--knows that it is "Patty"--we need not have any alternatives in mind, other than the possibility that she does not know this;<sup>38</sup> and if I say that I know my neighbor's dog is an Airedale, my claim is unlikely to be assessed by ruling out some set of alternative possibilities, such as that it is a Scotty, a Welsh terrier, or a large mongrel with kinky hair. (No one familiar with Airedales would confuse one with any other animal.) We sometimes do have a number of alternative possibilities in mind when we assess a knowledge claim, but we do not always have a group of them in mind, and the ones that we might consider are not plausibly a function of our epistemic situation or that of someone ascribing knowledge to us. Fred Dretske, who originally introduced the alternative-possibilities idea into discussions of knowledge,<sup>39</sup> did not make a compelling case for the epistemic necessity of such alternatives, for he in effect used the idea of relevant alternatives to disambiguate a claim to knowledge. But if what someone might know is stated in unambiguous terms, no relative alternatives need to be mentioned. Thus, instead of clarifying the ambiguous "Lefty killed Otto" by saying "It was Lefty rather than George or Mike who killed Otto," one could say, "Lefty was the person who killed Otto." And instead of saying, "Lefty killed Otto rather than injuring or threatening him," one could say, "What Lefty did to Otto was to kill him."<sup>40</sup>

If Lewis's definition is understood not as an analysis of an existing meaning but an "explication" or "rational reconstruction" of it, the objections I have been making do not apply--or may not apply, depending on how close to the vernacular such a reconstruction is expected to be.<sup>41</sup> I believe that Lewis' definition is not sufficiently close to be an acceptable reconstruction, at least as I understand the verb "knows," but his definition can be modified to bring it closer. An obvious way of doing this is to add an appropriate conjunct to his definition--specifically, that the subject understands and indeed has the information that P. The idea of having information in my sense is of course vague, but Lewis's definition, in spite of its surface crispness, is considerably vague already. This is evident in his formulation of the rules for identifying possibilities that may or may not be properly ignored in determining whether a subject knows that P in a particular context.

Although Lewis's reconstruction (for that is really what it is) can be brought closer to existing usage, it will remain unacceptably distant, at least for me, because of the alternative-possibility idea on which it is based. There are two difficulties I have in mind here. The first is that ascriptions of knowledge that would normally be regarded as inconsistent may turn out to be compatible on Lewis's reconstruction. If I say that Harry knows that his dog is safe at home and Mary denies this a little later, saying that for all Harry actually knows his dog may have got out of the house and taken to the streets, my claim and Mary's counter-claim would normally be regarded as inconsistent, one of us being right and the other wrong. But if our claims are, in effect, relativized to different sets of alternatives that Harry's evidence is supposed to rule out, they appear to be compatible, since "Harry's evidence rules the alternatives in set A" would seem to be consistent with "Harry's evidence rules out the alternatives in set B" if A is distinct from or not included in B. The second difficulty concerns the task of ruling out *all* the possibilities that are supposed to be relevant in a particular case. How can we be sure that we have done this? Are our everyday knowledge ascriptions really so precise in their implications that the relative alternatives form a determinate set? I should say no. Yet even if a definite set is assumed to exist in a particular case, Lewis's Rule of Attention may nevertheless frustrate our efforts to identify a single

<sup>36</sup>See above, p. 5.

<sup>37</sup>I discuss this further below. But see also Bach (2005), p. 86.

<sup>38</sup>This is my basic objection to the contrastivist position defended by Jonathan Schaffer (2005). Perhaps a more telling example against him is this. If I say "Tommy certainly knows what a sexual virgin is," I imply that Tommy knows that a sexual virgin is a person who has not engaged in sexual intercourse, but I do not imply that Tommy knows this rather than some other thing that I am or anyone else is apt to mention.

<sup>39</sup>See Fred Dretske (1970).

<sup>40</sup>Schaffer is well aware of this fact, but he holds a disjunctive view nevertheless. See Schaffer (2005), 251f.

<sup>41</sup>The notion of an "explication" or "rational reconstruction" was central to the analytical work of Rudolf Carnap; I will discuss it further in Ch. 3. See Carnap (1956), pp. 7f.

survivor, for it may generate further possibilities that become relevant merely because, wondering if they are relevant, we bring them to mind. Thus the question whether a subject's evidence is adequate for knowledge even in some humdrum case may prove to be persistently elusive for a conscientious and imaginative investigator.

A reconstructed concept is actually a new concept, not a clarified version of an old one; and if someone wants to adopt Lewis's concept, he or she may certainly do so in spite of the problems I think it involves. For my part, there is no need to do struggle with such problems; a dual conception of knowing that is more in line with existing usage can actually be provided. The conception I shall develop is not a form of contextualism or epistemic relativism, but theories of those kinds other than Lewis's have thus far failed to show how the stronger or weaker standards of assessment that they speak of are to be identified in a given context and how a given standard can be shown to be correct. Until this is done, a contextualist theory not featuring the relevant-alternatives idea that I find objectionable is not preferable to the theory that Lewis developed. To my mind, his is the best of its kind.<sup>42</sup>

