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Abstract

by

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This dissertation is a defense of an infallibilist theory of knowledge. According to this theory, we know all and only those propositions that are certain for us. In chapters 1-2, I clarify this thesis and its implications. In chapters 3-4, I argue that infallibilism is the best explanation of a wide variety of intuitions about the nature and roles of knowledge. This is because infallibilism entails or makes plausible various intuitive claims about knowledge, such as that knowledge is evidence and that knowledge can be extended by deduction, whereas fallibilism is either inconsistent with these claims or has a much harder time explaining why they are true. In chapters 5-6, I respond to the charge that infallibilism is an unacceptably skeptical theory of what we know. I argue that infallibilists need not be skeptical of all claims to knowledge – some propositions really are certain for us – and they can give plausible error theories for why we often take ourselves to know propositions that are not really certain for us. In chapter 7, I weigh the overall evidence for and against infallibilism. I argue that, even if some skeptical consequences of infallibilism remain counterintuitive, these costs are more than outweighed by the cumulative benefits of the theory presented in chapters 3-4.
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This dissertation is a defense of infallibilism about knowledge. It proceeds as follows. In chapter 1, I very briefly sketch the historical development of theories of knowledge, from the classical infallibilism popular prior to the mid-twentieth century, to the justified true belief analysis of knowledge that Gettier refuted, to the revisions and replacements of that analysis proposed in the last fifty years. I aim to bring epistemology back to a position much closer to the traditional view.

In chapter 2, I develop and clarify the infallibilist theory I defend. On this theory, S knows that P if and only if P is certain for S, and P is certain for S iff S stands in a special kind of mental relation to P, which I stipulatively label \textit{clear perception}. Clear perception that P is a kind of mental relation to P that precludes any possibility of error in believing P, and makes P maximally probable for S. So, according to the version of infallibilism I defend, S knows that P iff S stands in this relation to P.

Having developed this view, in chapter 3 I offer a new argument for infallibilism so conceived: it lets us reconcile nearly all major extant theories of knowledge, in the sense that we can accept virtually all necessary conditions on knowledge proposed by post-Gettier epistemologists. Moreover, suitably interpreted, these conditions mostly turn out to be equivalent on the version of infallibilism I defend. As such, we can affirm that most post-Gettier theories of knowledge offer not only necessary but also sufficient conditions for knowledge.
In chapter 4, I make a cumulative case argument for infallibilism, presenting and defending eight more considerations in favor of infallibilism. I argue that infallibilism either entails or easily allows for the truth of the following eight intuitive claims about knowledge, whereas fallibilism is either inconsistent with them or has a much harder time explaining why they are true:

1. There is a qualitative difference between knowledge and non-knowledge.
2. Knowledge is valuable in a way that non-knowledge is not.
3. Subjects in Gettier cases do not have knowledge.
4. If S knows that P, P is part of S’s evidence.
5. If S knows that P, ~P is epistemically impossible for S.
6. If S knows that P, S can rationally act as if P.
7. If S knows that P, S can rationally stop inquiring whether P.
8. If S knows each of \{P_1, P_2, \ldots P_n\}, and this set entails Q, S is in a position to know Q.

An important question for the place of my theory in contemporary epistemology is its relation to the epistemology of Timothy Williamson and other so-called “knowledge-firsters.” The main difference between our epistemologies is that Williamson tries to pull apart epistemic probability 1 and absolute certainty. As such, he seeks to extend our evidence – and what we know – much more broadly than I do. In chapter 5, I argue that Williamson’s theory is unable to extend our knowledge any more widely than the infallibilist theory I defend, and that both theories of knowledge imply a moderate, though not universal, skepticism about what we know.

The argument in chapter 5 leads us to the problem of skepticism. Most epistemologists today view skepticism about knowledge as a non-starter, and reject infallibilism for this reason. Chapter 6 is devoted to addressing this objection to infallibilism. I argue that the infallibilist can offer plausible error theories for why it often wrongly appears to us that we know more than we do, and why we often attribute
knowledge where it is not present. I further argue that these error theories can likewise explain other ordinary epistemic and linguistic practices that may appear prima facie problematic for the infallibilist.

Having presented the case for infallibilism in chapters 3-4, and responded to the case against infallibilism in chapter 6, I turn in chapter 7 to the task of weighing the overall evidence for and against infallibilism considered in these earlier chapters. Using probability theory to measure the strength of these evidences, I argue that, even if the skeptical consequences of infallibilism remain somewhat counterintuitive, the costs of these consequences are more than outweighed by the cumulative benefits of infallibilism explored in chapters 3-4.

Chapter 7 completes my case for my infallibilist theory of knowledge. In chapter 8, the conclusion to this dissertation, I turn to the theory’s implications for other central epistemological questions. I suggest that the most natural epistemology to emerge from this theory is a form of foundationalism according to which we ought to be confident in a proposition to the extent that it is made probable by what we know, and we ought to believe a proposition outright just in case we know it. An important question for future research is then how to determine the degree to which those propositions which we know make probable, or evidentially support, other propositions.

In preparing this dissertation, I have benefited from the generous help of numerous people. I am thankful to my advisor, Robert Audi, for his written and oral comments on multiple drafts, his tireless advocacy and support, and his infectious passion for philosophy and love of truth. I am thankful to my committee members, Blake Roeber, Branden Fitelson, and Fritz Warfield, for helpful discussion and comments on chapter
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CHAPTER 1
INTRODUCTION

Infallibilism is not a popular view nowadays. Dougherty and Rysiew (2009: 123) note “the near-universal acceptance of fallibilism in epistemology.” Cohen (1988: 91) says that “the acceptance of fallibilism in epistemology is virtually universal.” And Siegel (1997: 164), Williams (2001: 5), and Kitcher (2012: 168) all independently insist that “we are all fallibilists now.”

But it was not always so. In the Meditations, Descartes famously claims that knowledge (cognitio) consists in “clear and distinct perception,” where this precludes the possibility of error (Descartes 1641/1996; see Dutant 2015 for discussion). Many other philosophers prior to the “Gettier revolution” were also infallibilists of some sort. For example, in his Essay (1689/1996: IV, iii.14), Locke equates ‘true knowledge’ with ‘certain knowledge,’ and says that in empirical matters our knowledge does not extend any further than what we directly observe:

For all of the qualities that are coexistent in any subject, without [a] dependence and evident connection of their ideas one with another, we cannot know certainly any two to coexist any farther, than experience, by our senses, informs us. Thus though we see the yellow color, and upon trial find the weight, malleableness, fusibility, and fixedness, that are united in a piece of gold; yet because no one of these ideas has an evident dependence, or necessary connection with the other, we cannot certainly know, that where any four of these are, the fifth will be there also, how highly probable soever it may be: because the highest probability, amounts not too certainty; without which there can be no true knowledge.
In the early twentieth century, we can still find clear statements of infallibilism from a variety of philosophers:

“The highest degree of rational belief, which is termed *certain* rational belief, corresponds to *knowledge*. We may be said to know a thing when we have a certain rational belief in it, and vice versa.” – Keynes, *Treatise on Probability* (1921: II.2), emphases his

“[M]y position [is] that I *know*, with certainty, to be true all of the propositions in (1)… If I do *know* all these propositions to be true, then, I think, it is quite certain that other human beings also have known corresponding propositions: that is to say (2) [i.e., the claim that other human beings have known corresponding propositions] also is true, and I *know* it to be true.” – Moore, “A Defence of Common Sense” (1925/1959a: 43), emphases his

“A statement is certain, i.e. is an expression of knowledge, only in one or other of two cases: when it is either self-evident, or a valid conclusion from self-evident premisses.” – Ross, *The Right and the Good* (1930: ch. 2)

There is a strong historical case to be made that the above quotations do not express a minority viewpoint in the history of philosophy, and that in fact the vast majority of Western philosophers prior to the mid-twentieth century were infallibilists (see Dutant 2015 and Antognazza 2015). Around the 1950s, philosophers became increasingly convinced that infallibilism was incompatible with a common sense view

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1 Here Moore equates a proposition’s being certain for him with his knowing it. He continues immediately after this by contrasting knowledge with mere belief or knowledge of high probability, and assuming that knowledge is to be equated with knowledge with certainty: “But do I really *know* all the propositions in (1) to be true? Isn’t it possible that I merely believe them? Or know them to be highly probable? In answer to this question, I think I have nothing better to say than that it seems to me that I *do* know them, with certainty.”

2 Ross leaves out immediate experiential knowledge here, presumably because his focus is on moral facts, which he takes to be self-evident.

3 Antognazza does not use the term ‘infallibilist,’ but the conception of knowledge she attributes to the tradition is very similar to my own conception of infallible knowledge (see chapter 2, note 16). Dutant does use the term ‘infallibilist,’ although his definition of the term is slightly different from mine (see chapter 2, note 1).
about the scope of our knowledge, and gave it up for that reason (Dutant 2015: 115). Initially they adopted a justified true belief analysis of knowledge, but Gettier (1963) quickly showed that to be inadequate: as Dutant (2015: 115) puts it, “Far from being a long-held conception, the Justified True Belief analysis’s shelf-life was a mere eleven years.” After that, the history is well-known. Within ten years a dizzying array of “revisions” to the justified true belief account had been offered; those accounts faced further counterexamples; further revisions were offered; and further counterexamples were offered. After this theorizing about knowledge fell into further disarray, as theories broke from the JTB analysis more radically, proposing replacement necessary conditions on knowledge besides justification, internalistically conceived. Eventually the project of analyzing knowledge began to seem like a degenerating research program, and epistemologists turned their attention to other problems.

Like BonJour (2010: 57), I believe “that epistemology has, in recent times, gone seriously astray,” and I aim in this dissertation to move contemporary theorizing about knowledge back to something closer to the traditional view. But I do not dismiss wholesale the contributions of the post-Gettier literature, like BonJour and some other critics do. These theories all mention necessary conditions on knowledge (evidential

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4 Dutant tentatively cites Malcolm 1952 as a seminal essay in the rejection of infallibilism. He suggests that, contra Malcolm and others, infallibilism can avoid skepticism if it is divorced from the internalism it has historically been united with in the western tradition (Dutant 2015: 117-18; Dutant 2016). While I consider an externalist form of infallibilism a live option, I argue in chapter 5 that even the externalist infallibilist must be a moderately strong skeptic about the extent of our knowledge – if not quite as skeptical as Locke was above, then nearly so. (I should note here again that Dutant uses the term ‘infallibilist’ in a different sense than me, and that I agree with him that infallibilists in his sense need not be skeptics. I am not convinced, though, that his sense is an interesting sense of the term. See chapter 2, notes 1 and 2 for further discussion.)

5 See notes 1 and 16 of chapter 2 for the relationship between my theory of knowledge and the versions of infallibilism ascribed by Dutant (2015) and Antognazza (2015) to the tradition, respectively.
support, reliability, safety, etc.) which can be interpreted in weaker or stronger ways. I argue in chapter 3 that if we take these conditions and interpret them in the strongest way possible, then we find, in each case, that the theory of knowledge in question ends up extensionally equivalent to the version of infallibilism I defend. In this way we can not only bring epistemology back closer to the more traditional view of knowledge, but also capture what is right about the various post-Gettier analyses that have been offered.

Contemporary fallibilists have tended to view infallibilism as the “dark side” of epistemology – an unreasonably demanding conception of knowledge with excessively skeptical consequences about the extent of our knowledge. But epistemology fell into disarray after the rejection of infallibilism. Conflicting fallibilist theories of knowledge which have since been proposed can be reconciled only if we interpret their key conditions infallibilistically. I invite proponents of these conflicting theories to read on, and discover the power of the dark side. If you then join me in embracing the infallibilism latent in your own epistemology, then with our combined strength, we can end this destructive conflict, and restore order to epistemology.⁶

⁶ Come with me. It is the only way.
CHAPTER 2
AN INFALLIBILIST THEORY OF KNOWLEDGE

In this dissertation I defend a very simple theory of knowledge. According to this theory, propositional knowledge (hereafter, knowledge) is a mental state consisting in a kind of direct awareness of a fact. I call this mental state clear perception. This is the relation you stand in to a fact when that fact is completely certain for you. To know that P is to clearly perceive that P, where you clearly perceive that P just in case P is certain for you.

The central commitments of this theory of knowledge are as follows:

(Infallibilism) S knows that P if and only if P is certain for S.

(Mentalism) Knowledge is a mental state.

The philosophical methodology I follow in this dissertation is abductive. On this approach to epistemology, the way to determine which theory of knowledge is most probable is by comparing how well different theories explain our various intuitions about knowledge, and the roles that knowledge plays in our thought and language. I will argue that my theory of knowledge is the best explanation of a wide variety of intuitions about the nature and roles of knowledge. This is because Infallibilism entails or makes plausible the contents of all these intuitions, whereas Fallibilist theories of knowledge either entail that these contents are false or are much harder to reconcile with their truth.
There are other intuitions that my theory has a harder time explaining – in particular, intuitions about when we have knowledge in particular cases. It will quickly be apparent to the reader that, if my theory of knowledge is correct, we do not know very much. While my account leaves open precisely what kinds of propositions are certain for us, I argue in chapter 5 that on any plausible answer to this question, many propositions we often take ourselves to know will not be certain for us – for example, propositions about the future. As such, Infallibilism will imply that we know much less than we tend to suppose.

Many such epistemologists will see this consequence as a \textit{reductio} of Infallibilism: the view must be false, because it leads to skepticism. I return to this objection to Infallibilism later: after delineating the possible scope of infallible knowledge in chapter 5, in chapter 6 I respond to the charge that this scope is too narrow, offering what I take to be the best error theories for why it wrongly seems to us that we know more than we do. For the time being I simply beg the indulgence of epistemologists who see this charge as a knock-down objection. To evaluate the plausibility of Infallibilism we need to consider the bearing of our \textit{total evidence} on it and its rivals. This includes not only facts about particular instances in which we appear to possess or lack knowledge, but also facts about general properties that knowledge appears to have and theoretical roles that knowledge appears to play. Chapters 3-4 are devoted to arguing that there are several facts of this sort that support Infallibilism. Only with these evidences in hand can we properly evaluate how they measure up against the allegedly fatal skeptical consequences of Infallibilism, and so judge how plausible Infallibilism is on our total evidence – tasks I turn to in chapter 7.
To set the stage for this later argumentation, in this chapter I explain in detail my theory of knowledge and its implications. In section 2.1, I clarify the thesis of Infallibilism, and the nature of certainty. In section 2.2, I argue that if Infallibilism is true, then Mentalism is true – knowledge is a mental state.

2.1 Infallibilism

2.1.1 Other formulations of infallibilism

While various epistemologists explicitly identify as infallibilist or fallibilist, satisfactory definitions of the two views are hard to find. (For an overview of different definitions of infallibilism, see Dougherty (2011) and Reed (2012).) One reason for this is that candidate definitions employ a tangle of interconnected terms the meanings of which are themselves disputed. The main disputed term in my definition is ‘certain.’ Other definitions employ disputed terms like ‘evidence,’ ‘grounds,’ and ‘warrant.’ In this section, I will first explain why these other definitions are unsatisfactory, and then I will expand on my own definition.

The most common definition of infallibilism in the contemporary literature (see, e.g., Feldman 1981: 266, Cohen 1988: 91, Pryor 2000: 518, Audi 2003: 224, Stanley 2005a: 127, and Bonjour 2010: 57) is as the thesis that S knows that P only if the justification/evidence/grounds S has for P entail(s) P. This definition has at least two problems. First, it implies that S’s belief that P on the basis of evidence E is infallible even if E is not itself certain for P. Neta (2011: 668-69) sees this consequence as consistent with infallibilism, but I agree with Dougherty (2011: 140-41) that a theory (such as Neta’s) which allows knowledge wholly on the basis of uncertain grounds
should be considered fallibilist. Relatedly, this definition fails to explain in what respect one’s belief that E, where E is part of one’s evidence, is infallible, precisely because it is trivial that E entails E. Put otherwise, this definition fails to explain in what sense infallible foundational beliefs are infallible. (Reed [2011: section 2] makes a similar criticism of analyzing ‘P is certain for S’ as ‘P has probability 1 on S’s grounds/justification for P.’)

A different definition of infallibilism is adopted by Merricks (1995, 1997), Ryan (1996), Howard-Snyder et al. (2003), Bailey (2010), and Moon (2012). (This definition is also suggested by BonJour 2010: 57.) For these authors, infallibilism is the thesis that warrant entails truth, where warrant is, following Plantinga (1993: 3), “that, whatever precisely it is, which makes the difference between knowledge and mere true belief” (Merricks 1995: 841).\(^1\) However, Huemer (2005) points out that there will be many properties satisfying this functional definition. For example, suppose that

\[ S \text{ knows that } P \text{ iff } S \text{ believes that } P, S’s \text{ belief is true and the truth of } S’s \text{ belief is non-accidental.} \]

Then it is also the case that

\(^1\) Dutant (2015, 2016) adopts a similar definition of infallibilism to those above as the thesis that a belief amounts to knowledge only if it is has a truth-entailing property. This definition makes infallibilism trivially true, because a belief amounts to knowledge only if it is true, and truth is a truth-entailing property. In light of this, Dutant (2016) amends his definition to the thesis that a belief amounts to knowledge only “if it has a factive property that is stronger than truth and not merely the conjunction of some epistemically relevant property and truth” (168n13). This amended definition is similar to Bailey’s (2010), which I discuss in note 2 below. Dutant (2015) also defines a particular version of infallibilism – “Classical Infallibilism” – as the view that a belief amounts to knowledge only if it has a discernable truth-entailing property, in the sense that a sufficiently attentive subject would believe that her belief had this property if and only if it did. Dutant argues that the majority of pre-twentieth century Western philosophers had this view of knowledge. In section 5.3.2, I argue that a requirement similar to discernibility, namely luminosity, does not straightforwardly follow from the claim that knowledge requires certainty – that if it does, this is a separate philosophical claim about the nature of certainty that the Infallibilist in my sense could in principle deny. The relationship between my Infallibilism and the view Dutant ascribes to the tradition will depend on what answers one gives to controversial questions about the relation between certainty and discernibility.
S knows that P iff S believes that P, S’s belief is true and, if P is true, the truth of S’s belief that P is non-accidental.

The property of being non-accidentally true and the property of being non-accidentally true if true both satisfy the functional definition of warrant; however, the former entails truth and the latter does not. As such, it appears that the theses of infallibilism and fallibilism discussed in this exchange are based on a false presupposition – namely, that warrant is unique.  

2.1.2 Formulating infallibilism in terms of certainty

I adopt a different definition of Infallibilism than the above authors, understanding it as the thesis that S knows that P iff P is certain for S. Although this definition does not have the problems affecting the above definitions, it does employ the contested term ‘certain.’ Most proposed analyses of ‘certainty’ are unsatisfactory, at least inasmuch as they attempt to reduce ‘certainty’ to more primitive concepts (see Reed

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2 Bailey (2010) amends Plantinga’s definition of warrant as follows: “Warrant is the logically weakest epistemic good $W$ such that: necessarily, $S$ knows that $p$ if and only if ($S$ believes that $p$, $p$ is true, and $W(p,S)$)” (303). The requirement that $W$ be an epistemic good is supposed to rule out replacing the property $W$ with the property “If $P$ is true, then $W$.” He goes on to argue that warrant so defined is unique on the grounds that, if we have two non-equivalent properties $W_1$ and $W_2$ which are epistemic goods and suffice to make true belief knowledge, then their disjunction $W_1 \vee W_2$ will itself be an epistemic good that makes true belief knowledge. Moreover, it will be logically weaker. So the logically weakest such disjunction is warrant.

This argument turns on the assumption that $W_1$ and $W_2$ are not already equivalent (otherwise $W_1 \vee W_2$ would not be logically weaker than them). However, most proposed accounts of warrant describe quantities of which there can be a greater or less amount and which are such that only enough of that quantity qualifies as ‘knowledge-level warrant’ (Bailey 2010: 298). It is possible that two quantities $Q_1$ and $Q_2$ are such that they are not always equivalent, but they are equivalent when at or above a certain level. Indeed, I shall go on to argue exactly this with respect to the elusive non-truth non-belief conditions for knowledge: S’s belief that P has each of the properties in question just in case it has any of the properties, if these properties are interpreted as obtaining to a maximal degree. My view thus implies that Bailey is wrong to claim that warrant is unique. However, my view will also imply that any property satisfying Bailey’s definition entails truth, and hence it satisfies Bailey’s definition of infallibilism in a sense.
2011). Indeed, if ‘certainty’ is analyzable into more primitive concepts, I strongly suspect that one of those concepts will be ‘knowledge’ itself; and this analysis would be both unhelpful and question-begging in the present context.

Nevertheless, that we cannot provide an analysis of a concept ‘C’ does not imply that we cannot say anything that is informative (or anything that is both a priori and informative) about C (or ‘C,’ but I shall be focused on the former). Similarly, that ‘C’ is only analyzable in terms of some other concept ‘C*’ that we are interested in using ‘C’ to clarify does not imply that we cannot say anything (a priori informative about C (or ‘C’) without employing ‘C*’. In the case at hand, I will attempt to clarify what I mean by ‘certainty’ by proposing non-reductive necessary and sufficient conditions on certainty. As we will see, there are some potential counterexamples to the sufficiency of these conditions, and I think the last of these that I will consider is probably successful. Nevertheless, it will be instructive to see why the other counterexamples do not work, and why these conditions at least come very close to telling us when a proposition is certain.

First, by ‘certainty’ I mean what is sometimes called ‘epistemic certainty,’ as opposed to what is sometimes called ‘psychological certainty.’ These are technical terms, but they help us to explicitly distinguish between two pretheoretic concepts. Epistemic certainty is picked out by the locution “It is certain for S that P,” whereas psychological certainty is picked out by the locution “S is certain that P.” The former describes a(n

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3 I understand a concept to be the mental analogue of a term, and in what follows I move freely back and forth between talk of terms and talk of concepts.
epistemic) property that $P$ has, relative to $S$, whereas the latter describes a 
(psychological) property that $S$ has, relative to $P$.\(^4\)

Note that epistemic certainty is a property of *propositions*, not beliefs. (I always 
use the term ‘belief’ to refer to the state of believing, and ‘proposition’ to refer to the 
thing believed.) For example, consider the following passage from Russell’s *Problems in 
Philosophy* (1912: ch. XII, emphasis mine):

In more scientific matters, *it is certain that* there are often two or more 
hypotheses which account for all the known facts on some subject, and 
although, in such cases, men of science endeavour to find facts which will 
rule out all the hypotheses except one, there is no reason why they should 
always succeed.

What Russell is claiming is certain is the *proposition* that there are often multiple 
hypotheses which account for the data. He presumably also believed this proposition, but 
what he is ascribing the status of being certain to is the proposition, not his belief in it.

$S$ is psychologically certain that $P$ iff $S$ is maximally confident that $P$. There is a 
psychological quantity, confidence, such that psychological certainty is the maximum of 
that quantity. As a first pass, epistemic certainty can be understood as the maximal degree 
of a parallel epistemic quantity: what we might call plausibility, or credibility, or 
(epistemic) probability. These two quantities are linked in the following way: a 
proposition $P$ is plausible/credible/probable for an agent $S$ to degree $n$ iff\(^5\) $n$ is the degree

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\(^4\) Unger (1975: 63), Audi (2003: 224), and Stanley (2008: 36-37) all draw essentially this same 
distinction, although for epistemic certainty they only consider locutions of the form “It is certain that $P$,” 
which one uses to ascribe epistemic certainty to $P$ relative to one’s own epistemic position (as in the 
Russell quotation below). The locution “It is certain for $S$ that $P$” is admittedly rarer, but I take this to be 
the most natural way to say that $P$ is epistemically certain relative to someone else’s epistemic position. For 
example, in the course of exegeting Descartes’s *Meditations*, Reed (2013: 215) writes: “It is certain for him 
[Descartes] that $2 + 3 = 5$ when he perceives it clearly and distinctly.”

\(^5\) Many philosophers present this as an *analysis* of epistemic probability. I do not think this is 
right. I think that our concept of a proposition being plausible to a certain degree in our current epistemic
to which S ought to be confident that P (at least assuming that S has some precise degree of confidence in P). Epistemic certainty and psychological certainty are then related in the following way: P is epistemically certain for S iff S ought to be psychologically certain that P (at least assuming that S has some precise degree of confidence in P).

Epistemic certainty is factive: if P is certain for S, P is true. Indeed, epistemic certainty appears to be conceptually linked to a kind of impossibility of error. It is part of our concept of probability that the more probable a proposition is, the less likely it is to be false. Certainty is the limiting case of this; if it certain that P, then it is maximally unlikely that P is false – i.e., it is certain that P is not false. It is thus natural to think that if P is certain for S, not only is P true, but ~P is epistemically impossible for S. (I discuss these connections between epistemic certainty and epistemic possibility further in section 4.1.5.)

I am not the first person to endorse this particular version of infallibilism. Although they do not use the term ‘infallibilist,’ the quotes in the introduction from Locke, Ross, Moore, and Keynes show that they held that we know all and only those propositions which are certain for us, and that Locke, Moore, and Keynes conceived of certainty as an endpoint on the scale of probability or rational belief. More recently, Unger (1975) has argued that S knows that P iff P is absolutely clear to S (ch. 3.10), and that if S knows that P it is permissible for one to be psychologically certain that P (ch. 3.2). Among contemporary authors who use the term ‘infallibilist,’ Dodd’s (2011: 665)

situation is prior to our concept of a proposition being such that we ought to believe it to a certain degree; however, there is an a priori equivalence between the two. Cf. chapter 8, note 7.
2.1.3 What if Contextualism or Interest-Relativism is true?

In the last sub-section I endeavored to clarify the thesis of Infallibilism by explicating ‘P is certain’ as ‘P is maximally probable.’ However, in order to forestall confusion, I need to say a bit more about how we should understand this thesis if one of two epistemological views about probability are true.

The first view is the view that the epistemic probability of P for S depends on the \textit{practical stakes} involved in being right about P. This sort of view has been widely discussed with respect to knowledge, where it says that whether S knows that P depends not only on S’s “epistemic situation” but also on S’s practical interests \textit{vis-à-vis} P. However, as Stanley (2005b: 88-89) points out, if knowledge is interest-relative, it is plausible that other central epistemic properties are also interest-relative. I will call such a view about an epistemic property Interest-Relativism about that property. If Interest-Relativism about probability is true, then it might be that P is epistemically certain for S iff the epistemic probability of P for S is 1; however, the epistemic probability – and so

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\textsuperscript{6} In his essay on certainty, Reed (2011: section 1) writes that “Roughly characterized, a belief is certain in this [epistemic] sense when it has the highest possible epistemic status.” (Reed speaks of both psychological and epistemic certainty as properties of beliefs, whereas I think of the former as properties of agents and the latter as properties of propositions.) This definition is also similar to mine, but it is less satisfactory inasmuch as there are multiple dimensions on which one can evaluate the “epistemic status” of a belief, and not all of them will be relevant to epistemic certainty. For instance, one might think that beliefs about important matters are more valuable than beliefs about unimportant matters; but we do not want to rule out the possibility of propositions about mundane matters (such as what I remember or seem to remember having for breakfast this morning) being certain. I will ultimately argue that, when they are maximal, those epistemic quantities \textit{intuitively relevant to knowledge} are all equivalent to certainty. However, this claim takes an argument, and for the time being and \textit{modulo} the exception noted below, the description “maximally plausible/credible/probable” will suffice for picking out the property I have in mind.
certainty – of a proposition will itself vary depending on how important for P it is whether S is true.\(^7\)

The second view is that ‘probable,’ ‘plausible,’ ‘certain,’ etc. are contextual: their extension changes depending on the context in which they are used. As before, Contextualism (as I shall call it) is more commonly discussed with respect to ‘know’ than with respect to these other terms; but, also as before, it appears to be equally plausible that other central terms of epistemic evaluation are context-sensitive.\(^8\) Contextualists about the terms I have employed could then accept a meta-linguistic analogue of my definition of certainty: e.g., ‘P is certain for S’ is true in a context just in case ‘P is maximally probable for S’ is true in that context. However, for such Contextualists ‘P is certain for S’ may be true in some conversational contexts and not others.

Since a philosopher who accepts either of these views might interpret my thesis in a way that I do not intend, I will now offer a stipulative definition of ‘certain’ that is not contextual and does not depend on practical interests. This definition will hold for our purposes regardless of whether the ordinary English word ‘certain’ is contextual or refers to an interest-relative property.\(^9\)

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\(^7\) Although his main focus is on the claim that whether S has credence 1 in P depends on the possibilities that S currently takes seriously, which depends on how important it is that S be right about P, Greco (2015: 192; see also 195n1) also endorses the claim that whether P has epistemic probability 1 for S depends on what claims S ought to take seriously, which depends on how important it is that S be right about P.

\(^8\) DeRose (1999: 189) endorses Contextualism about ‘certain’ and ‘possible’ as following from Contextualism about knowledge. Huemer (2007: 123) endorses a similar Contextualism about ‘possible.’

\(^9\) To be clear, I do not accept Interest-Relativism or Contextualism about these properties/terms. But I do not want to assume their falsity in defining my thesis. That is, I want to be able to state the thesis of Infallibilism so that it means what I intend it to mean, even if Interest-Relativism about certainty or Contextualism about the word ‘certain’ turn out to be correct.
The most natural form of Interest-Relativism will hold that there is some underlying epistemic quantity stable between different contexts in which certainty, plausibility, probability, etc. are present, which, in combination with one’s practical interests, determines whether and to what degree a proposition is certain/plausible/probable/etc. Similarly, the most natural form of Contextualism will hold that there is some underlying epistemic quantity stable between different conversational contexts in which ‘certain,’ ‘plausible,’ ‘probable,’ etc. are used, but the degree of that quantity picked out varies by context.

These forms of Interest-Relativism and Contextualism will thus hold that there is some quantity less of which needs to be present in a low-stakes, low-standards context for me to truthfully say (e.g.), “It is certain that the bank is open,” and more of which must be present in a high-stakes, high-standards context for me to truthfully say, “It is certain that the bank is open.” The natural term for this quantity is ‘probability,’ but we are assuming that our Contextualist and Interest-Relativist will not grant us that term. So let us just call it ‘the epistemic thing.’ I hereby stipulate that ‘(epistemically) certain’ in this essay picks out the maximal amount of the epistemic thing. (Plausibly, even if ‘certain’ in ordinary English is contextual or refers to an interest-relative property, we do have a non-contextual term for this non-interest-relative property – ‘absolute certainty.’ Hence, I might also stipulate that by ‘certainty’ in this dissertation, I mean ‘absolute certainty.’)

What about Interest-Relativists and Contextualists who deny that there is any stable underlying epistemic quantity picked out by ‘the epistemic thing’ above? For example, in the conclusion to his book defending Interest-Relativism about knowledge, Stanley (2005b: 181) tentatively suggests that not only are “evidence and related
epistemic notions” also interest-relative, but that there are “no purely epistemic notions, in the sense of a notion that is ‘stripped clean’ of its ties to the practical interests of epistemic agents” (emphasis his). (On this view even ‘absolute certainty’ – which is a term of ordinary language – is a non-interest-relative notion.)

However, it is not clear to me that Stanley actually rejects the natural form of Interest-Relativism I sketched above. For that form of Interest-Relativism says only that there is some underlying epistemic property stable between contexts, not that we have any ordinary concept of or term for that property. And as Stanley himself goes on to note, that we have no purely epistemic notions in ordinary thought or language does not imply that we cannot stipulatively define purely epistemic terms. The above stipulative definition of ‘the epistemic thing’ appealed only to a functional role that it plays, conditional on Interest-Relativism or Contextualism being true. It can play that role even if there is no term or concept in natural language or thought to pick it out.

Moreover, I doubt that there is any tenable form of Interest-Relativism that does not hold that there is some stable underlying epistemic quantity of the above sort. The certainty/plausibility/probability of a proposition is determined by something. And if there is no underlying epistemic quantity of the above sort, then the certainty/plausibility/probability of a proposition must either be determined solely by one’s practical interests vis-à-vis that proposition, or by one’s practical interests combined with non-epistemic factors.¹⁰ Neither of these results is at all plausible. For

¹⁰ Another possibility is that there is not one purely epistemic quantity, but multiple such quantities. According to Clarke (2013) and Greco (2015), the credence we have in a given context depends on the possibilities taken seriously in that context, where various “local” credence functions are defined relative to different sets of possibilities. An analogous view about probabilities would say that the probability of P in a context depends on what possibilities should be taken seriously in that context, with
analogous reasons, I doubt that there is any tenable form of Contextualism that does not hold that there is some stable underlying epistemic quantity picked out by ‘the epistemic thing’ above.\footnote{11}

With this stipulation about my use of ‘certain’ in place, it will be instructive to examine the relation of my thesis to Interest-Relativism and Contextualism about knowledge. Interest-Relativism about knowledge is straightforwardly inconsistent with Infallibilism. This is because whether P is absolutely certain for S does not depend on the practical stakes of S’s being right about P. Hence, if S knows that P if and only if P is certain for S, then whether S knows that P does not depend on the practical stakes of S’s being right about P. Even if the stakes are low, S can only know that P if P is absolutely certain.

The relation of Infallibilism to Contextualism about knowledge is more complex. According to this kind of Contextualist, the proposition expressed by ‘S knows that P’ depends on the context in which that sentence is uttered. As such, this Contextualist can accept that S knows that P iff P is certain for S, holding that ‘knows’ is here being used in a maximally high-standards context (this being, after all, a philosophy dissertation). Thus, even when we have clarified that ‘certainty’ means ‘absolute certainty’ in this context,

different local probability functions defined relative to different sets of possibilities. On this view there is not one underlying epistemic quantity that helps determine epistemic probability, but many such quantities, relative to different sets of possibilities. However, this view faces the problem of determining which set of possibilities – and so, which quantity – is relevant in a given context. This again cannot depend purely on pragmatic (or other non-epistemic) factors: one cannot, for example, make all non-actual possibilities irrelevant merely by eliminating the cost of being wrong. So it must depend partly on some epistemic factor. The most natural way of spelling out this factor is in terms of how probable different possibilities are for you – or, in our above parlance, how much of the epistemic thing these different possibilities have. I can then say that, if a view of the above sort is correct, that by ‘P is certain’ I mean that P is maximally probable relative to the set of possibilities that have at least some of the epistemic thing – that is, the set of possibilities which do not have probability 0, in the non-interest-relative sense of ‘probability.’

\footnote{11 For a similar argument, see Fumerton 2010: 244-46.}
the claim that knowledge requires certainty is perfectly consistent with Contextualism about ‘knows,’ because the former is a thesis about knowledge whereas the latter is a thesis about language.

What Contextualists cannot accept is a metalinguistic analogue of Infallibilism: namely, that an utterance of ‘S knows that P’ is true in a context iff P is certain for S. This is because Contextualists hold that there are contexts in which this sentence can be used to express a true proposition even though P is not certain for S.\textsuperscript{12}

My main goal in this dissertation is to defend Infallibilism about knowledge, not invariantism about ‘knows,’ and I do not engage here with the extensive literature arguing for and against Contextualism. However, I endorse not only Infallibilism as initially stated but also the above metalinguistic thesis. Moreover, it is necessary to engage with both Contextualism and Interest-Relativism because several of the evidences for Infallibilism that I present in chapter 4 have been used to defend these views. As such, in order to avoid giving the impression that my case for Infallibilism is really just a case for Interest-Relativism or Contextualism, I will also show in what follows how several of my arguments against Fallibilism work equally well against Interest-Relativism and Contextualism. I will, in addition, speak loosely in referring to Contextualism as a

\textsuperscript{12} Strictly speaking, if Contextualism is just the claim that the proposition expressed by an utterance of ‘S knows that P’ depends on the context, then it is only incompatible with the above metalinguistic analogue of Infallibilism if different propositions must have different truth-conditions. Otherwise, ‘S knows that P’ could be used to express different propositions in different contexts, but these propositions could all be true iff P is certain for S. However, as far as I know no actual Contextualist holds the view that all the propositions that can be expressed with ‘S knows that P’ have the same truth conditions. In practice Contextualists want to preserve the truth of many ordinary knowledge-attributions, and so they hold that there are contexts in which these attributions can be true even if the proposition in question is not certain.
version of Fallibilism, inasmuch as it is committed to denying the above metalinguistic thesis.¹³

2.1.4 Other objections to my account of certainty

Reed objects to a definition of certainty similar to mine as follows:

Perhaps, then, we should say that a belief is [epistemically certain] when it has the highest level of justification possible. But even this account is unsatisfactory. Suppose that global skepticism is necessarily true: it is a necessary truth that no subject is capable of having much justification for any of her beliefs; although it may seem to us as though a significant degree of justification is possible, this in fact is incorrect. It would then be intuitively correct to say that every belief falls far short of certainty, though this would not be permitted by the account of certainty under consideration. We may of course doubt that skepticism of this strong variety is correct; nevertheless, it should not be simply ruled out as a matter of definition (Reed 2011: section 2).