### A Dual Analysis of Knowledge

As I see it, two different senses of "knows that" are compatible with existing philosophical usage. One is that of knowing for certain, a sense possibly introduced into English by philosophers in the tradition of Plato and Descartes. One who has certain knowledge of some fact must have conclusive evidence that the corresponding proposition is true. In the strictest sense this proposition is, for the knower,<sup>43</sup> either immediately certain (a perceptual certainty or a trivial analytic truth, as empiricists might say) or provable by a sequence of elementary valid inferences proceeding, ultimately, from immediately certain premises.<sup>44</sup> In a weaker sense suggested by Hume, the proposition may be roughly described as provable, for the knower, by "such arguments from experience as leave no room for doubt or opposition."<sup>45</sup> As I noted, the scope of certain knowledge is significantly limited, but it does not raise the kind of problems featured in the literature consequent to Gettier's critical paper, and a means of avoiding those problems need not be incorporated into a satisfactory account of such knowledge.

The other sense of "knows that" compatible with current philosophical usage does not require rational certainty in either of the forms I have just described. This sense purports to be non-technical, and it is less determinate than a philosopher might wish. Those who worry about the analysis of knowledge generally agree that if S knows that P, it is true that P, and, like Gettier, they generally suppose that S may know that P even in cases where S lacks evidence sufficient to insure that P.<sup>46</sup> In other respects they often disagree about the implications of this sense of the expression. Most still assume that if S knows that P, S believes that P and has some justification for this belief. As I noted, David Lewis rejects both implications; he thinks that reflection on actual cases makes it inadvisable to accept either one. If a large number of philosophically innocent speakers were asked whether Lewis were right in rejecting these implications, they would probably disagree among themselves, depending on who asks the question and how. The conclusion I draw from this likely disagreement is that common speech is not precise and ordinary speakers do not make the distinctions that philosophers, reflecting on that speech, are apt to draw. Thus, because speakers who know that P are commonly aware of what they think they know, it is usually true that S believes that P when S knows that P; as a result, the possibility of knowing that P and not believing it is not normally considered. If it is brought up, different speakers may respond differently and so become aware of differences in the meanings they attach to the predicate "knows."

Reflection on possible cases has induced me, as it did Lewis, to hold that knowing that P (in the weak sense) should not imply either believing that P or having a justification for so believing. As I conceive of such knowing, one who knows that P must have the information that P and must have, or at least have had,<sup>47</sup> good evidence that P,<sup>48</sup> but this evidence need not be irreducibly

<sup>42</sup> Feldman (1999), p. 109, complains that Lewis is committed to the view that a person's evidence never eliminates a possibility on theoretical grounds having to do with theory choice and the like. But Lewis's Rules of Method may justify us in ignoring possibilities on such grounds, at least if we don't explicitly consider those possibilities. As my criticism of Lewis above makes clear, I would agree with Feldman that Lewis's Rule of Attention is excessively demanding and should be revised.

<sup>43</sup> By saying "for the knower" here I mean that the knower is able to give the proof and is aware that he (or she) can do so.

<sup>44</sup> The immediate certainty of the proposition or the acceptability of the proof comprises the knower's *basis* for this knowledge. I discuss the notions of certainty and proof in later chapters. What I say here should be understood as provisional.

<sup>45</sup> Hume, *Inquiry Concerning Human Understanding*, VI, 46.

<sup>46</sup> As I noted, Fogelin (1994) and Williamson (2000) among others apparently disagree with this.

<sup>47</sup> See footnote 78 below.

<sup>48</sup> The subject's *total evidence* must adequately support the proposition that P; he or she must not have some negative evidence that effectively refutes or casts doubt on this proposition.

propositional: it may feature a condition or response that renders the proposition that P highly probable in the circumstances, worthy of acting on by the knower or someone apprised of that evidence. Thus, people familiar with North American lakes may know that a birdcall they hear is that of a loon, even though they cannot say how they know this. They simply know what a loon sounds like. Such people are similar to violinists who can tell and thus know when their instrument is in tune by hearing how it sounds when they play it.<sup>49</sup> People who know something on a similar basis—the basis of how a thing looks, sounds, feels, or tastes—may of course be able, sometimes, to provide a justification for what they know, saying “I know that P because I judge that P and my past behavior shows I have the capacity to make true judgments of this kind spontaneously.” But knowers need not be skilled in providing justifications; if they did, most ordinary people would not be knowers even if they had a Socrates available to help them construct a justification.

Cases of knowledge not based on the experience of how something looks, sounds, smells, tastes, or feels may be based on propositional evidence—on all the presumptions and inferential methods Lewis mentions in addition to memory evidence: the testimony of reputable observers, the received opinion of scientific authorities, generalizations from test results, and possibly even inferences to the best explanation.<sup>50</sup> Here knowledge is typically based on further knowledge, although there is no general requirement to this effect. Some knowledge is simply more basic than other knowledge. As far as evidence *per se* is concerned, the most general claim one can reasonably make about its quality is that it must be “good” if it supports knowledge. A more informative way of putting this, perhaps, is to say that if S knows that P, the probability of P on the basis of S’s total evidence must be, in the circumstances, high enough to convince an appropriately informed, clear-headed, and impartial observer that S has the relevant information.<sup>51</sup> Being “appropriately” informed involves being familiar with relevant standards of assessment and having the pertinent discriminative skills (think of a judge at a dog show); being clear-headed and impartial are qualities well enough understood not to require elaboration here. As Lewis in effect emphasized, ordinary knowledge assessments are based on a fund of common experience and inferential methods that are normally regarded as acceptable but are, as Lewis put it, “defeasible.” These assessments are sufficient for common assessments of knowledge. In cases of rational certainty, the probability of P on the basis of the subject’s evidence is 1 (or maximal); if P is immediately certain the probability of P is maximal on the basis of its intrinsic character. But more on this later.