Reed may well be right that this is a problem for an account of epistemic certainty according to which a proposition is epistemically certain for an agent iff that agent’s belief in the proposition has the highest possible level of justification. My account of certainty, however, is slightly different. On my account of certainty, a proposition is epistemically certain for an agent iff that agent ought to be maximally confident that it is true. It could be that, necessarily, no agent ought ever be maximally confident in anything (as Unger [1975: ch. 3.3-3.9] argues). In this case my account would deliver the correct result that nothing is certain, not the incorrect result that all sorts of (intuitively) uncertain things are certain, simply because they are more certain than anything else.¹⁴

¹³ My thanks to Blake Roeber for helping me to clarify these issues.

¹⁴ Another theory on which nothing will be epistemically certain is a strong form of subjectivism about probability, according to which there just is no “objective” epistemic quantity of the sort I endeavored to describe above.
Another objection to my account of certainty comes from Timothy Williamson’s epistemology. Williamson, like me, holds that known propositions have epistemic probability 1, and, also like me, holds that the epistemic probability of any proposition is its probability conditional on one’s knowledge. However, unlike me, Williamson (2000: 213) holds that what one knows need not be “absolutely certain.” Since the probability of what one knows conditional on itself is 1, it follows that propositions can have epistemic probability 1 without being absolutely certain.

I take it, though, that inasmuch as he is at pains to pull apart certainty from probability 1, Williamson is also pulling apart probability 1 from maximal plausibility. So we can then still think of certainty as maximal plausibility; we just now have a conception of epistemic probability on which it comes apart from plausibility, at least with respect to propositions with probability 1.

That said, Williamson’s rival conception of probability deserves further discussion, which I defer for the time being. For the time being I will focus on arguing against traditional Fallibilists, who deny that knowledge requires epistemic probability 1. Then, in chapter 5, in the course of discussing how skeptical the implications of Infallibilism are, I will argue against Williamson’s disassociation of epistemic probability 1 from certainty and his associated almost-but-not-quite infallibilist epistemology, which I will call ‘Quasi-Infallibilism.’

Even if we reject Williamson’s revisionary conception of probability, there remain further objections to the claim that all propositions that have maximal probability are certain. One alleged counterexample goes as follows. I throw an infinitely fine dart at a square dartboard the sides of which range from 0 to 1. The probability that I will hit
point (0.2, 0.4) is 0.\textsuperscript{15} So, the probability that I will not hit point (0.2, 0.4) is 1. And yet, it is not certain for me that I will not hit this point.

The most this counterexample shows is again that probability 1 is not sufficient for maximal plausibility, because the real numbers are not fine-grained enough to measure all changes in the plausibility of a proposition. We can continue thinking of certainty as maximal degree of plausibility, it is just that now epistemic probabilities do not distinguish between the maximal degree of plausibility enjoyed by, say, the proposition that I exist from the not-quite-maximal degree of plausibility enjoyed by the proposition that I will not hit point (0.2, 0.4).

Plausibly, though, this counterexample does not even show this, but rather shows that epistemic probabilities themselves come in finer degrees than the real numbers. That is, it shows that we should allow for probabilities to take on non-real values, such as infinitesimal values. By allowing for infinitesimal probabilities, we can assign probability 1 to the proposition that $1 + 1 = 2$ and a probability infinitesimally lower than 1 to the proposition that I will not hit point (0.2, 0.4).

A more difficult counterexample to the inference from probability 1 to certainty is the following kind of case. Suppose that P is not certain for you, but is entailed by facts that are certain for you. If these facts are part of your evidence, standard axiomatizations of probability will imply that the probability of P given your evidence is 1. So we appear to have another case of maximal probability without certainty.

\textsuperscript{15} Why is this? Suppose that the probability that I hit any particular point is greater than 0. Then, since there are an (uncountably) infinite number of such points, the sum of their probabilities is infinite. However, since the probability that I hit one of these points is equal to the sum of the probabilities that I hit any particular one, the probability that I hit some point on the dartboard is greater than 1, which is impossible. So the probability that I hit any particular point must be 0.
Arguably, this example again shows that standard axiomatizations of probability do not adequately formalize plausibility. For if the entailment is not sufficiently obvious, then $P$ is not maximally plausible. For example, that 7919 is prime is entailed by the axioms of arithmetic. But that 7919 is prime is not maximally plausible for most of us. In light of this kind of case, I think that we should adopt non-standard axioms of epistemic probability on which non-obvious entailments from one’s evidence need not have probability 1 – although the question of what those non-standard axioms should be is very difficult.

However, what if the entailment is sufficiently obvious? For example, suppose that $Q$ is certain for me. $Q$ trivially entails $Q \lor R$. Even on non-standard axioms of probability, this entailment is presumably obvious enough that $P(Q \lor R \mid Q \& K) = 1$, for any background $K$. It apparently follows that the epistemic probability of $Q \lor R$ for me is 1. But I may not have even considered $Q \lor R$, and so not had occasion to see that it trivially follows from $Q$. In this case, is it right to say that $Q \lor R$ is certain for me?

This counterexample is not as easily dealt with as the last two, and I think the right thing to say in light of it is that our ordinary concept of certainty is somewhat imprecise. One could say that $Q \lor R$ is not certain for me, but would be if I were to consider it and see that it follows from $Q$; or one could say that it is already certain for me, but I just haven’t realized it because I have not considered it. Both of these seem to me like plausible ways of filling out our concept of certainty. That said, it is implausible that I know $Q \lor R$ if I have not considered it (or come to grasp its content in some subconscious manner). As such, to make the coextension of certainty and knowledge
more plausible, I will (stipulatively) say that in a case like this, it is not certain for me that QvR.

Unfortunately, this means that “P is certain for S” and “P is maximally plausible for S” are not always coextensive: for we have a case in which a proposition is maximally probable for me, and yet not certain for me. If we knew the conditions of counterexamples of the above sort, then we could revise the account to stipulate that that kind of counterexample is not present. For example, if the only counterexamples arise in cases in which S has not considered P, then we could say that

P is certain for S iff P is maximally probable for S and S has considered whether P.

But even if this revision does not cover all counterexamples, I hope to have at this point succeeded in directing the reader’s attention to that property which I have in mind when I use the term ‘certain,’ and distinguishing it from other properties people use the term ‘certain’ to refer to. Even if we have not managed to determine necessary and sufficient conditions for epistemic certainty, the concept should be clear enough by now that we can consider the implications of the thesis that S knows that P iff P is certain for S.

2.2 Mentalism

In the last section I endeavored to clarify the thesis of Infallibilism by explicating ‘P is certain’ as ‘P is maximally probable,’ *modulo* the kind of counterexample considered in the last several paragraphs. What I said there, however, does not give us much insight into what it *is*, metaphysically, for a proposition to be certain for a person.
In this section I argue that we should understand a proposition’s being certain for a person in terms of that person standing in a special mental relation to that proposition.\(^{16}\)

Epistemic certainty is not an intrinsic property of propositions.\(^{17}\) Epistemic certainty is person-relative; a proposition P is certain for S because S stands in some special relation to P. This relation must almost certainly involve S’s mental states. The most parsimonious explanation of this relation would be in terms of a single mental state. However, one could also have a view on which multiple mental states can make a proposition certain for a subject, or do so under certain conditions. For my purposes here I will adopt a liberal conception of mental states on which a disjunction of mental states is itself a mental state. Then, without presuming that this state is simple or basic, we can say that there is some mental state such that P is certain for S iff, and because, this mental state appropriately relates S to P.

\(^{16}\) The conception of certainty, and by extension the conception of knowledge, defended here is very similar to that presented in Antognazza 2015: 165-72. According to Antognazza, prior to the mid-twentieth century hardly any philosophers conceived of knowledge as a kind of belief. Rather, most thought of knowledge and belief as two different kinds of cognitions, with the former prior to the latter. On Antognazza’s (2015: 169) reading of the tradition,

Knowledge is a primitive perception or an irreducible mental ‘seeing’ what is the case; knowledge is a primitive presence of a fact to the mind (or to the senses) in which there is no ‘gap’ between knower and known. Belief, on the contrary, is a mental state or a cognitive mode in which precisely the perception or presence which characterizes knowledge is lacking, and assent to the object of cognition is given (rightly or wrongly) on grounds external to the object itself.

My account is very similar to this (see also my discussion of the causal theory of knowledge in section 3.1.7, in which I suggest a similar kind of “directness” condition on appropriate causation). The biggest difference is that, whereas this traditional account holds that one cannot both know that P and (at the same time) believe that P, I hold that these are compatible and indeed that, while knowledge is not a kind of belief, it may very well compel belief whenever it is present (see below).

\(^{17}\) A proposition might have intrinsic properties, such as self-evidence, that make it certain for everyone (or everyone who considers it). But its being certain for everyone is still constituted by the extrinsic relation it stands in to those people.
On my view, this mental state is knowledge. However, in order to avoid begging the question let us for now use a more neutral term to describe the mental state in question. In what follows I shall say that P is certain for S iff S clearly perceives that P.\textsuperscript{18}

Note that, in spite of the obvious allusion to Descartes, my definition of ‘clear perception’ is purely functional: I am using the term to describe that mental relation an agent S has to a fact P in virtue of which P is certain for S. I do not take a stand here on when we stand in this relation to a fact, and so on what kinds of propositions are certain for us. A more traditional, internalist, Cartesian view might lead us to the conclusion that the only facts which we can clearly perceive are ones that are either \textit{a priori} or describe our mental lives. However, a direct realist about perception might claim that we can clearly perceive facts about the external world. I do not here provide a theory of when one clearly perceives a fact, and so the thesis of Infallibilism should be read as neutral between such views. I do argue in chapter 5, however, that even on the broadest externalist view of what kinds of facts we can clearly perceive, there are many facts which it is not credible that we can clearly perceive – for example, facts about the future. As such, as I noted earlier, Infallibilism will imply that we know much less than contemporary epistemologists tend to suppose even if we adopt a fairly liberal view of clear perception.

\textsuperscript{18} One might worry that this mental state need not be present in cases in which a proposition is certain for us in virtue of our having deduced it from other propositions which are certain for us. (My thanks to Andrew Moon on this point.) I think, however, that in cases of deduction from certainties, we do clearly perceive the conclusion of our deduction. If I clearly perceive that Q, and deduce that QvR, then I clearly perceive that QvR, inasmuch as I can now perceive both that Q and that QvR follows from Q. (Whether one will want to allow for the transmission of certainty and clear perception in the case of more complicated deductions in which one cannot hold the premises before one’s mind all at once will depend on how widely one is inclined to extend clear perception in general – see the discussion of externalist and internalist varieties of Infallibilism in chapter 5.)
With this functional definition of clear perception in hand, we can now examine the other central element of my theory of knowledge:

(Mentalism) Knowledge is a mental state.

I will now argue that if Infallibilism is true, Mentalism is true.

It is very plausible that when P is certain for S, this is so because S knows that P in some way – even if, as Fallibilists would have it, this kind of knowledge is not the only kind of knowledge. (To the extent that philosophers are inclined to deny this, I suspect that it is because they are antecedently committed to knowledge requiring belief, and they think that epistemic certainty may not require belief.) However, if Infallibilism is true, and this kind of knowledge is the only kind of knowledge, then it is natural to conclude that knowledge just is the mental state described above in virtue of which P is certain for S – that is, knowledge just is clear perception.

We have then, the following argument that Infallibilism implies Mentalism:

(1) P is certain for S iff, and because, S has some mental state appropriately relating S to P.
(2) P is certain for S iff, and because, S infallibly knows that P.
(3) If (1) and (2), then infallible knowledge = the mental state mentioned in (1).
(4) Infallible knowledge is a mental state. [from (1)-(3)]
(5) If Infallibilism is true, infallible knowledge = knowledge.
(6) If Infallibilism is true, knowledge is a mental state. [from (4), (5)]

Before moving on, it will be helpful to note the implications of this argument for the relation between knowledge and belief. Contemporary epistemologists have mostly

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19 There are other possibilities which are compatible with both infallible knowledge that P and clear perception that P fully explaining P’s being certain. For example, it could be that infallible knowledge that P makes S clearly perceive that P, which makes P certain for S. Or it could be that S’s clear perception that P makes S know that P, which makes P certain for S. However, these kinds of possibilities seem needlessly complicated. It is more parsimonious to simply equate infallible knowledge and clear perception.
assumed that knowledge requires belief. The thought behind this is usually that knowledge is a special kind of belief. However, if the above Infallibilist picture of knowledge is right, it is not plausible that knowledge is a kind of belief, or that belief is a component of knowledge.

To see this, suppose that belief that P was a necessary component of clear perception that P. In this case, since clear perception that P by S is what makes P certain for S, S’s belief that P would help contribute to P’s being certain for S. However, it does not seem that belief that P can contribute to P’s being certain in this way. For one could not, by believing some presently uncertain proposition P, make it certain by believing it (ignoring self-referential beliefs and other such unusual cases). For example, if it is presently uncertain for me whether 7919 is prime (because I can’t run through all the possible factorizations in my head), I cannot make it certain by believing it.

Against this, one might argue that in a case where S has never considered the question of whether P, then considering and believing that P might make P certain. For example, perhaps S has never considered the proposition that no elephant is a set before, but upon considering it, immediately sees it to be true and believes it. Before believing that no elephant is a set, this proposition was not certain for S, but now that he has considered it, it is.

In this kind of case, however, what contributes to P’s being certain for S is S’s having the thought that P, not the belief that P. Once S considers the proposition that P, he clearly perceives that proposition to be true, i.e., it becomes certain for him. S then

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20 A famous exception is Radford (1966). More recently, Myers-Schulz and Schwitzgebel (2013) have argued that knowledge does not require belief.
goes on to believe P because it is now certain for him. The belief is an effect of the certainty, not a cause of it.\textsuperscript{21}

Nevertheless, even if belief does not help make a proposition certain, it might be that a proposition’s being certain invariably causes one to believe it, as in the above elephant-set case. Perhaps for any proposition P that is certain for S, P’s certainty compels S to believe that P. In this case knowledge could still entail belief, even if it is not partly constituted by it. If belief invariably follows infallible knowledge – if infallible knowledge compels belief – then Infallibilism is compatible with the claim that S knows that P only if S believes that P. In the next chapter I will assume that infallible knowledge does compel belief in this way, as it will enable a greater \textit{rapprochement} between my view and other popular theories of knowledge. Then at the end of the chapter I will consider what \textit{rapprochement} is possible if infallible knowledge does not entail belief.

2.3 Conclusion

In this chapter I have done three main things. First, I have defined Infallibilism as the thesis that S knows that P iff P is certain for S. Second, I have clarified the nature of epistemic certainty as being approximately the same as maximal epistemic probability – “approximately” because a proposition can be maximally probable, but not certain, for S when it is a trivial logical consequence of those propositions which are certain for S, and S has not considered it. Third, I have argued that if Infallibilism about knowledge is true, then Mentalism is true – that is, propositional knowledge is a mental state, which I have

\textsuperscript{21} Perhaps, depending on the nature of mental states and of mental causation, there is no temporal gap here, so that S believes that P at the same moment it becomes certain for him. Nevertheless, there is a clear direction of explanation here which we can make sense of even in the absence of a temporal gap.
(stipulatively) labeled ‘clear perception.’ In light of this conclusion, in the remainder of this dissertation I will use ‘Infallibilism’ to refer to my theory of knowledge as a whole, with the understanding that I have shown here that the Mentalist aspect of my theory follows from its Infallibilist aspect.

My argument in section 2.2 gives us another way to think about certainty, as the status a proposition has for a person when that person clearly perceives it to be true. This is not a reductive definition of ‘certain,’ since ‘clear perception’ was itself defined in terms of ‘certain.’ As I said near the beginning of this chapter, I doubt that we can give a reductive definition of ‘certain’ that does not employ ‘know.’ However, I take epistemic certainty to be a property of propositions with which we are acquainted in our own experiences, and the above discussion should make clear enough the property which I am talking about to enable us to evaluate the arguments for and against the thesis that S knows that P iff P is certain for S.
CHAPTER 3
HOW INFALLIBILISTS CAN HAVE IT ALL

In chapter 2 I defined Infallibilism about knowledge as the thesis that

(Infallibilism) \( S \) knows that \( P \) if and only if \( P \) is certain for \( S \).

I then argued that if Infallibilism is true, so is the thesis of Mentalism, according to which

(Mentalism) Knowledge is a mental state.

I stipulatively called this mental state ‘clear perception.’

Having thus clarified the version of infallibilism I defend, in this chapter I will offer a novel\(^1\) argument for it. In section 3.1, I argue that if Infallibilism is true, then all major post-Gettier theories of knowledge are extensionally correct – we just need to interpret key terms in these theories in an infallibilist-friendly way. Unlike Fallibilists, Infallibilists thus get to accept all major theories of knowledge – they get to “have it all.” In section 3.2, I argue that this fact gives us reason to favor Infallibilism over Fallibilism, because Infallibilism is better able to explain the intuitive appeal of the various conditions on knowledge that have been proposed. I further argue that going Contextualist or Interest-Relativist will not help the Fallibilist – Fallibilists of these varieties do not get to have it all either.

\(^1\) In his recent essay defending infallibilism, BonJour (2010) makes some comments along the same lines (e.g., 80n12), but does not develop this argument.
Having presented this argument, I will go on in the next chapter to lay out eight other explanatory advantages that the Infallibilist has over the Fallibilist. Then, in chapters 5-7, I will weigh the arguments for Infallibilism advanced in chapters 3 and 4 against the argument that Infallibilism is an unacceptably skeptical theory of knowledge.