When people ascribe knowledge to others in everyday life, they generally have no doubt that others have the appropriate information, but they are often very casual about the character (the strength or quality) of the evidence these people possess.<sup>52</sup> They suppose that a person’s evidence is good in the circumstances; they simply have a fairly hazy idea of what that evidence is. I do not believe that acceptable standards for the quality of a subject’s evidence vary in the way contextualists suppose, but I have no doubt that stronger evidence is normally demanded when the consequences of acting on erroneous input are uncertain, hazardous, or incompatible, in some significant way, with the agent’s or the observer’s purposes,<sup>53</sup> or when assumptions customarily used in assessing knowledge claims are put in question by some unusual fact or circumstance. In mentioning these instances I do not want to suggest that I am aware of some principle by which one can invariably identify conditions where strict standards are “appropriate.” As far as I can tell, individual persons generally call the tune here. If they are convinced that a knowledge claim that would normally be accepted in the circumstances is doubtful in a way they consider

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<sup>49</sup> As I emphasize later in chapter five, people who know something on the basis of how a thing looks, sounds, feels, or the like must normally have further knowledge. A man who knows he is hearing a loon must know what a loon is, for instance. This further knowledge need not function as a premise in a possible inference supporting the proposition known, however. It is required for having the kind of information needed for knowledge in this case.

<sup>50</sup> In chapter six I criticize this widely accepted form of a posteriori inference, but I defend another form of inference as a substitute for it. As far as evidence itself is concerned, note that one can be rationally confident that S has good evidence for P without knowing exactly what that evidence is. Think of the evidence a normal American adult has for the sort of animal a monkey is or of (J.L. Austin’s example) “I was brought up in the fens” as an answer to the question, “How do you know that is a bittern?” On this last matter, see footnote 78.

<sup>51</sup> I discuss inductive (or evidential) probability in some detail in chapter six.

<sup>52</sup> Kent Bach (2005) recently expressed this idea particularly well, saying “It is worth keeping in mind that most of the time, outside philosophy, when we consider whether someone knows something, we are mainly interested in whether the person has the information, not in whether the person’s belief rises to the level of knowledge. Ordinarily we do not already assume that they have a true belief and just focus on whether their epistemic position suffices for knowledge. Similarly, when we say that someone does not know something, we typically mean that they don’t have the information” (pp. 62f).

<sup>53</sup> Jason Stanley (2006) constructed an interest-relative invariantist account of knowledge assessment largely on the basis such considerations; for critical remarks on his view, which I consider compelling, see Schiffer, “Interest-Relative Invariantism,” (forthcoming).

significant, they will generally demand higher standards of evidence.<sup>54</sup> But significant doubt is often an arguable matter, not easily resolved. Some doubts may be considered neurotic; others may be considered idle or even “merely philosophical.” In later chapters I shall discuss examples in which ordinary standards are questioned for plausible philosophical reasons: they are claimed to be insufficiently critical.

I have said that a subject who knows that P must possess the information that P.<sup>55</sup> A condition the information that P must meet if S knows that P is that S should possess it because of some kind of learning or evidence. This condition is emphasized in good English dictionaries. According to the new *Oxford American Desk Dictionary and Thesaurus*, “**Knowledge** applies to any body of fact gathered by study, observation, or experience, and to the ideas inferred from these facts....”<sup>56</sup> This assertion is not presented in the way a philosopher would put it, but the idea is clear enough: knowledge that P results from a reliable process of fact-gathering or fact-assimilation, one sufficient to render P sufficiently probable in the circumstances to satisfy the condition I mentioned earlier.<sup>57</sup> To have obtained a fact (something true) by such a process is to possess information. It is analytic of the idea of information, at least as I understand it, that it is ultimately created this way. It may, as I implied earlier, be retained when the supporting evidence is lost, and it may even be transmitted to another person on a responsible subject’s authority. But if a thought or supposition that happens to be true simply comes to mind and has no evidential support that anyone is aware of, it is not properly information in the relevant sense.

### Problems for Two Senses of “Knows that P”

There is a lot more to say about the senses of “knows” I have described, but before proceeding with it I must consider an important objection to the idea that these senses are actually compatible with reflective speech about knowledge. The objection arises from a verbal phenomenon emphasized by John Macfarlane in a recent paper.<sup>58</sup> Although we do often require stronger or weaker evidence in accepting knowledge claims or ascriptions, if we first say we know something P on the basis of contextually acceptable evidence but then, in view of facts brought to our attention, deny that we know it because stronger evidence now seems required, we will not generally allow that we did, and do, know P in a weak sense but do not know it in a stronger one. We will deny that we ever knew P at all. Macfarlane illustrates this fact by the following example. Having left my car in my driveway when I go to work, I later claim that I know where my car is: it is in my driveway at home. Even though I may believe that my neighborhood is a safe one where thefts rarely occur, I may nevertheless concede, when the possibility of theft is strongly emphasized, that I do not really know what I said I knew. In saying this, I am now using a stronger epistemic standard than what I used when I originally made my claim, but I do not insist that I still know in a weak sense what I now deny on the basis of stronger evidence. If there really were stronger and weaker senses of ‘know,’ the fact that I do not know something in a strong sense should not prompt me to deny that know it in a weaker sense. In the case presented I clearly change my mind, something that I would not be doing if I merely made claims using two different senses of the same word.