I noted in the last chapter that, given Infallibilism and Mentalism, belief is not a component of knowledge, because belief is not a component of clear perception. However, I suggested that perhaps for any proposition $P$ that is certain for $S$, $P$’s certainty compels $S$ to believe that $P$. In this case knowledge would still entail belief. In the next section I will assume that infallible knowledge does compel belief in this way, as this will enable a greater rapprochement between my view and other popular theories of knowledge. In the section after that I will consider what rapprochement is possible if infallible knowledge does not entail belief.

3.1 Having It All: How Infallibilists Can Accept All Major Theories of Knowledge

The most influential theories of knowledge advanced in the past half-century give a different condition or conditions, in addition to belief and truth, for $S$’s knowing that $P$. Here are several conditions that proponents of a variety of familiar positions have taken to be necessary for knowledge:\(^2\)

$S$ knows that $P$ only if

(a) $P$ is true,

(b) $S$ believes that $P$,

\(^2\) These conditions are widely discussed in the post-Gettier (1963) epistemology literature. I reference advocates of the particular conditions in the discussion below. For general overviews of the most common accounts of knowledge, see Shope (1983), Feldman (2003), and Ichikawa & Steup (2014).
and

(i) S’s belief that P is sufficiently probable on S’s evidence. (Evidentialism)
(ii) If P were false, S would not believe that P. (Sensitivity)
(iii) If S were to believe that P, P would not be false. (Safety)
(iv) S’s belief is produced by a reliable cognitive process. (Reliabilism)
(v) S can rule out all relevant alternatives to P. (Relevant Alternatives)
(vi) S’s belief is not luckily true. (Anti-luck)
(vii) S’s belief manifests S’s epistemic virtue. (Virtue)
(viii) There is no true proposition that would defeat S’s belief. (No Defeaters)
(ix) S’s belief is caused by the fact that P. (Causal)

As we will see, defenders of the above necessary conditions have extensively refined them in the face of apparent counterexamples. Nevertheless, these statements will do as a first pass. A few of the above are sometimes combined in theories of knowledge, but more often these conditions are seen as rivals. Although in most cases their proponents acknowledge in the face of counterexamples that they are not on their own sufficient for knowledge, they tend to hold pride of place as the central non-belief, non-truth condition in these proponents’ theories of knowledge.\(^3\)

In this section, I will argue for two claims. First, Infallibilism lets us accept all of the above conditions as necessary for knowledge. Second, these conditions are mostly sufficient for knowledge too, in some cases after slight revisions to avoid familiar counterexamples to theories of knowledge based centrally around these conditions. As such, Infallibilism implies that, suitably revised, most of the above conditions are equivalent.

\(^{3}\) Sometimes this pride of place is signified by presenting the condition in question as an analysis of ‘justification.’ So one way to view my argument in this section is as an argument that different analyses of justification are equivalent when interpreted in an Infallibilist-friendly way.
3.1.1 Crucial properties

I will begin by examining (i)-(vii) above. Each of these conditions mentions some crucial property that S’s belief needs to have in order to count as knowledge. I will call this the crucial property of the view. Here are the crucial properties:

(i) Probability
(ii) Sensitivity
(iii) Safety
(iv) Reliability
(v) No possible relevant alternatives
(vi) (Not) lucky
(vii) Manifesting epistemic virtue

Each of properties (i)-(vii) comes in degrees. A belief can be more or less reliable, more or less safe, etc. As such, a view of each as a necessary condition for knowledge faces a threshold problem – how much of that property is necessary (Bonjour 2010)? For example, views on which knowledge that P requires that P’s probability on S’s evidence be above some threshold must specify how probable is probable enough. Ordinary interpretations of the crucial properties make the degree of that property necessary for knowledge less than maximal – e.g., a probability of .8, or .95.

Under their standard interpretations as non-maximal, most of the crucial properties can come apart from each other. For example, suppose sensitivity is analyzed as “in the nearest world in which P is false, S does not believe P” and probability is

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4 One might think that the crucial property for the evidentialist is evidence. However, while evidentialists will say things like “in order to know P, you need sufficient evidence for P,” what really matters is not how much evidence you have, but how much your evidence supports P. What really matters, that is, is how much probability your evidence confers on P. (Some evidentialists will hold that evidential support cannot be measured by probability. This does not affect my argument provided that evidential support still comes in degrees or levels, and there is such a thing as a maximal level of evidential support, for what I say about probability I will still be plausible for this maximal level of evidential support. I criticize varieties of evidentialism that appeal to discrete levels of evidential support, rather than the continuous quantity of probability, in section 4.1.3.)
analyzed as “the epistemic probability of P for S is above .8.” Then S’s (true) belief that a lottery ticket in a fair 100-ticket lottery will lose is probable but not sensitive if the nearest world in which that ticket wins is the mundane one in which the person picking out the winning ticket moved his hand a little to the left. Conversely, if, through some paranormal means, S’s beliefs strongly correlate with what ticket will actually be picked, but S has strong (misleading) evidence that he possesses no such paranormal abilities, his (true) belief that his ticket will win is sensitive but not probable. Similar examples can be constructed which pull apart most of the other crucial properties.\(^5\)

Matters change, however, if we adopt maximal interpretations of these properties. I shall now argue that conditions (i)-(vii) are in fact equivalent when the crucial properties mentioned in them maximally obtain. This is because, plausibly, S’s belief that P has each crucial property to a maximal degree iff P is certain for S. In each case it is fairly obvious that the right-to-left implication holds: i.e., if S clearly perceives that P, S’s belief that P has each crucial property to a maximal degree. This will imply that conditions (i)-(vii), interpreted maximally, are all met by an Infallibilist theory of knowledge. It is not as obvious that the left-to-right implication holds: i.e., that if S’s

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\(^5\) While most of the crucial properties can be pulled apart, not all of them can. The condition that most obviously cannot be pulled apart from all of the others is (vi). A belief’s being luckily true should probably be analyzed as its not being probable, or not being sensitive, or not being safe, or not being reliably formed. Any one of these analyses would make the condition that a belief not be luckily true equivalent to one of the first four conditions. Likewise, one might spell out (v) ‘relevant alternatives’ in terms of, say, alternatives with a non-negligible probability. In this case condition (v) might be equivalent to (i), because if one’s belief is sufficiently probable, any alternatives inconsistent with one’s belief will have negligible probability. It is probably safe to say that if we interpret (i)-(vii) Fallibilistically, then we have at least four distinct properties here. Fallibilist construals of (viii) and (ix) seem unlikely to me to be identical to non-maximal degrees of any of these properties, so this would ultimately give us at least six independent Fallibilist conditions on knowledge.
belief that P has a crucial property, then S clearly perceives that P. However, this implication, while more controvertible, is nevertheless plausible in each case.

3.1.2 Probability

First, consider the relation of (i) with certainty. In chapter 2 I initially stipulatively defined epistemic certainty as maximal plausibility. Assuming that the probability of P on S’s evidence measures the degree of plausibility P has for S, then it follows immediately from that definition that if P is certain for S, the probability of P for S is maximal, and if the probability of P for S is maximal, P is certain for S.

Unfortunately, as I observed in chapter 2, this definition is not quite adequate, because a proposition that is a trivial consequence of what one knows with certainty has probability 1, but one may not clearly perceive it to be true, e.g., if one has not considered it.

Having given up the identification of certainty with probability 1, let us consider whether certainty still entails probability 1. Suppose that S clearly perceives C to be true. Then evidentialists ought to agree that C is part of S’s evidence – after all, C is certain for S, and so it is hard to see what further requirement C would have to meet before becoming part of the body of evidence that S can use to draw further inferences. As such, S’s evidence – which includes C itself – entails C, and so the probability of C on S’s evidence is 1. So, certainty implies probability 1.7

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6 For a theory of knowledge in which (i) holds pride of place, see McGrew and McGrew (2007).

7 Some evidentialists will hold that evidence is non-propositional. However, I take it that such views will get the same substantive results about how probable my evidence makes particular propositions – e.g., if my evidence consists of my clear perceptions themselves, rather than their propositional objects, then the presence of a clear perception will ensure the truth of its object, and so the clear perception will “entail” C in a looser sense of ‘entail.’
Above I gave a counterexample to the claim that, if P has probability 1 on S’s evidence, P is certain for S. However, in the case at hand, we are assuming not only that P has probability 1 for S but also that S believes that P. So suppose that S believes P and P is a trivial consequence of C, where C is a proposition S clearly perceives to be true. It may be that if P is a trivial consequence of facts S clearly perceives, then were S to consider P, she would clearly perceive its truth as well. In this case, then assuming that S can only believe that P if S has considered P, it will follow that, as long as S believes P, the probability of P will be 1 iff S clearly perceives that P. Hence probability 1 and clear perception will be coextensive so long as the ostensible belief condition of knowledge is met.

Against this, one might argue either that there are cases of subconscious belief formation in which one does not consider the proposition believed (see, e.g., Audi 1994: 420-21), or that one could consciously consider a proposition obviously entailed by facts one knows with certainty without coming to know them with certainty, because one does not see the entailment. In either case P could have probability 1 for S, and S could believe that P, without S’s clearly perceiving that P. In such a case S would presumably believe P on some other basis, e.g., wishful thinking.

Intuitively, however, if P is at or above the probabilistic threshold for knowledge and S believes that P for reasons unrelated to its being highly probable on (or entailed by) S’s evidence, S does not know that P. That is, a plausible version of evidentialism will hold that in addition to (i) there is a basing requirement on knowledge – S’s belief that P needs to be based on S’s evidence, and it needs to be based in a way that respects or tracks P’s being probable on S’s evidence. For example, it would not be enough that S
infers P from C on the basis of wishing that C supports P, even if C in fact entails P. S’s C-based belief must instead be responsive to this entailment in some way. However we spell out the basing requirement, it is plausible that once we add it to the requirement that P have probability 1 for S, S cannot fail to clearly perceive that P. That is, if S’s evidence entails P, and S believes that P in a way that properly tracks that entailment, then S clearly perceives that P.

If we add the basing requirement to (i), is it still plausible that P’s being certain for S implies that both these conditions are met? Yes. For I am presently assuming that clear perception that P compels belief that P. And I take it that if S is compelled to believe that P by her clear perception that P, S’s belief that P is properly based on that clear perception.

3.1.3 Safety, sensitivity, and reliability

Second, note that conditions (ii) and (iii), and plausibly (iv), are identical when ‘sensitive,’ ‘safe,’ and ‘reliable’ are interpreted as maximal (and, with respect to the equivalency of (ii) and (iii) with (iv), suitably reformulated to make them plausible as conditions for knowledge). A belief that P is sensitive if it’s the case that, were P false, S would not believe P (Nozick 1981: 172-76, Sosa 1999: 141). Safety is the contrapositive of sensitivity: a belief that P is safe just in case, were S to believe P, P would be true (Sosa 1999: 146). Usually, the former condition is seen as satisfied if, in the nearest world or worlds in which P is false, S does not believe it; and the latter condition is seen as satisfied if, in all nearby worlds in which S believes that P, P is true.8 These can come

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8 For example, Nozick (1981: 172-76) suggests that we can understand sensitivity as S’s not believing that P in all the “closest” possible worlds in which P is false (173), and Sosa (1999: 146-47)
apart if, e.g., S believes P in all worlds, and P is true in all nearby worlds but false everywhere else. Then S’s belief is true in all nearby worlds, but false everywhere else; it is safe but not sensitive.

However, a maximally sensitive belief is one such that, in every world in which it is false, S does not believe it. And a maximally safe belief is one such that, in every world (not just close ones) in which S believes it, it is true. These are logically equivalent.

Safety and sensitivity run into well-known problems as necessary conditions for knowledge. Suppose that Johnny visits his Grandma, and Grandma sees that Johnny is healthy. However, if Johnny were sick, Grandma’s family would tell her that Johnny was well, so as not to worry her. In this case, Grandma’s belief is neither sensitive nor safe. Nevertheless, it seems that she knows that Johnny is healthy (Feldman 2003: 87-88). In light of this difficulty, philosophers who propose safety and sensitivity as necessary conditions for knowledge have tended to require that S use the same “method” for determining whether P in all worlds under consideration (Nozick 1981: 179-85).  

Talk of belief-forming methods naturally brings to mind reliabilism, according to which S knows that P only if S’s belief that P is produced by a cognitive process which suggests that a belief that we are not radically deceived is safe because it is only in very distant possible worlds in which that belief is false.

\footnote{An Infallibilist who adopts a more restrictive account of clear perception will deny that Grandma actually knows that Johnny is healthy. However, such an Infallibilist can employ analogous examples of beliefs about facts which he thinks we can clearly perceive which suggest the same revision. For example, suppose that I believe that I am in pain because I clearly perceive that I am in pain. If I am very suggestible and so would have believed that I am in pain had you told me so, and if you would have told me so had I not actually been in pain (and if I could have easily failed to be in pain), then my belief is not sensitive or safe. But it still seems that I know that I am in pain, for I can clearly perceive that I am in pain. This suggests that we should not require that my belief is safe/sensitive \textit{tout court}, but that it is safe/sensitive when I am using the same method of belief-formation (in this case, forming beliefs on the basis of clear perception).}
produces a high proportion of true to false beliefs. This raises two questions: how high a proportion, and in what contexts? (Goldman 1979: 11) If a cognitive process is maximally reliable, the proportion of true beliefs that it (actually) produces must be 100%. However, this is apparently not enough for maximal reliability of the relevant sort. Suppose, for example, that S forms the belief that P with a one-off cognitive process that she has never used before and never uses again. In this case, we would not necessarily want to say S’s cognitive process is maximally reliable. It seems that to assess its reliability, we need to look at counterfactual scenarios in which S uses that process, and ask how frequently it produces true beliefs then.

As soon as we do this, however, we run into the same threshold problem facing safety/sensitivity accounts: which possible worlds are we concerned with? If the answer is “nearby ones,” which worlds does this include? If we solve this problem by demanding maximal reliability, then we must include all possible worlds, as we did with safety and sensitivity.

The above gloss of reliabilism differs from safety/sensitivity in that it requires that the cognitive process leading to S’s belief that P be generally reliable, and not just reliable when it issues in the belief that P (where P is the proposition that S believes in the actual world). However, while our initial formulations of safety/sensitivity only considered cases where S believes that P, the safety/sensitivity theorist arguably ought to revise her account in this direction anyway. This is because of the problem of necessary truths (cf. Williamson 2000: 181-82). If Johnny believes that 7919 is prime, his belief is

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10 This theory is sometimes called ‘process reliabilism,’ with theories of knowledge based around some of the other conditions above, such as safety and relevant alternatives, conceived as distinct varieties of reliabilism (see, e.g., Goldman 2009: 76-85).
trivially safe/sensitive, because 7919 is prime in all possible worlds. This is true, moreover, for whatever method he uses. However, it does not seem that Johnny knows that 7919 is prime whenever he believes it. The most natural response to this difficulty is to speak of the safety/sensitivity of beliefs in other propositions formed by the same method. (For example, if Johnny believes that 7919 is prime because Grandma tells him, under what conditions in general does he believe his Grandma’s testimony, and how safe/sensitive are his other such beliefs?) This then leads us to reliabilism.

It seems, then, that the following conditions are all equivalent, where M is the method/cognitive process by which S believes that P:

(Maximal Reliability) For all worlds W and propositions Q: S believes that Q via M in W only if Q is true in W.

(Maximal Safety) For all worlds W and propositions Q: S believes that Q via M in W only if Q is true in W.

(Maximal Sensitivity) For all worlds W and propositions Q: if Q is false in W, then S does not believe that Q in W via M.

I will now argue that Maximal Reliability is coextensive with certainty. Given that Maximal Reliability is equivalent to Maximal Safety and Maximal Sensitivity, this will imply that conditions (ii)-(iv) are equivalent to certainty.

Clear perception that P entails that one’s belief that P is maximally reliable. Since clear perception that P entails that P, if one believes that P via the method “believe those propositions the truth of which I clearly perceive,” one cannot go wrong – one’s belief will always be true. Hence, one’s belief is maximally reliable.

Does Maximal Reliability entail certainty? If your belief that P is formed in a maximally reliable way – so that you never believe a false proposition on the basis of the same method – then your belief-forming method is completely infallible. And only belief
on the basis of clear perception is infallible in this way. For suppose that you form your belief that P on the basis of some method other than clear perception. Then either the facts which you do clearly perceive entail that P or they do not. If they do not, then we can put you in another world in which you clearly perceive all the same facts but P is false; and in that world you would continue to believe P. Hence your belief-forming method is not maximally reliable.

If the facts you clearly perceive do entail P, even though you do not clearly perceive P itself, we cannot put you in another world in which you clearly perceive all the same facts and P is false. However, while this will be true for P in this case, it will not be true for other possible outputs of one’s belief-forming method which are not entailed by facts one perceives. For example, if P is the proposition that that 7919 is prime, then P is entailed by anything, because it is necessarily true. But if you form your belief in P on some basis other than clear perception that P, then there is another possible world in which you employ this same method but it delivers a false belief in a different proposition (e.g., that 7921 is prime).

Against this, one might argue that we can imagine some other belief-forming method being maximally reliable if one is in some way miraculously protected from false belief. For example, suppose that God exists in all possible worlds, and it is necessarily part of God’s plan that I be able to answer any question by tossing a coin, believing P when the coin lands heads and ~P when the coin lands tails. In every possible world in which I toss a coin and then form a belief in the above manner, God ensures that the coin gives me the right answer. Then it follows from the above definition of Maximal
Reliability that my coin toss-based belief that, say, the number of stars is even is maximally reliable. And yet, I do not clearly perceive that the number of stars is even.\(^{11}\)

I agree with the objection that if we were to learn that this was the case we should not say that my coin-based beliefs are certain. Presumably, however, this scenario is not actual: it is not actually the case that, necessarily, God ensures that I (or anyone else) always form correct beliefs when I toss a coin to answer a question. Assuming that S5 is the correct logic for metaphysical modality, then, if it is not the case that, necessarily, my coin-based beliefs are true, it is not possible that, necessarily, my coin-based beliefs are true. Hence, this scenario (in which it is necessary that my coin-based beliefs are true) is not possible. So maximal reliability in all possible worlds may well be coextensive with certainty, and necessarily so, even if we can make sense of a counterpossible scenario in which they would come apart. Nevertheless, it would be preferable for the success of my argument to not turn on assumptions about such esoterica as the divine will, and so it would be preferable to formulate Maximal Reliability in such a way that one’s belief in the coin case is not maximally reliable.