The example is impressive, but it does not actually undermine my two senses view. Here is why. In both senses of the verb, “S knows that P” implies that “P” is true. When I made the ascription on weaker evidence, I had no doubt that “P” was true; I was wholly confident that it was true, although my evidence fell far short of what is required for rational certainty. But the facts that prompted a stronger epistemic assessment of my knowledge ascription rendered the truth of “P” doubtful; I not only denied knowing “P” on a stronger evidence base, but I came to doubt that “P” is actually true. This doubt undermined my initial claim as well as any temptation I may have felt to claim knowledge of “P” in a weaker sense.

Another reason why the example fails to undermine the two-sense view is that the two cases presented are both involve a weak sense of “knows.” Weightier evidence is brought to bear on the second case, but different cases of imperfect knowledge may well involve evidence of different weights. When I take more evidence into account, I change my mind about what I know; I do not suppose I am moving to a different sense of “knows.” The case Macfarlane describes is

<sup>54</sup> There is an extensive literature concerned with the relation between knowing and what some might consider remote possibilities of error. This literature and the subject it concerns are admirably discussed in Hawthorne (2004).

<sup>55</sup> The condition on information that I mention here applies to knowing “for certain” as well as to knowing in the weaker sense. In what follows I shall use “knowing” or “knowledge” to refer to the weak sense of these terms; I shall add a qualifier when referring to the stronger sense.

<sup>56</sup> *Oxford American Desk Dictionary and Thesaurus*, p. 460.

<sup>57</sup> I discuss probability and rational acceptability in chapter six.

<sup>58</sup> See Macfarlane (2005). The phenomenon also provides an objection to contextualism that is closely related to the first one I give on p. 9.

not applicable, therefore, two senses of “knows” I have described. If I were to say that I know my car is safer on stronger evidence, I could still deny that I knew it for certain—that I could actually prove that it is true. Knowing matters of fact in this way is something that may elude our powers. I shall return to this matter in the last part of my last chapter.

Although the senses I have distinguished are not undermined by the phenomenon Macfarlane identified, one or the other might seem threatened by a problem routinely posed in discussions of skepticism. The problem is sometimes called the closure paradox,<sup>59</sup> and it may be stated by means of the following three assertions:

1. Moore knows that he has hands.
2. Moore doesn't know he is not a brain in a vat.
3. If Moore doesn't know he is not a brain in a vat, then he doesn't know that he has hands.

These assertions are thought to be individually plausible but jointly contradictory. How is the paradox to be resolved?

Dogmatists typically accept (1) and (3) but deny (2); skeptics accept (2) and (3) but deny (1); and contextualists accept (1) and (2) but deny (3). Given my two senses of “knows,” I can consistently accept both (1) and (2), saying that Moore knows he has hands in the weak sense, the sense presupposing conventional assumptions about perception, but fails to know *for certain* that he is not a brain in a vat. But if I accept both (1) and (2), I must deny (3), a move that appears to deny “closure” for known logical implication.<sup>60</sup> Jonathan Schaffer contends that this is a serious blunder on two counts: it “seems absurd” on the face of it and it “collapses inferences.” Deduction surely transmits knowledge, he says, for mathematical proof is based on deductive inference and it unquestionably yields knowledge.<sup>61</sup> Am I really making a blunder if I deny (3)?

The answer is no. Closure holds only for logical or mathematical operations denoted by univocal predicates. If I know that P and also know (in the same sense of the word) that P entails Q, I certainly know that Q (in the same sense of “know”).<sup>62</sup> But if I know that P in a weak sense and know that P entails Q in the same or even a stronger sense, closure does not require that I know that Q in the strong sense assumed by premise (2). Anyone who accepts a weak sense of “know” should allow that Moore knows that he is not a disembodied brain in a vat in the weak sense in which he knows that he has hands. How could he be disembodied if he has hands? And how could he know that he is disembodied without knowing this? Having this knowledge is not knowing for certain, of course; it is not knowing in a way that allows no possibility of error. Moore, a particularly self-confident person, might conceivably have believed that he had certain knowledge for the proposition that he has hands, but if he knew this for certain, he would equally know for certain that he is not disembodied, not something that doesn't have any physical part or appendage. The so-called paradox of closure therefore falls apart on examination, in my opinion. Statements (1) and (2) are jointly acceptable only when they include different senses of “knows.” But then, when they contain these different senses, statement (3) does not involve a closure principle. For a univocal sense of “knows,” a closure principle (suitably qualified)<sup>63</sup> is, I believe, patently acceptable.