This kind of case trades on the difficulty of reconciling our folk conception of modality with the existence of a necessarily existent all-powerful being.\(^{12}\) For example, Leibniz (1710/1985) held that God has created the best of all possible worlds, and his

\(^{11}\) My thanks to Blake Roeber for presenting me with this case. This case is similar to other counterexamples to the sufficiency of safety based on miraculous protection from false belief in similar situations (e.g., Goldman 2009: 76-77). The main difference is that at least some of these other examples are probably metaphysically possible, whereas the present case is probably not metaphysically possible. That is because the present case involves protection from false belief in all possible situations, not merely similar ones. As such, it is metaphysically possible only if actual, and since it is probably not actual, it is probably not metaphysically possible.

\(^{12}\) Similar remarks go for any other examples in which, for “deep” metaphysical reasons, states of affairs which appear intrinsically coherent nevertheless end up metaphysically impossible.
principles apparently commit him to the claim that it is necessarily true that God creates the best (Rowe 2004: ch. 1). It follows that it is not possible that the world have been even slightly different – e.g., that it is not possible that there have been one more star in the world than there actually is. But this result is very counterintuitive, for it seems clearly possible that there have been one more star in the world than there is. There is nothing obviously incoherent about this state of affairs.

Similarly, even if in the above scenario, it is in fact impossible that my coin lands heads and yet my belief that P be false, it seems possible in the sense that there is nothing internally inconsistent about this state of affairs. By contrast, holding a false belief on the basis of clear perception is analytically impossible, given the functional definition of clear perception as that which makes a proposition certain for a subject.

It seems to me, then, that in whatever sense ordinary possibility talk makes sense in a theistic world, in that same sense we can say that my coin-based beliefs are not maximally reliable. For example, perhaps we can make sense of ordinary possibility talk by looking at counterpossible but internally coherent worlds. In that case, on our ordinary modal conception of reliability, my coin-based beliefs will not be formed by a maximally reliable process, because they are false in some of the counterpossible but internally coherent worlds. So there is still some sense in which my coin-based beliefs in the above scenario are less reliably formed than my clear perception-based beliefs, so that we can still say that, in that sense, only clear perception-based beliefs are maximally reliable –
and so, given the argument in the first part of this sub-section, maximally safe and maximally sensitive.13

3.1.4 Luck and relevant alternatives

Third, consider the relation of (v) and (vi) with clear perception.14 According to (v), one knows P only if one can rule out relevant alternatives to P. This raises the question: which alternatives are relevant? The simplest answer to this, and the one the Infallibilist gives, is: all of them (cf. Fumerton 2010: 249-50). And if P is certain for S, S is in a position to rule out all the alternatives to P. Hence, clear perception that P entails that there are no possible relevant alternatives to P.

According to (vi), one only knows P if one’s belief that P is not lucky. This raises the question: how much luck is compatible with knowledge? The simplest answer to this, and the one the Infallibilist gives, is: none at all. And if P is certain for S, S’s belief that P is not lucky at all. Hence, clear perception that P entails that one’s belief that P is not (at all) lucky. (One needs to be careful here to specify the relevant kind of luck: it may be lucky that one clearly perceives that P, but given this perception, the truth of one’s subsequent belief that P is not lucky.)

13 Another response to this objection would be to grant that it shows that Maximal Reliability is not sufficient for certainty, but to hold that this case also shows that a true belief’s being reliably formed is not sufficient for its being known. Instead, to make reliabilism plausible, we need to add the condition that S’s belief not be defeated. It is plausible that once this condition is elaborated and any crucial properties mentioned in the condition are required to hold to a maximal degree, this form of reliabilism will then become equivalent to Infallibilism. (For example, I argue below that the no defeaters condition (vii) implies the evidentialist condition (i), maximally interpreted.) If this is right, then any plausible version of reliabilism will still be equivalent to the other theories considered here, suitably interpreted. Similar remarks go for safety/sensitivity theories.

14 Dretske (1981: ch. 5) defends condition (v) as necessary for knowledge, and more recently a number of philosophers have adopted relevant alternatives forms of Contextualism about knowledge, on which which alternatives are relevant depends on the context of the speaker (see, e.g., Lewis 1996). Pritchard (2005) defends an anti-luck theory of knowledge, analyzing luckily true belief as unsafe belief.
Do crucial properties (v) and (vi), maximally interpreted, imply certainty? It is hard to say for certain inasmuch as the notions of ‘ruling out’ alternatives and ‘lucky’ could be interpreted in a variety of ways. But it is plausible that the only potential counterexamples to the inference from the presence of these properties to certainty will be of a familiar form, where one does not clearly perceive that P, but P is entailed by facts one does perceive, so that one is, in some sense, in a position to rule out all alternatives to P, and not lucky in one’s belief that P being true.

We can say here the same thing we said about the inference from condition (i) to certainty. If our notions of ruling out and luck are such that one’s belief in this case is not luckily true and one is in a position to rule out all alternatives to P, then this just shows that these conditions are not on their own sufficient for knowledge. In this case, in order to make an anti-luck or relevant alternatives theory of knowledge plausible, we need to combine (v) or (vi) with a basing requirement. Once we add this requirement, it is again plausible that, if S’s true belief that P is not at all lucky/S can rule out all alternatives to P, and S’s belief that P is properly based, P is certain for S.

3.1.5 Epistemic virtue

Fourth and finally, consider condition (vii), according to which S’s belief that P must manifest epistemic virtue in order for S to know that P. According to Sosa (2007: ch. 2), S’s belief manifests epistemic virtue in the relevant sense iff its accuracy is attributable to the believer’s skill. Attributability, like luck, reliability, etc., comes in degrees: the accuracy of a belief can be more or less attributable to a believer. This raises the question: how attributable to a believer must the accuracy of his belief be for him to know? The simplest answer to this, and the one the Infallibilist gives, is: maximally
attributable. In other words, the accuracy of the belief is completely due to the
competence of the believer; there is no environmental influence at all.

If we give this answer, then it seems that (sufficient) epistemic virtue in believing
that P is coextensive with clear perception that P. If S believes that P on the basis of clear
perception that P, there is no chancy or lucky contribution from the environment: the
accuracy of S’s belief is ensured. Hence, its accuracy is (in the relevant sense) wholly
attributable to him.

Conversely, if the accuracy of S’s belief is wholly attributable to S, so that it
could not have been false because, unluckily, one of S’s premises was false or because of
some other gap between S’s grounds and S’s belief, then it seems that S’s belief must be
based on an immediate grasp of its truth, i.e., clear perception that it is true. Here we do
not need to add a basing requirement to avoid counterexamples of the form “S does not
perceive that P, but P is entailed by facts S does perceive,” because the accuracy of S’s
arbitrary belief that 7919 is prime (when S has not, say, tried to factor it) does not seem
attributable to S precisely inasmuch as there is an inferential gap between what S does
clearly perceive to be true and the truth of this proposition. In other words, this notion of
epistemic virtue already builds in the basing requirement we added to conditions (i), (v),
and (vi).

3.1.6 No defeaters

So far I have considered proposed conditions (i)-(vii) on knowledge, all of which
require that S’s belief have some Crucial Property that comes in degrees. Our two
remaining conditions, (viii) and (ix), are not like this. The first, (viii), requires that there
be no defeaters for S’s belief. As with several of the other conditions, it is not
immediately clear what this means. Where \( K \) stands for S’s current evidence, a simple analysis is that \( D \) is a defeater for S’s belief that \( P \) iff \( P(P|D&K) < P(P|K) \) (compare Lehrer and Paxson 1969: 227-28 and Shope 1983: 46). According to this analysis, \( D \) is a defeater for \( P \), relative to \( K \), just in case \( D \) is evidence against \( P \) relative to \( K \), in the sense that it would lower \( P \)’s probability. We might also require that \( P(P|D&K) < .5 \), or some other threshold.

The no defeaters condition is not usually taken to be sufficient for knowledge, and is more commonly combined with other conditions (such as reliabilism) to wield off counterexamples to the sufficiency of those conditions for knowledge. (But for a recent theory of knowledge based centrally around a similar idea, see Foley 2012.) I will now argue, however, that the no defeaters condition is not only necessary but also sufficient for certainty.

The necessity of condition (viii) for certainty is fairly obvious. However we understand defeat, if \( P \) is certain for \( S \), then it is plausible that there is no other proposition \( S \) could learn (while continuing to clearly perceive that \( P \)) that would defeat \( S \)’s belief that \( P \). For example, if facts one clearly perceives are part of one’s evidence, then the probability of \( P \) on one’s evidence will be 1 so long as one clearly perceives that \( P \), no matter what defeaters \( D \) or background \( K \) are also part of one’s evidence. This is because \( P(P|D&P&K) = 1 \) for any \( D \) and \( K \). (See section 5.4.1.3 for further discussion.)

The sufficiency of condition (viii) is much less obvious. But given the above analysis of defeat as probability-lowering, if the epistemic probability of \( P \) for \( S \) is less than 1, there will plausibly always be some defeaters for \( S \)’s belief that \( P \). For example, take some false proposition \( Q \) such that \( P(P|Q&K) = P(P|K) \), where \( K \) again stands for
S’s current evidence. Since Q is false, ~Q is true, and so ~Qv~P is true. P(P | ~Qv~P)&K) < P(P|K). Hence, ~Qv~P is a defeater for P given the first analysis above. Hence, there is a defeater for any P provided there is some false proposition that is independent from P relative to S’s current evidence. However, there is plausibly always such a proposition.

If we require that the defeater lower P’s probability below .5, such a defeater will be harder to find, but there will arguably always be one still present. For example, suppose that there are exactly \(n\) stars in the universe, for some natural number \(n\). Call this proposition N. Since N is true, Nv~P is true. Provided that N is independent of P relative to K, P(P | [Nv~P]&K) < .5 if P(P|K) < P(~N|K).\(^{15}\) However, presumably P(N|K) is astronomically low (pun intended). Hence, P(P|K) will have to be extremely close to 1 to not be lower than P(~N|K).

There are many questions we can ask the correct answer to which will have an extremely low probability on our evidence: how many stars are in the universe? How many human beings will ever live? How many occurrences of the letter ‘E’ appear in the works of Shakespeare? and so on. It is plausible that by taking conjunctions of correct answers to all of these questions, and then taking the disjunction of this conjunction and

\(^{15}\) Proof: Suppose that P(P|K) < P(~N|K). Then:

\[
\begin{align*}
\frac{P(P | [Nv~P] & K)}{P(\neg P | [Nv~P] & K)} &= \frac{P(P | K)}{P(\neg P | P & K)} \times \frac{P([Nv~P] | P & K)}{P([Nv~P] | \neg P & K)} = \frac{P(P | K)}{P(\neg P | K)} \times \frac{P(N | P & K)}{1} \times \frac{P(N | K)}{1} < \frac{P(P | K)}{P(\neg P | K)} \times \frac{P(N | K)}{1} \times \frac{P(\neg P | K)}{1} = P(P | K) < 1
\end{align*}
\]

\(~P\), we can generate a defeater for any believed proposition \(P\) that does not have a probability of 1 on one’s evidence.

If probability 1 is not sufficient for a believed proposition to be certain, as argued in section 2.2.2 above, then a believed proposition could be undefeatable and yet still not certain. (For example, Johnny’s belief that 7919 is prime cannot be defeated on the above analysis of defeat.) However, we could add a basing requirement to (viii), as we did to (i), (v), and (vi), and it would then be sufficient for certainty.

Partly because a broad conception of defeaters appeared to make (viii) such a restrictive condition on knowledge, early advocates of (viii) added clauses restricting the range of defeaters that need to be avoided (see Shope 1983: chapter 2.1 for an overview). However, specifying what kinds of defeaters are allowed in such a way that avoids Infallibilism without making condition (viii) vacuous is a difficult task. Infallibilists get to endorse (viii) in its simple, straightforward, and intuitive form: S knows that \(P\) only if there are no defeaters for S’s belief that \(P\). Moreover, if this condition really is never met except for beliefs that have probability 1, then, together with a basing requirement, this condition is sufficient for Infallibilist knowledge too.

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16 This is somewhat informal, and may only show that there is a defeater for any actual believed proposition, not for any possible believed proposition (since we can imagine propositions with probabilities arbitrarily close to 1, even if they are not ones anyone would actually believe, e.g., because they are very long and boring disjunctions). We can show more formally that there will be a defeater for any non-maximally probable proposition \(P\) if we assume that there are a countably infinite number of partitions of possibilities with non-extreme probabilities in our language with respect to particular variables (the number of stars in the universe, the number of occurrences of the letter ‘E’ in Shakespeare, etc.). As a toy example, suppose that there will be an infinite number of coin flips of a fair coin, and let \(\text{Flips}_i\) stand for the conjunction of outcomes of the first \(i\) coin flips. Then for any probability \(n < 1\), we can come up with some number \(m\) such that \(n \approx m = (.5^n < 1\). Then \(P(\text{Flips}_i) = m\), and by the above argument, \(~P \text{Flips}_i\) will be a defeater for \(P\). Now, in the real world there is presumably no coin that will be flipped an infinite number of times, but the situation will be structurally the same provided that one thinks there are an infinite number of variables with non-extreme probabilities for some other reason – for example, because there is an infinite future or infinite past, the universe is infinitely spatially extended, or because we can assign non-extreme probabilities to \textit{a priori} domains with an infinite number of variables, such as the digits of \(\pi\).
3.1.7 The causal condition

This leaves us, finally, with (ix), the causal condition on knowledge, most famously suggested in an early post-Gettier paper by Goldman (1967). According to (the simplest formulation of) this condition, S knows that P only if S’s belief that P is caused by the fact that P.

If S believes that P on the basis of clearly perceiving that P, S’s belief is caused by the fact that P. One might worry that this doesn’t imply that whenever S clearly perceives that P and believes that P, S’s belief that P is caused by the fact that P on the grounds that one might believe P for some other reason. However, we have been supposing here that whenever S clearly perceives that P, this perception compels S to believe that P. (This is because otherwise, it is not plausible that belief always accompanies clear perception, and hence it is not plausible that knowledge requires belief if knowledge = clear perception.) If that is right, then whenever S clearly perceives that P and believes P, S’s belief is caused by his clear perception.

Not all belief caused by facts is based on clear perception, however. For example, S’s belief that he has just fallen down the stairs may be indirectly caused by his just

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17 What about knowledge of a priori facts, like truths of mathematics? If abstract objects are not causally efficacious, then apparently I can clearly perceive that, e.g., $2 + 3 = 5$ without my belief being caused by that fact. I take it, though, that even if it is wrong to say that the fact that $2 + 3 = 5$ causes my belief that $2 + 3 = 5$, it clearly explains my belief in some sense (perhaps together with other factors, e.g., my considering the proposition). Since presumably the causal theorist should allow for mathematical knowledge, we could then revise (ix) to say that S’s belief that P is explained by the fact that P. When we combine this with the revision suggested below, then certainty will plausibly be both sufficient and necessary for (ix).

18 As I argue below, if clear perception does not compel belief, that is plausibly just because clear perception does not compel attention, and attention is required for belief. For example, perhaps I can clearly perceive that there is a log in the path in front of me, but not attend to that fact, and so not believe that there is a log in front of me. But in this kind of case, if one does believe that P, one must consider P, and plausibly in this case, at least, one’s belief will then be at least partly based on one’s clear perception.
having fallen down the stairs and hit his head, which directly caused his brain to get scrambled in such a way as to give him all sorts of random beliefs, including that he has just fallen down the stairs (Feldman 2003: 83).

Even proponents of a causal account of knowing would not want to count S as knowing that he has just fallen down the stairs in this case. Hence, in order to make the causal condition sufficient for knowledge, causal theorists need to revise their account to avoid “deviant causal chains” such as this one, as Goldman (1967: 358-59) already recognized when he first put forward his account. Such revisions face the same problem as revisions of the defeasibility condition of specifying what it is for the causation in question to be “appropriate.”

Here again, there is one revision that clearly solves the problem of deviant causal chains: namely, requiring that S’s belief that P be *directly* caused by the fact that P. The fact that the causation is not mediated by anything else rules out the possibility of deviant causal chains of the above sort. However, if S’s belief that P is *directly* caused by the fact that P, then S’s belief must be based on clear perception that P. 19 Hence, this revision of (ix) implies that S clearly perceives that P.

3.1.8 Putting it all together

In all of the cases above, if P is certain for S, each of conditions (i)-(ix) is met. I have further argued that if any of conditions (i)-(ix) is met, P is certain for S. Condition (viii) is sufficient for probability 1 (condition (i)) on its simplest interpretation, and

19 Compare Antognazza’s (2015: 169) exposition of the traditional view of knowledge historically: “knowledge is a primitive perception or an irreducible mental ‘seeing’ what is the case; knowledge is a primitive presence of a fact to the mind (or to the senses) in which there is no ‘gap’ between knower and known.”
condition (ix) is sufficient for certainty after we add in the requirement that the causation be suitably direct. As for conditions (i)-(vi), once we revise them in light of counterexamples, they all end up equivalent if the crucial properties in them are maximally interpreted. For conditions (ii)-(iii), counterexamples to both the necessity (Grandma’s belief that Johnny is healthy) and sufficiency (Johnny’s belief that 7919 is prime) of these conditions moved us to reformulate these conditions in the direction of condition (iv), which, when maximally interpreted, is coextensive with certainty. For conditions (i), (v), and (vi), counterexamples to the sufficiency of these conditions for knowledge motivated us to add a basing requirement to them; and together with this basing requirement, these conditions became sufficient for certainty. (Condition (vii) plausibly already builds in that requirement, and so needed no revision.)