### Avoiding Gettier Counterexamples

Although Gettier counter-examples are not, as I have argued, pertinent to cases of certain knowledge, they do apply to knowledge in a weak sense, a subject's evidence for which is logically compatible with the falsity of what he or she is said to know. Any evidence that is sufficient for knowledge in this sense must satisfy a condition that rules out Gettier's counter-examples and others relevantly like them. The condition is needed because thoughtful speakers of English who do not require conclusive evidence for knowledge uniformly deny that Gettier examples are genuine cases of knowing, and their conception of knowing must include some basis for this negative attitude. The relevant condition has proved notoriously difficult to pin down in a

<sup>59</sup> See DeRose (1995) and e.g. Schaffer (2005), pp. 259f.

<sup>60</sup> Closure in this case is the principle commonly formulated by saying that if S knows that P and also knows that P entails Q, S knows that Q. To avoid certain problems not pertinent to the issue here, Hawthorne (2005) formulates the principle more cautiously, saying that if S knows that P and competently deduces Q from P, thereby coming to believe Q while retaining his knowledge that P, S comes to know that Q.

<sup>61</sup> See Schaffer (2005), p. 261.

<sup>62</sup> This is denied by Dretske (2005) mainly on the ground that a subject's means of knowing that P is not inevitably “transmitted” to Q even when he or she knows that P entails Q. But subjects having the latter knowledge have an extra premise to use in inferring Q, one that makes explicit something involved in knowing that P. Their basis for accepting Q is therefore possibly different from their means of knowing that P.

<sup>63</sup> See footnote 58.

satisfactory way, however. It is expressed vaguely by saying that the truth of the proposition embodying the information must not be "accidental" so far as that evidence is concerned.<sup>64</sup> The fact that P is strongly supported by evidence E does not insure that P is not accidental in the relevant sense. In Gettier's first example, Smith has good evidence for the disjunction "Jones owns a Ford or Brown is in Barcelona" because he has good evidence for the first disjunct, "Jones owns a Ford," and knows that the disjunction is a logical consequence of it. But the truth of the disjunction depends on the truth of the second disjunct, "Brown is in Barcelona," to which Smith's evidence is not pertinent at all. Gettier's second example is similar. Although Smith has good evidence for the conclusion that the man who will get the job has ten coins in his pocket, his evidence pertains entirely to Jones and has nothing specifically to do with the person who will actually get the job and who actually has the coins in his pocket. He has good reason to believe that Jones will get the job and that Jones has ten coins in his pocket, but the truth-maker for the conclusion is a compound fact about Smith himself, something that is purely accidental so far Smith's evidence is concerned.

The vagueness of referring to a truth that is "accidental" in relation to given evidence is not entirely damning for an explanation of what is meant by a vernacular expression, which can be expected to share that vagueness, but I think it is possible to specify the relevant condition in philosophically more congenial terms. The basic idea, which leads ordinary speakers of English to reject Gettier cases as genuine cases of knowledge, is that the conclusions formed in those cases do not qualify as expressions of knowledge because they are not *made true* by facts for which the subject possesses evidence. (If S possesses evidence for a particular fact, I shall say that the fact is evidentially accessible to S.)

The notion of making true that I am employing here is frequently used in truth-conditional semantics.<sup>65</sup> Elementary statements are made true by pertinent facts about the reality they concern; formulas of the form  $\sim\Phi$  are made true by the fact that the inner formula,  $\Phi$ , is not true; conjunctions are made true by the fact that both conjuncts are true; disjunctions are made true by the fact that one or the other of their disjuncts is true; material conditionals are made true by the fact that either their antecedents are false or their consequents are true; quantified formulas are made true, ultimately, by pertinent facts about individual entities, either all or some, in the appropriate domain of quantification; and modal facts are made true by facts about possible worlds or the contents of pertinent concepts. This idea clearly applies to the two Gettier examples I mentioned. The statement that either Jones owns a Ford or Brown is in Barcelona is made true, ultimately, by the fact that Brown is in Barcelona; and the statement that the man who will get the relevant job has ten coins in his pocket is made true by the facts that Smith is the one who will get that job and that Smith has ten coins in his pocket.

The idea of a truth-maker, as I am using it, is reasonably unproblematic,<sup>66</sup> but my notion of evidential access requires more discussion. Consider the following example. Living in a rural area, I discover some curious scratches on the door of a garden shed, and I ask my neighbor about them. They look as if they were made by the teeth of some animal, and my neighbor is far more knowledgeable about the local wildlife than I am. He says that a fox or a raccoon made the scratches. Suppose a fox actually made them and that my neighbor's experience provides good evidence that they were made by a fox or a raccoon. Off-hand, it would appear that my neighbor knows, in the weak sense, that one or the other of these animals did cause the scratches, but does he have evidential access to the truth-maker for the disjunction involved here? He certainly cannot say what that truth-maker is.