So, once we suitably reformulate conditions (i)-(ix), and interpret the key terms in them in an Infallibilist-friendly way, we find that S’s belief that P meets any one of these conditions when, and only when, P is certain for S. Now, generally speaking, philosophers who have defended one of these conditions will deny that the entailment from the satisfaction of their preferred condition to certainty holds. However, this is because these philosophers are committed to Fallibilism. They want us to know lots of stuff, and so they give glosses of safety, or luck, or reliability, that imply that a belief can be safe, or reliable, or not luckily true, even if it is not completely safe, or completely reliable, or there is a little bit of luck involved in its being true.

However, even if they can specify the relevant threshold for their crucial property, or reformulate condition (viii) or (ix) to avoid skeptical results, these philosophers’ proposed conditions for knowledge will come apart from other philosophers’ proposed
conditions for knowledge – because, as we saw at the beginning of this section, a belief can be highly probable and yet not very safe, highly safe and yet not very sensitive, and so on.20 If we instead endorse Infallibilist-friendly readings of these conditions, we get the attractive result that conditions (i)-(ix) are equivalent.

3.2 Having It All: An Argument for Infallibilism

3.2.1 Why having it all matters

In the last section I argued that, if Infallibilism is true, S knows that P only if all of the necessary conditions (a) (truth), (b) (belief), and (i)-(ix) are met, and that, moreover, Infallibilist-friendly interpretations of conditions (i)-(ix) make them each, together with (a) and (b), necessary and sufficient conditions for (infallible) knowledge. (In fact (a) is superfluous, because certainty entails truth.) So by adopting Infallibilism, we can accept virtually all standard accounts of knowledge as extensionally correct – we just need to suitably interpret the non-belief, non-truth conditions in them.21,22

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20 As I suggested in note 5 of this chapter, while some of (i)-(ix) may end up equivalent even Fallibilistically-construed, enough if them can come apart that we probably still have at least six independent conditions on knowledge if (i)-(ix) are all interpreted Fallibilistically.

21 The only major theory of knowledge I have not discussed is proper functionalism (see, e.g., Plantinga 1993). If the central condition of proper functionalism is that S’s belief be produced by cognitive faculties that were successfully designed to aim at truth, then the Infallibilist could interpret the “truth-aimed” aspect of the design plan as requiring that S’s cognitive faculties be maximally truth-aimed, so that, necessarily, they never make a mistake. This would make the satisfaction of this condition sufficient for the content of S’s belief being certain. However, I am concerned that the requirement that one’s cognitive faculties be designed is not necessary for S’s belief being certain: I think that Swampman, for example, could clearly perceive that he is in pain. On the other hand, this kind of case also appears to be a counterexample to the necessity of proper function for knowledge (though cf. Boyce and Moon 2016), and so it may be that a maximal version of proper functionalism is reconcilable with Infallibilism at least in the cases where it is plausible that proper function is necessary for knowledge. (My thanks to Dustin Crummett and Andrew Moon for discussion on these points.) In addition, Infallibilism might be reconcilable with proper functionalism if we understand its central condition more loosely, as the condition that S’s belief is formed by properly functioning cognitive faculties, and hold that a (full) belief is only formed by properly functioning faculties if it is certain. See chapter 8, note 3 for elaboration on this suggestion.
The Fallibilist might wonder whether this is really an argument for Infallibilism: so what if I can accept all these accounts? The philosophers who originally put them forward almost always explicitly intended for them to be read Fallibilistically. Even if being an Infallibilist lets us accept Infallibilist versions of all the theories, once we reformulate the theories Infallibilistically, they are no longer appealing.

It is true that some of the arguments for the traditional accounts of knowledge that philosophers have found convincing assume Fallibilism. For example, arguments that one should accept a theory of knowledge because it implies that we know that P, where P is some uncertain proposition, assume Fallibilism. However, even the most “particularist” epistemologists would not accept a theory of knowledge solely on the grounds that it captures many intuitive judgments about particular cases. Proposed accounts must also have some intuitive theoretical plausibility to be taken seriously. And the above conditions do have theoretical plausibility: there seems to be something important or valuable about a belief being safe/sensitive/probable, etc. Hence, the above accounts

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22 Note also that Infallibilism may imply the necessity, if not sufficiency, of some other proposed anti-Gettier conditions that are often added to theories of knowledge based around one of the other nine conditions. For example, Clark (1963) proposed the requirement that S’s belief that P not be inferred from any falsehood as an addition to the traditional Justified True Belief analysis of knowledge. If S believes P because he inferred it from a falsehood, then S does not believe P because he clearly perceives it to be true. Thus, if this condition is not met, P is not certain for S. So S’s belief that P is certain only if this No False Lemmas condition is met. In this case, the converse clearly does not hold – just because one’s belief was not inferred from a falsehood does not imply that it is certain, even if it is true. This is not too troubling, as no philosopher that I know of has proposed this condition as sufficient (together with (a) and (b) for knowledge.

23 In his critique of fallibilism, BonJour (2010: 65) writes that various “anti-Gettier conditions” are such that “there is simply no clear intuitive rationale for them – and so also no clear intuitive rationale for the supposed weak concept of knowledge that results from incorporating them: no reason why the resulting concepts should be thought to be intellectually important and worthy of serious philosophical attention.” BonJour is surely right that many anti-Gettier conditions are wheeled in primarily to stave off counterexamples. But I think that most anti-Gettier conditions, including conditions (i)-(ix) above, do also clearly have something valuable about them. This includes defeasibility, BonJour’s focus. It is good if a belief cannot be defeated by further evidence: one need not worry that there is some further evidence out there that would show one’s belief to be false. Moreover, these valuable qualities seem necessary for
remain appealing even if they do not extend our knowledge as widely as we might like. The fact that Infallibilists are able to accept all these accounts is then a point in favor of Infallibilism, because Infallibilists have a ready explanation for these accounts’ appeal: suitably understood, they’re all true! By contrast, Fallibilists who accept some particular Fallibilist theory of knowledge face the burden of explaining the plausibility of other incompatible Fallibilist theories of knowledge.

In addition, I suggested in the introduction that some form of infallibilism was the dominant conception of knowledge historically. Inasmuch as the historical conception of knowledge is close to Infallibilism as I have defined it (see chapter 2, notes 1 and 16 for discussion), Infallibilists can not only contemporary theories of knowledge with each other but also reconcile contemporary theories of knowledge with historical theories of knowledge. Fallibilists, by contrast, face the burden of explaining why infallibilism was so popular historically, if in fact knowledge does not require certainty.

My argument that Infallibilists can accept all contemporary theories of knowledge relied at points on controversial assumptions. In particular, my arguments that conditions (i)-(ix) (which all imply belief) are all necessary for knowledge presupposed that clear perception compels belief, so that whenever S clearly perceives that P, S believes that P. If we drop this assumption, then Infallibilism will allow that sometimes, S knows that P but does not believe that P. In this case, it seems that we must reject all of the traditional accounts, because all of these presuppose that S knows that P only if S believes that P.

knowledge: how could one really know that P if, possibly, there is evidence which would rationally lead one to reject it? From my perspective, BonJour’s criticism is backwards: the guiding ideas of virtually all of the post-Gettier theories of knowledge are intuitively compelling. However, if one is a Fallibilist these conditions are mostly independent; and if one accepts only one or two of them and not the others, one is hard pressed to explain the others’ appeal. By contrast, Infallibilism lets us accept all these conditions, because they are equivalent when maximal.
There are two kinds of cases in which one might think we could have clear perception without belief. The first is a case in which S does not believe that P because S has not consciously considered whether P. For example, suppose that we can clearly perceive facts about the external world. Then it is plausible that, as I am walking along a trail in the woods and step over a log to avoid tripping, I clearly perceive that there is a log on the trail. However, if I am engaged in a conversation with you and not explicitly thinking about my walking, perhaps I never formed the belief that there is a log on the trail.

The second case is one in which S has considered P and clearly perceives that P, but is blocked from believing it by some kind of irrationality or ignorance. For example, S might wrongly think that P is not certain for her, and so refrain from believing it for this reason.24

I am not convinced that either of these cases are possible. The possibility of the first case might be defended by appeal to Moser’s (1989: 16) principle that coming to believe P “requires one’s understandingly affirming that P,” which one does not do in that case. But plausibly, even if one does not consciously consider whether P, one has some kind of tacit awareness of the proposition, at least if we are supposing that one clearly perceives it to be true. As such, we could, with Audi (1994: 420-21), hold that in a case like this, one forms a dispositional belief, though not an occurrent belief.

In the second case, if we are assuming that S has considered the proposition that P, then I would agree that S may not be certain that P is certain for her, but deny that she

24 Cf. Reed (2011: section 1): “It is possible that a subject may have a belief that enjoys the highest possible epistemic status and yet be unaware that it does. … In such a case, the subject may feel less than the full confidence that her epistemic position warrants.”
may similarly be in doubt about the truth of P itself. For plausibly, epistemic certainty, at least together with conscious consideration of the certain proposition, compels psychological certainty all on its own (whatever one’s higher-order beliefs about this proposition being certain), and psychological certainty implies belief. While we might fail to believe an epistemically certain proposition because we have failed to consider it, while it remains epistemically certain we cannot fail to believe it by doubting its truth.\(^\text{25}\) Perhaps sometimes, higher-order doubt or other psychological phenomena rob one of the state of clear perception itself: whereas ordinarily one would be able to just see that P, now this awareness becomes clouded. But this possibility is compatible with the claim that, if S considers P and does (still) clearly perceive that P, S believes that P.

But suppose these arguments are not right. Suppose, for example, that S can clearly perceive P but fail to believe it because she has not consciously considered it. In this case we can no longer (as Infallibilists) accept (i)-(ix) as necessary conditions on knowledge. I might know that there is a log in the trail but not believe it, and so (a fortiori) not have a safe belief that there is a log in the trail. Even if this is so, however, we can still explain the plausibility of the traditional accounts: namely, they state true necessary conditions for knowledge of P when one has considered whether P. This is the ordinary kind of case in which we are interested, and hence it is not surprising that philosophers have found the traditional accounts so attractive.

Similarly, suppose that some of my arguments that (i)-(ix) (suitably interpreted) imply certainty fail. Then (i)-(ix) are not all equivalent, and so we are no longer able to

\(^{25}\) Compare Descartes (1641/1996: Meditation III): “Whatever is revealed to me by the natural light—for example that from the fact that I am doubting it follows that I exist, and so on—cannot in any way be open to doubt.”
say of some of the standard accounts of knowledge that they are extensionally correct, when suitably interpreted. Still, in this case the circumstances under which (i)-(ix) come apart are unusual, and so the conditions are not coextensive for rather subtle reasons. Hence, inasmuch as each of these conditions approximates the requirement that S clearly perceives that P, it is not surprising that philosophers have found them plausible – even if they are not exactly right, they remain rough approximations to Infallibilism.

As an example of this, suppose there is no good response to the coin-toss counterexample to the inference from maximal reliability to certainty. If this is so, it is presumably because there is just no way of making sense of our ordinary modal intuitions in a world in which apparently possible states of affairs are impossible for deep metaphysical reasons like the divine will. In such a world we are just wrong about what is possible, and that’s that. But in that case the plausibility of reliabilism (in that world) trades on a confused notion of what is possible. As Infallibilists, we can explain why (maximal) reliability seems like the central condition on knowledge (even though, in that world, it is not) by noting how our modal intuitions are confused in that world.

The equivalence or near-equivalence of major extant theories of knowledge to Infallibilism when suitably interpreted is evidence for Infallibilism. This is because Infallibilism is in a position to explain the theoretical appeal of all of these theories. Particular versions of Fallibilism, by contrast, cannot as easily explain the appeal of other, incompatible versions of Fallibilism – of which there are very many. Hence,
Infallibilism accounts for a large amount of intuitive data—viz., the plausibility of different necessary conditions on knowledge—better than any Fallibilist competitors.26

3.2.2 Why going Contextualist or Interest-Relativist won’t help

As I noted in chapter 2, both the view that ‘know’ is context-sensitive and the view that whether S knows that P depends on S’s practical interests vis-à-vis P have enjoyed considerable support in recent years.27 As such, it is worth asking whether conjoining one of these views with Fallibilism undermines the above argument for Infallibilism.

It does not. Consider Interest-Relativism first. The Interest-Relativist, like any other Fallibilist, must endorse a particular version of Fallibilism (Stanley 2005: 88-89). For example, suppose the Interest-Relativist holds that (a), (b), and (iv) are jointly necessary and sufficient conditions for knowledge, that is, that S knows that P iff

(a) P is true,

(b) S believes that P

and

(iv) S’s belief that P is produced by a sufficiently reliable cognitive process.

The Interest-Relativist can then hold that whether the cognitive process producing S’s belief that P is sufficiently reliable depends partly on S’s practical interests. In this case,

26 One could hold that all of (i)-(ix) are independent necessary conditions on knowledge, and then interpret all of these conditions Fallibilistically. This kind of Fallibilism could explain the intuitive appeal of all the conditions. However, this version of Fallibilism would be very complex, and face not just one, but several threshold problems (see section 4.3.1). Hence, it would solve one problem for Fallibilism only by making two other problems worse.

the Interest-Relativist, just like the non-Interest-Relativist who accepts these conditions as necessary and sufficient but thinks that there is some unchanging threshold for sufficient reliability, is only in a position to accept *this* particular theory of knowledge, and not all the other Fallibilist ones that have been proposed. Hence, the Interest-Relativist faces just as much of an explanatory burden as any other Fallibilist.

As noted in chapter 2, Contextualists about knowledge can allow that Infallibilism *is* true for some uses of the word ‘know.’ (Similarly, the Interest-Relativist could grant that knowledge requires certainty when the stakes are extremely high.) However, for other uses of the word ‘know,’ Contextualists must adopt (a meta-linguistic version of) one of the Fallibilist theories already discussed. For example, they might say that there is some quantity or quantities, most likely those mentioned in (i)-(vii) above, such that ‘S knows that P’ is true in a context only if enough of that quantity is present, where how much is enough depends on the context in which this sentence is uttered. As such, Contextualists, like non-Contextualist Fallibilists, must reject most Fallibilist theories of knowledge, and thus face the same explanatory burden as non-Contextualist Fallibilists.

3.3 Conclusion

In this chapter I have argued that Infallibilism allows us to reconcile almost all post-Gettier theories of knowledge, in the sense that, if we interpret key terms in these theories in an Infallibilist-friendly way, these theories all end up extensionally equivalent or very nearly so. I have further argued that Infallibilism’s being able to so reconcile these different theories gives us reason to accept Infallibilism: for the Infallibilist is then in a better position to explain the intuitive appeal of these various theories of knowledge
than the Fallibilist who only accepts one of them, and rejects the rest. This conclusion goes for not only traditional Fallibilists, but Interest-Relativists and Contextualists as well. Infallibilists can have it all, but Fallibilists cannot – even if they go Contextualist or Interest-Relativist.
CHAPTER 4

A CUMULATIVE CASE ARGUMENT FOR INFALLIBILISM

In chapter 2, I presented a theory of knowledge according to which

(Infallibilism)  S knows that P if and only if P is epistemically certain for S.

I then explicated epistemic certainty as a property that holds in virtue of a particular kind of mental relation to a proposition, which I stipulatively labeled ‘clear perception’: so that P is certain for S iff S clearly perceives that P. In chapter 3, I advanced a novel argument for Infallibilism: it lets us accept almost all major extant theories of knowledge, suitably interpreted. Infallibilists get to “have it all.”

In this chapter I discuss eight other advantages that Infallibilism enjoys over Fallibilism. My purpose in so doing is to advance a cumulative case argument for Infallibilism: while individually, the argument that Infallibilism enjoys some particular advantage over Fallibilism might not be conclusive, cumulatively, these arguments provide extremely strong support for Infallibilism. Infallibilism, I argue, is able to explain several intuitive data about the nature of knowledge much more easily than Fallibilist rivals. Epistemologists usually consider these intuitive claims about knowledge in isolation from each other, and, while sometimes acknowledging in passing that Infallibilists are more easily to account for them than Fallibilists, immediately dismiss
Infallibilism because of its allegedly skeptical consequences.\(^1\) Because of this, the strength of the overall evidence for Infallibilism is rarely recognized.

Determining whether the cumulative case presented in this and the last chapter is stronger than the case to be made against Infallibilism requires looking at data that Infallibilism has a hard time accounting for as well as data that it accounts for more easily. The main datum that Infallibilism has a hard time explaining is that it seems to us that we know quite a lot – for Infallibilism seems to imply that we know very little. However, before we can address how problematic this apparent implication of Infallibilism is, we need to consider whether it really does follow from Infallibilism. This is the task of chapter 5, in which I argue that while Infallibilism does not imply that we have no knowledge, it does imply that we do not have very much knowledge. (I further argue that this same result follows from Williamson’s Quasi-Infallibilist theory of knowledge, so that we cannot avoid skepticism by pulling apart certainty from probability 1.) Then, in chapter 6, I consider how Infallibilists might explain away our intuitions that we know quite a lot, and in chapter 7, I seek to weigh the overall evidence.

In section 4.1 I present eight intuitively plausible claims about knowledge. In each case, the intuitive claim in question is entailed or easily explained by Infallibilism. By contrast, I argue that, in each case, it is either impossible or more difficult for the Infallibilist to explain or accept the claim in question.\(^2\)

\(^1\) For two examples, see Lycan 2006 and McGrew and McGrew 2007: 7 on the Gettier problem. Notable exceptions to this trend include BonJour 2010 and Dodd 2011, on whom I draw extensively below.

\(^2\) My argumentative strategy in this chapter is broadly similar to that of Clarke (2013) and Greco (2015), in their recent essays defending the claim that belief is credence 1. Clarke writes that this thesis is supported by the fact that it is “able to avoid easily a number of problems” facing threshold views of belief, according to which outright belief is credence above a certain threshold lower than 1 (2013: 5). Greco writes that “various principles and norms that plausibly govern belief … are easy to explain if we have
In judging how much the plausibility of these claims supports Infallibilism over Fallibilism, we need to consider different varieties of Fallibilism which may be better suited to explain their plausibility. In particular, we need to consider Contextualism and Interest-Relativism about knowledge. We also need to consider Quasi-Infallibilism, according to which knowledge requires probability 1 but not certainty. Call Fallibilists who reject Contextualism, Interest-Relativism, and Quasi-Infallibilism ‘traditional Fallibilists.’ In what follows I will, in initially presenting my arguments, assume that if Infallibilism is false, traditional Fallibilism is true. Then, in section 4.2, I will consider what resources Contextualists and Interest-Relativists have for explaining the intuitions I have put forward. I will later consider what resources the Quasi-Infallibilist has for explaining them in section 5.5.

4.1 Eight Intuitive Claims about Knowledge

The first three claims I will present in this section are as follows:

(1) There is a qualitative difference between knowledge and non-knowledge.
(2) Knowledge is valuable in a way that non-knowledge is not.
(3) Subjects in Gettier cases do not have knowledge.

Infallibilism entails each of these claims, whereas in each case it is more difficult for the (traditional) Fallibilist to accept the claim in question.

The next five claims have to do with theoretical roles that knowledge apparently plays – in particular, the ways in which it appears to be related to rational inference, epistemic modality, rational action, rational inquiry, and deduction. These claims are:

credence one in what we believe, and harder to explain otherwise” (2015: 182). Many of the particular principles or problems that Infallibilism can explain or avoid are parallel to those discussed by Clarke and Greco, too: see chapter 8 for further discussion.
(4) If S knows that P, P is part of S’s evidence.
(5) If S knows that P, ~P is epistemically impossible for S.
(6) If S knows that P, S can rationally act as if P.
(7) If S knows that P, S can rationally stop inquiring whether P.
(8) If S knows each of \{P_1, P_2, \ldots P_n\}, and this set entails Q, S is in a position to know Q.\(^3\)

While these claims are not entailed by Infallibilism, they are all plausible if Infallibilism is true, whereas (traditional) Fallibilism is inconsistent with each one, at least when conjoined with very plausible further assumptions.

4.1.1 Knowledge is qualitatively different from non-knowledge

Nearly all Fallibilist theories of knowledge face a \textit{threshold problem} of specifying exactly how much of the supposedly crucial property for knowledge is necessary for an agent to know. Infallibilism gives a nice, non-arbitrary answer to this problem. BonJour (2010) has recently used this fact to argue for Infallibilism, writing (60-61):

But if we are to suppose that there is a definite concept of knowledge which when satisfied yields the exalted cognitive state in question, it is surely not good enough to say merely, as is commonly said, that the level of justification in question is “strong” or “high” or “adequate” or enough to make it “highly likely” that the belief in question is true, for nothing this vague is enough to specify a definite level of justification and a corresponding definite concept of knowledge. And yet the striking fact is that philosophical discussions that either explicitly invoke or tacitly presuppose the weak [Fallibilist] conception of knowledge almost never have anything much more helpful than this to say about what this “magic” level of justification, as I will somewhat tendentiously refer to it, might be—or, even more important, about \textit{why} it has this very special status. Indeed, it is fair to say that nothing like a precise specification of the

\(^3\) In addition to their pretheoretical appeal, one reason to accept the claims that knowledge plays these roles is that they further explain the \textit{unique value} of knowledge. (BonJour [2010: 66-70] mentions this point with respect to closure, but not with respect to the other theoretical roles above.) If, for example, knowledge does not reach the status of evidence, or we can know that P without it being rational to act on the supposition that P, it again becomes harder to maintain that knowledge is valuable in a way that near-knowledge is not.
“magic” level has ever been seriously suggested, let alone more widely accepted.

It appears that there is a qualitative difference between knowing a proposition and having a belief that is highly justified (that is, has one of the crucial properties to a high degree), but not highly enough for knowledge. Infallibilism explains this, because clear perception is qualitatively different from high, but non-maximal, probability, sensitivity, and so on. A subject that clearly perceives a fact is in a qualitatively different state from one who is not. So, Infallibilism entails

(1) There is a qualitative difference between knowledge and non-knowledge.

By contrast, if Fallibilism is true, it does not seem that knowledge can be qualitatively different from almost-but-not-quite knowledge. One thing the Fallibilist could say is that the boundary between knowledge and non-knowledge is vague (Hannon 2014: 1124-26), just as the boundary between a tall and a non-tall person is vague. If this is right, then plausibly, if S determinately knows that P, he will be in a very different state than if he determinately does not know, and so it is not surprising that knowledge seems qualitatively different than non-knowledge.

The claim that the boundary between knowledge and non-knowledge is vague does not imply (1). For a difference between, say, .7 and .99 probability is still a difference in degree, and not in kind, whereas a difference between .99 probability and certainty is a difference in kind. Nevertheless, it is easy to see how we might mistake a large difference in degree for a difference in kind, and so if it is plausible that the boundary between knowledge and non-knowledge is vague, then the Fallibilist is able to offer a plausible error theory for why we might mistakenly think (1) to be true.
I do not think, however, that it is plausible that the boundary between knowledge and non-knowledge is vague. Vague adjectives like ‘tall,’ ‘large,’ and ‘hot’ are all comparatives: we can say not only that X is large but also that X is larger than Y. In general, it appears that when an adjective is uncontroversially vague, we can use it or a cognate to compare the degree to which different objects possess the property picked out by that adjective.

‘Know’ is a verb rather than an adjective. However, the same rule appears to hold for verbs. For example, ‘hurry’ is vague: it is vague at what point Smith is getting ready fast enough that Smith is hurrying. And “Smith is hurrying more than Jones” is felicitous. Likewise, ‘destroy’ is vague: the line between destroying and merely damaging a car is vague. And “The crash destroyed Smith’s car more than Jones” is felicitous (as is “The crash damaged Smith’s car more than Jones”).

Like ‘destroy,’ ‘know’ is a transitive verb, and we are concerned here with its sense when it takes a proposition as its object. However, while we can speak of Smith as knowing more than Jones, or knowing more about a topic than Jones, we cannot speak of him knowing a proposition more than Jones. “Smith knows that Lincoln was born in 1809 more than Jones” is not a felicitous sentence. This suggests that ‘know’ is not vague. Knowledge—that is binary: you know that P or you don’t. It does not come in degrees, like size, hurrying, or destruction.

Against this, one might observe that a sentence like “You know that Brown is untrustworthy even better than I” is felicitous. However, we can interpret this

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4 My argument here is similar to Stanley’s (2004: chapter 2) objection to Contextualism about knowledge that ‘know,’ unlike ‘flat’ and ‘tall,’ is not gradable.
construction as indicating, not that knowledge comes in degrees, but rather that certain kinds of knowledge are better than other kinds. For instance, if you know that Jones is untrustworthy on the basis of personal experience, and I only know it on the basis of testimony, your knowledge may be of a superior kind. Similarly, if you understand the reasons why Jones is untrustworthy and I do not, your knowledge may be of a superior kind.

One might also observe that we can say things like “Smith is more reliable in reaching true belief than Jones,” “My belief that P fits the evidence better than my belief that Q,” etc. But ‘reliable in reaching true belief’ and ‘fitting the evidence’ are not cognates of ‘knows,’ even if we might have philosophical reasons for relating the two concepts.

Our linguistic test thus suggests that, unlike ‘tall,’ ‘know’ is not vague. If this is right, and there is a determinate boundary between knowledge and non-knowledge, then it is difficult for the Fallibilist to explain why there appears to be a qualitative difference between knowledge and non-knowledge, since, according to Fallibilism, the states

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5 One might wonder whether the claim that knowledge on the basis of some sources is better than knowledge on the basis of other sources is consistent with Infallibilism. But there is no obvious inconsistency, provided that the Infallibilist insists that the difference is not that the former is more certain than the latter. For example, Locke distinguished between “intuitive, demonstrative and sensitive” knowledge (1689/1996: IV: ii.14, emphases his), and while he held that all were certain, he nevertheless thought that demonstrative knowledge, “though it be certain, yet the evidence of it is not altogether so clear and bright, nor the assent so ready, as in intuitive knowledge. For though, in demonstration, the mind does at last perceive the agreement or disagreement of the ideas it considers; yet tis not without pains and attention: there must be more than one transient view to find it” (IV: ii.4, emphases his). These remarks suggest that intuitive knowledge is both easier to obtain and less fragile than demonstrative knowledge. Both of these are respects in which one might think the former superior to the latter. For more on different sources and kinds of infallible knowledge, see section 5.1.

In addition to the above, one might think that, if knowledge can come from different sources, knowledge on the basis of multiple sources is superior to knowledge on the basis of just one of those sources. For example, knowledge on the basis of both sight and hearing might be superior to knowledge on the basis of sight alone. (My thanks to Robert Audi here.)
immediately above and immediately below this boundary only differ to a very small quantitative degree.

In the next sub-section we will see several Fallibilist attempts to show that knowledge is uniquely *valuable*. If successful, these attempts would also show that knowledge is qualitatively different from non-knowledge in this respect. I will argue that each of these attempts is unsuccessful.

4.1.2 Knowledge is uniquely valuable

BonJour observes that the apparent qualitative difference between knowledge and non-knowledge accompanies an apparent qualitative difference in *value*. Knowledge appears to be valuable in a way that non-knowledge is not. As I observed last chapter, most of the necessary conditions for knowledge proposed by epistemologists are valuable in one way or another. So a theory of knowledge based on them can arguably explain why knowledge is valuable. However, of the conditions we considered earlier, all of them except for the causal condition involved possession of some quantity that comes in degrees. And slight increases in this quantity, so long as it remains sub-maximal, constitute only quantitative differences in value. Hence, Fallibilism cannot easily explain why the value of knowledge is *qualitatively* different from the value of non-knowledge. By contrast, it is obviously uniquely valuable to clearly perceive that a proposition is true, in such a way that completely immunizes one from error. Hence, Infallibilism entails

(2) Knowledge is valuable in a way that non-knowledge is not.⁶

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⁶ Pritchard and Turri (2014: section 2) call the problem of explaining how the value of knowledge differs in kind from the value of almost-but-not-quite-knowledge the “tertiary value problem.”
Along these lines, BonJour asks us to imagine inquiring about some topic, and finding evidence for a proposition regarding that topic. It is clear, he says, how finding “conclusive justification” for this proposition would be the best situation of all. But the claim of the weak [Fallibilist] conception is that there is some specific level of justification that is less than conclusive but nonetheless transforms your cognitive situation in a much more radical way than did increases in justification up to that point (or further increases above it). Before this level is attained, you merely have a belief that is more and more likely or probable, but at that point you suddenly have knowledge. But why does achieving this specific level of justification make such a difference and what exactly is this difference supposed to amount to? … It is hard to see why such further increases are not valuable in exactly the same way, to precisely the same extent, as those that came earlier, before the supposed “magic” level was reached. (BonJour 2010: 61)

Hannon gives two responses to BonJour that seek to address both this and the previous arbitrariness argument. The first is to deny that the property or properties sufficient for making true belief knowledge come in continuous degrees (Hannon 2014: 1127-28; compare Pritchard and Turri 2014: section 7). Of the proposed necessary conditions for knowledge that we considered above, we saw that all of them except for the causal condition involve some degreeed quantity. However, some of these quantities could perhaps be replaced with qualitative categories. Hannon (2014: 1127) suggests following Chisholm (1977) and Conee and Feldman (2004) in conceiving of epistemic justification – which here means something like what I called ‘plausibility’ in section 2.1 – “in terms of qualitatively discrete categories” rather than “in terms of gradual increase.” For example, Chisholm (1977: 9-10; compare Chisholm 1989: 16) mentions the

7 Hannon (2014: 1127) seems to suggest that the two responses are connected, with the first response making the second response possible. However, it is not clear to me how the first response contributes to the second.
following levels of justification for a belief: acceptable, reasonable, beyond reasonable doubt, evident, and certain. The Fallibilist could then claim that knowledge-level justification comes at one of these levels falling short of certainty: evident-ness, for instance.

This response merely pushes the problem back a step. We have explained the qualitative difference between knowledge and non-knowledge by (say) the qualitative difference between being evident and being beyond a reasonable doubt. But now we have to explain this qualitative difference, and this looks impossible inasmuch as plausibility comes in finer degrees than the levels Chisholm discusses.\(^8\)

Fallibilists who follow Chisholm in conceiving of plausibility as coming in qualitatively distinct levels face a dilemma. Either these different levels really are just heuristics for underlying degrees of probability, or they are not. If they are, then they are not really qualitatively different. For example, if “evident” just means “epistemic probability between .99 and 1” then the difference between beyond reasonable doubt and evident is not a qualitative difference. And in this case this difference cannot explain the qualitative difference between knowledge and non-knowledge.

If, on the other hand, the different levels are not just heuristics for underlying degrees of probability, then P may be at a higher level of plausibility than Q while being less probable than Q. And in this case it is unclear why we should care about levels of plausibility.

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\(^8\) That plausibility comes in finer degrees than any finite number of discrete levels should be clear from examples like the following. You enter a city knowing that it has at least 1 and at most 100 taxis. At \(t_1\) you learn that it has, at most, 99 taxis. At \(t_2\) you learn that it has, at most, 98 taxis. This continues until, at \(t_{99}\), you learn that it has exactly 1 taxi. At each successive time the hypothesis that the city has exactly 1 taxi becomes more plausible for you. Hence, there are more than just the 5 levels of plausibility Chisholm discusses. Since we could increase the initial possible number of taxis in the problem indefinitely, analogous cases will show that the number of levels of plausibility is greater than any finite number.
plausibility so understood. For example, if it is evident that bridge 1 is safe and only reasonable that bridge 2 is safe, but the probability that bridge 1 is safe is .99 and the probability that bridge 2 is safe is .6, we should surely be more willing to walk over bridge 1 than bridge 2.9

Another explanation for why fallible knowledge is qualitatively more valuable than near-knowledge is that having knowledge has extrinsic benefits that having near-knowledge does not. If you get to become a police officer only if you score 80% on an exam, scoring 80% is better than scoring 79% in a way that scoring 81% is not better than scoring 80%, even though there is no intrinsic qualitative difference between these scores.10 Hannon’s second response to BonJour (2014: 1132) is of this sort. According to Hannon, we conceive of S as knowing that P at the point at which we think that S can legitimately close inquiry as to whether P: “This level of justification is cognitively valuable because it satisfies one of the platitudes about the functional role of knowledge ascription: it signals the point of legitimate inquiry closure.” (The reason we conceive of knowledge in this way is supposedly because we use knowledge-ascriptions to identify

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9 Some Fallibilist authors have suggested that we can have high probability without the degree of epistemic justification for knowledge, in particular in cases where our evidence for the proposition in question – e.g., that we will lose the lottery – is “purely statistical.” I think this suggestion is best seen as rejecting the idea that something like high plausibility/justification – or any of the other crucial properties discussed in chapter 3 – is necessary for knowledge at all, and instead endorsing a causal theory of knowledge. Causal theorists can, I think, legitimately say that there is a qualitative difference between one’s beliefs being causally related to the facts and their not being so related (although whether there is a corresponding difference in value is less clear to me). However, as I noted in section 3.1.7, causal theories face arbitrariness problems of their own, in determining what kinds of causal or explanatory connections between one’s beliefs and the facts are “appropriate,” and an Infallibilist version of the causal theory offers the simplest resolution of this problem. See section 5.4.3 for further discussion of the relation between Infallibilism and causal theories of knowledge.

10 My thanks to Blake Roeber here.
reliable informants, and being able to legitimately close inquiry as to whether P is a necessary condition for being a reliable, or reliable enough, informant.

This response is more promising, but only if it is coupled with Interest-Relativism, which I delay discussion of until section 4.2. For, as I argue in section 4.1.8, if knowledge is not interest-relative, then we can only always close inquiry on whether P upon coming to know P if knowledge implies probability 1. I make similar arguments for other roles that knowledge plays, including rationalizing action and serving as evidence. If these arguments are right, then the only way for a non-Interest-Relativist to appeal to these roles of knowledge to explain its unique value is to adopt Infallibilism. If traditional Fallibilism is true, then the arbitrariness of whatever the threshold for knowledge is means that it does not have the extrinsic benefits, such as allowing us to rationally act or close inquiry, required by this response. So, the traditional Fallibilist remains unable to easily explain the unique value of knowledge.

4.1.3 Gettiered subjects do not know

BonJour mentions two other problems for Fallibilism: the Gettier problem and the lottery paradox (BonJour 2010: 63-70; see also Reed 2012: 588-91, Stone 2000: 540). I will discuss the former in this section; I discuss the latter later, under the heading of closure.

‘The Gettier problem’ is a term of art, but in contemporary usage epistemologists seem to think of it primarily as a problem of ‘lucky’ knowledge (e.g., Zagzebski 1994, Howard-Snyder et al. 2003, Ichikawa & Steup 2014: section 3): you give me a theory of the conditions under which S knows that P, and I’ll give you a case in which those conditions are met but S’s belief is only luckily true, and so intuitively not knowledge
whether or not this case is strictly analogous to Gettier’s original examples). As I argued in chapter 3, if S believes that P on some other basis than clear perception, then S’s belief is, at least to a small degree, luckily true. Infallibilism is the only theory which completely eliminates (the relevant kind of) luck. If Gettier cases all involve luck, Infallibilism thus entails

(3) Subjects in Gettier cases do not have knowledge.12

The Fallibilist might think that we can know when our beliefs are to some small degree luckily true, provided their truth isn’t too lucky. The difficult task for the Fallibilist is to offer a theory that other epistemologists are not able to come up with “Gettier-style” counterexamples to. I of course cannot show that this is impossible, but the last fifty years of epistemology do suggest that it is very difficult. Fallibilists thus have a harder time than Infallibilists allowing for (3).

The Fallibilist might try to turn the present argument on its head, contending that the Gettier problem actually shows Infallible knowledge to not be the only kind of knowledge (Lycan 2006: 152–153, Hannon 2014: 1136-37). The existence of Gettier cases, so this argument goes, shows an intuitive difference between true belief that is justified (I would add – to some non-maximal degree) and knowledge, Fallibilistically construed. Suppose that Smith believes that Jones owns a Ford because he frequently sees Jones driving a Ford, and infers from his (highly) justified belief that Jones owns a Ford

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11 As I noted in section 3.1.4, it is okay if the fact that one clearly perceives that P is due to luck (e.g., because one happened to turn one’s head at just the right moment); what is important is that, given this perception, the fact that one’s belief that P is true is not lucky.