According to my stipulation regarding evidential access, a person who has evidential access to a truth-maker need not know what that truth-maker is; it is sufficient that he have evidence for it. In the case in question, the neighbor has such evidence, but he also has evidence supporting another hypothesis. Primarily, his confidence is attached to a disjunction: his evidence concerns both disjuncts equally well. No one would think of this case as a Gettier example, so there is no perception (on the assumption that the man's judgment is good and his experience is extensive) that he is right because of a lucky guess. He judges that a disjunction is true, and his evidence supports both disjuncts sufficiently well to make him unwilling to detach one in favor of the other. If his evidence favored just one of the disjuncts, he would have knowledge of the

<sup>64</sup> The last part of this condition is widely recognized; for example, Steup (1996) expresses something like it by means of the expressions "lucky truth" and "lucky guess" (see, p. 9), and Heller (1999) describes his preferred theory of knowledge as an "anti-luck" theory.

<sup>65</sup> I am not employing the notion of a truth-maker recently worked out by Armstrong (2004); I do not believe that such an elaborate notion is needed for my purposes here.

<sup>66</sup> The reader should realize that the clauses I give in the last paragraph amount to a recursive characterization of a truth-maker. A disjunctive statement is true if at least one disjunct is true, but to ascertain the truth-maker for one of the disjuncts, we must attend to the logical structure of that disjunct. If, for example, it is an existentially quantified formula, its truth-maker must be sought by means of another clause, the one governing quantified formulas.

disjunction only if his evidence favored the truth-maker in a sufficiently strong way. But this is not the way the case is specified.

In view of objections I have heard, I must emphasize that the evidence favoring a truth-maker for a compound proposition need not be sufficient to justify belief in that truth-maker. This is evident from the case of the scratches on the door. The neighbor has good evidence that a fox or a raccoon made the scratches, but his evidence does not warrant his believing that a fox made them or his believing that a raccoon made them. Since these simple hypotheses are incompatible, the probability of their disjunction on the basis of his evidence—that is,  $\text{Prob}(F \text{ or } R, \text{ on } E)$ —is equal to the probability of the fox hypothesis on  $E$  plus the probability of the raccoon hypothesis on  $E$ —that is, to  $\text{Prob}(F \text{ on } E) + \text{Prob}(R \text{ on } E)$ . But although the fact that the conditional probability of the disjunction is high enough to support the conclusion that the neighbor knows that disjunction is true, it does not follow that the conditional probability of either simple hypothesis is high enough to support the conclusion that it is true. In the case I have described these latter hypotheses are too weakly supported for such a conclusion. On the other hand, the support that the disjunction receives from the evidence is owing to the non-negligible conditional probabilities of these simple hypotheses. If the sum of these simple probabilities were sufficiently low, the conditional probability of the disjunction would be too low for knowledge.

What about logical truths? If a person knows that it will rain tomorrow or that it will not, need he have evidence for the contingency that happens to make this disjunction true? The answer is no. My truth-maker requirement holds only for contingent knowledge. A tautology is true no matter what the contingent facts may be, so knowledge of its truth does not require evidence for such facts. The aim of the requirement is to rule out Gettier cases, and these cases do not concern tautologies or analytic truths.

It is obvious that if we can know (in the weak sense) on the basis of memory, testimony, or experimental inference, our evidential access to a truth-maker can sometimes be considerably indirect. It must, however, exist if we have genuine first-hand knowledge about a contingent matter. I say “first-hand knowledge” because second-hand knowledge—that is, knowledge based on the testimony of another person—may involve a more remote relation to a truth-maker, one that is not happily described as a form of evidential “access.” Consider this example. A neighbor has two teen-age sons. One of them, riding his bike too carelessly in the vicinity of my carefully restored and highly polished antique MG roadster, produces a long, ugly scratch on the right front fender. Knowing that the offending son does not respond well to criticism, my neighbor informs me that one of his sons caused the damage, that he will gladly pay to repair it, but that he is not prepared to say which son was the culprit. Assuming that the neighbor would not knowingly provide false information, I think I could reasonably be said to know on the basis of his testimony that one of his sons did in fact cause the damage, but I would not know which son it was. I would not therefore know the truth-maker for the statement, “One of the sons caused the damage,” or have any direct evidence for it. The evidence I have would, however, be indirectly based on the knowledge of that truth-maker, because that knowledge is the evidential basis for the neighbor’s testimony, which, along with facts about his honesty and so forth, is my evidence for the statement in question.

Knowledge in the weak sense can sometimes rest on testimony that rests on further testimony: the chain can sometimes involve three or more persons. For instance, a highly reliable witness can produce an affidavit that is read by a second person of high moral standing who prepares a translation that is read to a third person who thereby comes to know what the original witness has observed. Although the persons down the chain from the original observer may not know the truth maker for the original claim, their knowledge would be indirectly based on it. Because of this they satisfy a sufficient truth-maker condition, although it is significantly indirect.

I should emphasize at this point that a subject’s evidential access to a truth-maker does not generally provide all the information that a knower needs. This is evident from what is obviously involved in knowing something disjunctive. If I know that  $P$  or  $Q$ , then the truth-maker for my belief, if the belief is contingent and “ $P$ ” and “ $Q$ ” are not themselves compound or quantified propositions, is either the fact that  $P$  or the fact that  $Q$ .<sup>67</sup> But if my belief is made true by the fact that  $P$ , I will not have the information that  $P$  or  $Q$  unless I realize that  $(P \text{ or } Q)$  follows from  $P$ . As a general matter, evidence for the truth-maker of  $\Phi$  will provide adequate evidence for  $\Phi$ , but further evidence may be required for the information condition.

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<sup>67</sup> If both  $P$  and  $Q$  are true, both  $P$  and  $Q$  make the disjunction true. Should someone who knows that the disjunction is true possess evidence for both disjuncts in this case? The answer is no. We have a redundant truth-maker here. Since the truth of either disjunct insures the truth of the disjunction, evidence for either is sufficient for knowing. An analogous point holds for the knowledge of existentially quantified truths. If four different books are on a table, evidence that any one of the books is there is enough to satisfy the truth-maker requirement for “At least one book is on the table.” When redundant truth-makers are available, evidence for a *sufficient* truth-maker satisfies the truth-maker condition.

Another, more interesting illustration is the phony barn case that is well known in the literature on knowing.<sup>68</sup> This case is often described as a Gettier example, but it is not sufficiently similar to the examples Gettier actually gave to merit that description. It can be set down as follows. Riding on a train through a section of countryside that contains, unknown to me, numerous facsimiles of barn facades, I have a clear perception of a real barn and thus have evidential access, by means of perception, to the truth-maker for my belief. But I do not know that I am seeing a barn: my evidence is not, in the circumstances, good enough. It is the sort of perceptual evidence that would ordinarily be sufficient for knowing in a sense not requiring rational certainty, but it is not sufficient in the specified case because of the presence of the barn-facade facsimiles, which I could not distinguish from the real thing at a distance and through the window of a train. This case does not require me to adopt a strategy of ruling out relevant alternatives, although it would be reasonable to do so. What I need is better access to the object I perceive. The normal, defeasible presumption that what I seem to be seeing in the light of day is what is actually there is undermined by the presence of the facsimiles, and I therefore need more evidence than what is normally sufficient for knowing what I am seeing. What I positively need is to make a closer inspection of the object; I must ascertain what actually possesses the façade that I discern through the window of the train.

There are other examples, originally offered as ostensible counter-instances to a traditional conception of knowing and sometimes considered Gettier cases, that are similar to this last one. A lecturer may look at a clock that is normally reliable and form the belief that the time is 4:15 p.m.; the clock is out of order, but its hands happen to indicate that it is 4:15 p.m., and this happens to be the right time. Or again a man wishing to deceive a certain person visiting another country prepares a fake front page of a reliable newspaper bearing the headline, "REVOLUTION IN BRAZIL!" On reading the contrived news story, the victim forms the belief that such a revolution has occurred, and by an extraordinary coincidence his belief turns out to be true—to the utter surprise of the deceiver. Do these cases satisfy the definition of knowing, or not? They do not. They do not satisfy my definition for the same reason that the phony barn case does not satisfy it: the person's evidence is not adequate in the circumstances. The clock and a newspaper whose front page has the appearance of the fake one are both generally reliable: what they indicate is normally true and normally an adequate basis for knowing in a sense not requiring rational certainty. But these are not normal circumstances and in these circumstances the defeasible<sup>69</sup> evidence that the clock and the paper provide is not good enough for knowing. It is defeated by the abnormality of the circumstances, and it does not provide genuine information about the correct time and the occurrence of the revolution.

### Concluding Remarks

I have distinguished two senses of "knows that" in this chapter, one involving rational certainty and the other not. The basis for my distinction was the common practice of requiring rational certainty in some cases but not requiring it in others. Sometimes people are asked "Do you know that for certain?" and sometimes this question never arises.

A skeptic might insist that there is just one sense of "knows," a strong one, which is sometimes loosely applied to cases that do not really deserve to be called knowledge at all. But this opinion is clearly at odds with actual usage. As I noted, philosophers have for centuries associated knowing with being rationally certain about something, but ordinary people employ a much looser and less strict idea. If you tell tough-minded farmers or gardeners that they do not really know they are holding a shovel or pitchfork because they *might* actually be dreaming or hallucinating, they will simply laugh or roll their eyes, and walk away. They have no doubt that these possibilities are fanciful. Their opinion on this matter is not apt to be challenged by someone with scientific interests. There is surely some scientific knowledge, but no one seriously concerned with empirical matters would want to contend that matters of fact are self-evident or capable of proof.

Since it is philosophers rather than farmers, bakers, or laboratory workers who typically insist on a rational certainty requirement, we might adopt Bishop Butler's language and call one sense the "strict and philosophical" one and the other the "loose and popular."<sup>70</sup> I have acknowledged that in real life the quality of evidence needed for agreement on knowledge ascriptions tends to be higher in contexts where the consequences of acting on erroneous input are

<sup>68</sup> Lewis discusses this case, originally described by Carl Ginet according to Goldman (1976), in connection with Gettier examples. I myself do not consider the case a genuine Gettier example because it does not conform to the pattern of the examples Gettier actually gave. His examples were distinguished by the lack of evidential access to the pertinent truth-maker, which is not present in the phony barn case.

<sup>69</sup> See p. 12 above.

<sup>70</sup> Chisholm (1976), p. 92, introduced this language into recent philosophy. His source was Butler (1839), pp. 263-70.

considered uncertain, hazardous, or incompatible, in some significant way, with the agent's or the observer's purposes, or where assumptions customarily used in assessing knowledge claims are put in question by some unusual fact or circumstance. But this kind of variation, which is much less extensive than Lewis's account implies, is not incompatible with just two senses of "knows." In most of the contexts where stricter standards are insisted upon, rational certainty as a philosopher would understand it is not actually called for. The standards are strict, but they do not require logically tight demonstrations or perceptions of certain truth. They usually fall far short of what is demanded by a philosopher's "strict and philosophical" sense.

As a way of concluding this chapter, I want to bring together my analytical remarks about knowing by providing two pertinent definitions. In discussing what we might call the loose and popular sense of knowing that P, I said that a person having such knowledge must have the information that P but need not actually believe that P. I doubt that this qualification is advisable for the strict and philosophical sense. If you are rationally certain that P, it is hard to see how you might be unaware of what you know; in fact, you should be convinced that P is true.<sup>71</sup> In view of this the following definition, which recalls the familiar justified-true-belief definition, seems satisfactory for the stricter, philosophical sense:

S knows that P for certain just when (i) it is true that P, (ii) S is rationally convinced that P, and (iii) S's rational conviction (which involves a strong belief) that P is owing to S's awareness of evidence E that is conclusive for P: the probability of P on E is maximal, or 1.<sup>72</sup>

The nature of being rationally convinced by conclusive evidence is best left open here, because it is a serious source of disagreement. Both rationalists and empiricists will agree that being convinced of P this way amounts to having a proof for P or having some direct assurance that P is true, but they will disagree about what direct assurance might be. I will investigate this matter thoroughly in chapters two and three.

A definition for the kind of knowing that does not require rational certainty will be looser than the last one. I said earlier that the quality of the evidence required for non-certain (or, as I shall also call it, "imperfect") knowing must be good enough to convince an appropriately informed, clear-headed, and impartial referee that the subject has the relevant information. It does not have to rule out alternative possibilities in the way Lewis thought, because a specific set of such alternatives is not always available: what is said is generally not that determinate. So if, instead of trying to spell out the common presumptions and inferential methods that, in conjunction with the experiences and memories available to the subject, render the probability of the relevant proposition sufficiently high to be convincing in the way I said, we simply speak of the subject's evidence as being good in relation to that proposition and what is acceptably presumed about it, the subject, and the pertinent circumstances, we can say the following:

S has "imperfect" knowledge that P just when (i) it is true that P; (ii) S has the information that P; (iii) S's evidence for P<sup>73</sup> is very good in relation to P and what is rationally presumed about it, the subject, and the pertinent circumstances; and (iv) S has evidence, direct or indirect, for a fact that is sufficient truth-maker for P.<sup>74</sup>

This definition, which, like the former definition, omits a needed variable for the time at which the subject knows that P and abstracts from issues related to the context in which the knowledge that P is ascribed to the subject,<sup>75</sup> is still not as succinct as it could be, since it contains an obvious redundancy: clause (i) follows from clause (ii). But the provisions of a succinct definition are less easy to grasp than those of a more verbose one, and I am interested in being as helpful as I can.<sup>76</sup> Some of the key words in the definition have the meanings I specified in my earlier discussion. The words "the information that P" apply, I said, to something propositional and true that one can

<sup>71</sup> If you have a true belief based on good evidence, you will have the information that P in the sense I have explained.

<sup>72</sup> In chapter six I discuss probability values of this kind in some detail. In this and the following definition "the proposition that" should be understood as preceding the last two occurrences of "P." I suppressed these words to simplify the formulas.

<sup>73</sup> If we allow that a subject may still have an item of information when he has forgotten its evidential source, the subject's evidence for P need not be possessed whenever he knows P. The same holds for his evidential access to a sufficient truth-maker.

<sup>74</sup> If the truth of P is a logical consequence of a more elementary truth-maker, any evidence that satisfies clause (iv) will satisfy clause (iii).

<sup>75</sup> See the "general matter" I mention on p. 4 above.

<sup>76</sup> The reader might observe that this definition comes fairly close to the traditional one that Gettier criticized. In place of a belief requirement, it has an information requirement that attributes "something propositional and true" to a knower. This propositional attitude is kind of an attenuation of a belief requirement that also satisfies a truth condition. The evidence condition corresponds to the traditional justification condition, although it is logically weaker. What is entirely new is the evidence-for-a-sufficient-truth-maker condition, which is needed to rule out Gettier cases.

mentally possess as the result of learning and then retain without necessarily believing that one possesses it or thinking that it is true. And “evidential access to a truth-maker” applies to good evidence (not necessarily conclusive) for a fact that makes a certain proposition true.

As my discussion of Lewis’s views on knowing made evident, routine ascriptions of knowledge are made on the presumption that the logically inconclusive evidence available to the subject is, in the circumstances, a sufficient indication of what the subject is being said to know. This presumption and others that I have mentioned are commonly made and, in practice, rarely questioned. When they are questioned, philosophical problems sometimes arise because it is difficult to show that the presumptions are in fact true and deserving of the confidence that is commonly placed upon them. If these problems cannot be solved, a skeptical reassessment of the supposed knowledge is apt to be made. The reassessment is important, whether we are happy with the concept of loose and popular knowledge or not. I shall discuss salient examples of these problems in chapters five and six.