12 In his original essay, Gettier (1963: 121) is explicit that his counterexamples to the Justified True Belief theory of knowledge rely on the assumption that it possible for a person to be justified in believing a false proposition. Lehrer (1979: 65) goes so far as to characterize the Gettier problem as “the problem of showing that a fallibilistic [sic] theory of epistemic justification is possible.”
that either Jones owns a Ford or Brown is in Barcelona. Intuitively, there is a significant
difference between the case in which this belief is true because Jones does own a Ford
and the case in which it is ("luckily") true because Brown is in Barcelona. There seems to
be some sense of knowledge in which Smith knows the disjunction in the former case but
not in the latter. Even if we haven’t pinned down that exact sense of knowledge yet, the
Fallibilist is at least in a position to acknowledge its existence, and different versions of
Fallibilism are attempts to make it precise. By contrast, the Infallibilist cannot capture
this difference, because according to the Infallibilist, Smith does not know in either case
(at least, given plausible auxiliary premises about what kinds of propositions are certain
for Smith).

I grant that there does initially seem to be an important difference between these
two cases, and that the Infallibilist is committed to denying that there really is such an
important difference. However, I think the Infallibilist can nevertheless explain why there
initially (wrongly) seems to be an important difference between these cases. That is
because the description of the latter case, but not the former, makes salient the fact that
Smith’s belief could have been wrong. In other words, it makes salient the fact that
Smith’s belief is luckily true. When we attend to the fact that Jones may (for all, it seems,
that Smith knows) have been driving a rented car, or a friend’s car, it is no longer so
obvious that Smith’s belief in the former case is better off than in the latter case – in both
cases the world could have conspired to make it false, just in different ways. To the
extent that there remains an intuitive difference between the cases, it is plausibly a
difference of degree, not of kind – Smith’s belief is more luckily true in the latter case,
e.g., because it could more easily have been false.
The Infallibilist, then, can not only avoid the Gettier problem but also explain (a) why we are inclined to not ascribe knowledge in Gettier cases, and (b) why the nature and extension of Gettier cases is disputed. The explanation is this: “Gettier cases” are ways of making salient the possibility of error, a possibility that is always present when a proposition is not Infallibly known. According to the Infallibilist, the possibility of error always precludes knowledge. In Gettier cases this possibility is made so salient that even Fallibilists are led to deny knowledge. That is because our concept of knowledge is implicitly Infallibilist: we think that an agent can only know that P if there is no possibility of error. However, because different Fallibilists disagree about what kinds of possibility of error (what kinds of “luck”) matter, they disagree about what to countenance as a Gettier case (see, e.g., Lycan 2006 on fake barn cases).

4.1.4 Knowledge is evidence

The term ‘evidence’ can be used in two related ways. First, we can say that P is evidence for Q: call this the “evidence-for” sense of ‘evidence.’ Plausibly, P is evidence for Q relative to some background iff P raises the probability of Q relative to that background. On this sense of ‘evidence,’ P can be evidence for Q even if no one has P as evidence, and so no one is in a position to judge that (probably) Q on the basis of P. This brings us to what we can call the “having-evidence” sense of ‘evidence’: we can say that S has P as evidence, or that P is part of S’s evidence. If P is evidence that S has, then P, together with other propositions in S’s evidence, determines the epistemic probability of any proposition for S.

We are concerned here with the “having-evidence” sense of ‘evidence.’ Here is a simple argument that knowledge implies probability 1:
(4) If S knows that P, P is part of S’s evidence.13
(9) The epistemic probability of P for S is n iff n is the probability of P conditional on S’s evidence.
(10) For any further evidence K, \( P(P|P&K) = 1 \).
(11) If S knows that P, the epistemic probability of P for S is 1. [from (4), (9), (10)]

If probability 1 implies certainty, and certainty implies knowledge, then (11) implies Infallibilism. As I said in my introduction to this chapter, for the purposes of this chapter I am setting aside versions of Fallibilism, such as Timothy Williamson’s, according to which probability 1 comes apart from certainty. As such, I am focusing only on traditional Fallibilists who deny (11). My claim in this sub-section is that such Fallibilists have a much harder time accepting (4) than do Fallibilists.

(10) is analytically true for standard probability axioms, and is an obvious desideratum for non-standard axiomatizations that seek to allow some facts entailed by one’s evidence to have probabilities less than 1. Thus, if the traditional Fallibilist wishes to accept (4), he must deny (9). While I do not have space here to consider all the alternatives to (9) which might be proposed, I will make two points in defense of this premise. First, (9) is the simplest, most natural way to spell out the relation between probability and evidence. Other theories which seek to avoid the consequence that one’s evidence has probability 1 will generally be ad hoc. Second, the simplest theories which avoid this consequence will render obviously incorrect verdicts.14 For example, one might say that the epistemic probability of P for S is the probability of P conditional on

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13 I will sometimes speak loosely of (4) as the claim that knowledge is evidence, even though, strictly speaking, what it says is that what is known is evidence. In this I follow the language of Williamson and others who endorse (4). (My thanks to Robert Audi here.)

14 I am setting aside Jeffrey conditionalization, because this approach implies radical subjectivism about probabilities: see Williamson 2000: 216.
all of S’s other evidence (besides P). This will wrongly deliver the result that if S has no strong evidence for P besides P itself, and P is initially unlikely, the epistemic probability of P for S is very low. For example, suppose that S suddenly feels a shooting pain in his foot. Relative to everything else S knows at this moment, it is quite unlikely that he feels pain in his foot. Nevertheless, the epistemic probability that S feels pain in his foot is obviously not low for S.

These remarks should suffice to show that it is at least difficult for Fallibilists to deny (9), and so difficult to accept (4) but deny (11). However, many Fallibilists deny (4), and these Fallibilists may be inclined to deny my assertion that this claim is intuitive. As such, I will now argue that (4) is intuitive by showing that a large portion of work on probability and evidence takes it for granted.

Some philosophers writing about probability explicitly endorse (4), such as Swinburne (1973: 1), who writes that “Our evidence is what forms our starting point for inference, what we can be said to know.” However, it is more telling to look at statements which do not explicitly endorse (1), but which presuppose that if a proposition is known, it is evidence. Such statements are evidence that (1) is tacitly presupposed by our ordinary way of thinking and talking about evidence. For example, in a later book, Swinburne (2001) gives theories of evidence (pp. 135-44) and knowledge (chapter 8)

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15 Williamson (2000: 203-07) has famously argued for (4). However, most of his arguments are not available to me, as they involve responding to apparent skeptical consequences of (4) by denying that probability 1 implies certainty.

16 Examples could be given from modern philosophers such as Locke and Descartes as well. This would be instructive inasmuch as the term ‘evidence’ came to have its modern meaning, including its two senses mentioned at the beginning of this sub-section, around the time these philosophers were writing (see Dutant 2015: 138n24).
which conflict with the claim that all knowledge is evidence. But at times he continues to write as if all knowledge is evidence (the emphases below are mine):

“Returning to personal explanation—if we know some person’s desires and their strengths, and know in what circumstances they believe they are situated—we can infer their purposes, often with logical probability 1. And, if we know their means-end beliefs, and their basic powers, we can then infer their actions.” – Swinburne 2001: 79

“Our background evidence from all we know about mechanics is that which face lands upwards is a function of the momentum imparted to the coin, angle of toss, distance above ground, and so on…” – Swinburne 2001: 108

Along the lines of this last quote, a large number of Bayesians use the phrase “background knowledge” to refer to that part of an agent’s evidence which was not just now learned, or is not under explicit consideration right now (e.g., Eells and Fitelson 2000: 667-69, Collins 2009: 241-42). And in general, the language employed by users of probability theory suggests that they tacitly presuppose that knowledge is evidence (all emphases below are mine):

“Theory(h) is to be a number representing the person’s personal probability for h, when he knows f; for short, his probability given f.” – Hacking 1967b: 313

“[T]o speak of the probability of an event tout court, without any qualification, does not have any concrete meaning. Rather, it must be kept in mind that probability is always relative to the state of knowledge of the person who is making the judgement.” – De Finetti 1979/2008: 36, emphasis mine

“Our key idea is to use minimal prior knowledge [to set a prior probability distribution].” – Gelman et al. 2008: 1361

“When you ask yourself how much support e gives h, you are plausibly asking how much a knowledge of e would increase the credibility of h, which is the same thing as asking how much e boosts the credibility of h relative to what else you currently know.” – Howson 1991: 54
“In principle perhaps, non-demonstrative inference should be based on ‘total evidence’, indeed on everything that is believed. In practice, however, investigators must think about which bits of what they know really bear on their question.” – Lipton 2001: 113

“[T]he probabilistic relation of conditional independence $I(X, Z, Y)$ [i.e., the condition that $P(X|Y&Z) = P(X|Z)$] … formalizes the intuitive statement ‘Knowing $Y$ tells me nothing new about $X$ if I already know $Z$.’” – Pearl 1988: 91

“If $P(A | B, C) = P(A | C)$, we say that $A$ and $B$ are conditionally independent given $C$; that is, once we know $C$, learning $B$ would not change our belief in $A$.” – Pearl 2000: 3

“The robot always takes into account all of the evidence it has relevant to a question. It does not arbitrarily ignore some of the information, basing its conclusions only on what remains. … The robot always represents equivalent states of knowledge by equivalent plausibility assignments. That is, if in two problems the robot’s state of knowledge is the same…, then it must assign the same plausibilities in both.” – Jaynes 2003: 19

(This last quote is in the context of laying down requirements on an ideal reasoner, imagined by Jaynes as a robot. Jaynes is here arguing that mathematical probability theory formalizes our intuitive notion of plausibility.)

The above authors all appear to assume that, if $S$ knows that $P$, $P$ is part of $S$’s evidence, at the very least in ordinary cases. Indeed, the above quotes mostly treat evidence, information, knowledge, and learning as interchangeable. These quotes come from both philosophers and scientists: Howson, Lipton, and Swinburne are philosophers

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17 In this quote Lipton really suggests two definitions of evidence: what we know and what we believe. These will be connected, however, if (as I suggest in chapter 8) we ought to (fully) believe all and only what we know. In this case believing that $P$ rationally commits us to thinking that $P$ is part of our evidence. Hence, even if it is strictly speaking wrong to say that $P$ is part of our evidence if we believe that $P$, there is a close link between our evidence and what we believe.

18 Earlier on this page Pearl describes $P(A|B)$ as the “belief in $A$ under the assumption that $B$ is known with absolute certainty.” These quotes together suggest that Pearl’s concept of knowledge and knowledge with absolute certainty are equivalent (with the qualifier in the earlier quote perhaps included because ‘know’ often pragmatically conveys a state short of knowledge: see the discussion in section 6.1.2).
of science, Jaynes is a physicist, Gelman et al. are statisticians, and Pearl is a computer scientist and statistician. They are, moreover, typical of the language that both philosophers and scientists use in talking about these concepts. The ubiquity of this language among writers on evidence from very different backgrounds and its use in contexts in which philosophical issues about the nature of knowledge are not at stake suggests that it is not the result of theoretical commitments about evidence and knowledge. Rather, it reflects a pretheoretic conception of the two as very closely linked.  

To the extent that philosophers are inclined to deny that knowledge is evidence, then, it is most likely for theoretical reasons. In particular, inasmuch as philosophers recognize the truth of (9) and (10), they may realize that knowledge being evidence would imply that we know only what has probability 1 for us, and so may reject this view because they reject this consequence of it.

The Infallibilist is able to explain the intuitive appeal of (4) more easily than the traditional Fallibilist (who denies that knowledge requires probability 1). For the Infallibilist can easily accept that (4) is true, and so hold that our ordinary thought and language which presupposes (4) reflects a tacit recognition of (4). By contrast, the traditional Fallibilist can only accept (4) by denying (9), and (9) is very plausible. The Fallibilist could deny (4) and offer some error theory for why (4) is presupposed in so much ordinary thought and language. But it is not obvious what shape such an error theory would take, and I do not know of any Fallibilist attempts to formulate one.

19 For two more examples of language presupposing a close linkage between knowledge and evidence, see Williamson’s (2000: 189) quotes from Carnap and Peirce.
4.1.5 P is possible for S only if S does not know that not-P

Dodd (2011) presents the following argument for the claim that if S knows that P, the epistemic probability of P for S is 1:

(5) If S knows that P, ~P is epistemically impossible for S.
(12) ~P is epistemically impossible for S only if the epistemic probability of ~P for S is 0.
(13) If the epistemic probability of ~P for S is 0, then the epistemic probability of P for S is 1.
(11) If S knows that P, the epistemic probability of P for S is 1. [from (5), (12), (13)]

(13), like (10), is true on any satisfactory axiomatization of epistemic probability. Fallibilists looking to reject (11) should thus deny one of the other two premises.

(5) and (12) employ the term ‘epistemically possible.’ Like ‘epistemic probability,’ this is a technical term, but one which describes a pretheoretic concept, reflected in the use of modal terms in epistemic contexts – e.g., if I am wondering where my wife is when I get home, and say to myself, “She may have gone to the store.”

Like epistemic probability, epistemic possibility is relative to a subject, and is neither necessary nor sufficient for metaphysical possibility. One way of bringing out the difference between epistemic and metaphysical (im)possibility is by contrasting “could not have been false” (metaphysical) with “cannot be false” (epistemic). This distinction is reflected in the difference between subjunctive conditionals and indicative conditionals. Asserting the subjunctive conditional, “if Oswald hadn’t shot Kennedy, someone else would have,” (at least pragmatically) implies that it could have been true (is metaphysically possible) that Oswald didn’t shoot Kennedy. Asserting the indicative conditional, “if Oswald didn’t shoot Kennedy, someone else did,” implies that it may be true (is epistemically possible) that Oswald didn’t shoot Kennedy.
(12) is an extremely plausible claim about epistemic possibility. As Dodd (2011: 668) observes, the analogue of (12) is obviously true for physical possibility and probability: P is physically impossible only if there is zero physical probability that it occurs. Brueckner and Buford (2013: 198) dispute (12), noting that “there are clear points of disanalogy between the two modalities [physical and epistemic]. For example, necessarily false propositions … can be epistemically possible, but are not physically possible.” However, it is not clear why this sort of difference, based as it is on the nature of the different domains of possibility and probability in question, undermines Dodd’s analogy. The terms ‘probability’ and ‘possibility’ are not univocal between their epistemic and physical (and any other) senses; there is some common core of meaning to these terms in all the domains to which they are applied. Hence, we should expect conceptual connections between these terms that hold in one domain to hold in other domains as well. And that impossibility implies zero probability appears to be true for any domain in which the terms ‘impossible’ and ‘probability’ apply.

Dodd thinks, and I agree, that the most plausible Fallibilist response to the argument is to deny (5). However, there are at least two reasons to think that (5) is true. First, although it is not as obvious as (12), it is pretheoretically very plausible. In the last sub-section, I noted that in contexts in which philosophers and scientists are not preoccupied with the nature of knowledge – and, consequently, not worried about the threat of skepticism – they tend to presuppose that knowledge is evidence. Dodd (2011: 669, 2010: 384) similarly observes that “virtually all” writers on epistemic modals accept
(5). When the threat of skepticism is not salient, the intuitive theoretical roles of knowledge come to the fore, and philosophers freely use it to analyze other concepts, such as epistemic possibility.

Second, (5) is supported by the impropriety of concessive knowledge attributions (CKAs), that is, sentences of the form

“I [or we] know that P, but maybe ~P.”

CKAs are typically infelicitous to assert. For example, it is infelicitous to say “I know the Red Sox won’t win, but they might.” (5) gives a simple explanation of why CKAs are infelicitous: they are always false. If you know that P, then ~P is epistemically impossible for you.

Dougherty and Rysiew (2009, 2011; see also Hannon 2014: 1135) offer the following pragmatic explanation for the impropriety of CKAs. Usually asserting “maybe ~P” implies that one “has some relevant grounds” for thinking that ~P (Dougherty and Rysiew 2011: 396), which implies that one does not know P. Hence, “I know that P, but maybe ~P” sounds bad because the assertion of the second conjunct pragmatically implies that the first conjunct is false.

Dougherty and Rysiew further point out that sometimes CKAs can be properly asserted. For example, it seems felicitous to say, when 60 golfers are all about to play a short but difficult hole, “It’s possible that all the golfers will get a hole-in-one – but of


21 Writers on CKAs tend to define them as any sentence of the form “S knows that P, but ~P is possible for S.” I here focus only on the first-person case because it is sufficient to make my point.
course we know that won’t happen” (Dodd 2011: 678). Dougherty and Rysiew take this to support the claim that CKAs are sometimes true.

The Infallibilist, however, has a ready explanation of felicitous CKAs that parallels Dougherty and Rysiew’s Fallibilist explanation of infelicitous CKAs: in many contexts, saying “I know that P” pragmatically conveys that I am (at least) close to knowing that P, in the same way that, in many contexts, saying “It’s 2:00” pragmatically conveys that it’s around 2:00, and saying “There’s no bathroom on this floor” conveys that there’s no open bathroom on this floor (see section 6.1.3). In all these cases what is asserted is compatible with what is communicated, but it is not implied by it. When the above CKA is felicitous, it is because “we know that won’t happen” pragmatically conveys that we come close enough to knowing that all the golfers will not get a hole in one for practical purposes, and that proposition does not contradict the claim that it is possible that they will.22

Support for this diagnosis comes from Dodd’s (2011: 678-80) observation that, when CKAs are felicitous, so are sentences the Fallibilist will agree are false. For example, in the same context in which the above CKA is felicitous, so is “It’s possible that all the golfers will get a hole-in-one – but of course there’s no way that could happen.” And yet, the second conjunct of this sentence clearly contradicts the first. Since CKAs are felicitous in the same circumstances sentences like this are, it is plausible that they are felicitous for the same reason – namely, they’re false exaggerations that

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22 It is worth noting that “it’s possible that all of the golfers will get a hole-in-one—but of course that won’t happen” is just as felicitous as “it’s possible that all of the golfers will get a hole-in-one—but of course we know that won’t happen.” The above pragmatic explanation of the latter can be extended to the former if knowledge is the norm of assertion, so that in asserting that that won’t happen one represents oneself as knowing that that won’t happen. See section 6.2.1.
pragmatically convey something true (in this latter case, that there’s *almost* no way that the golfers could get a hole in one).

More generally, Dodd observes that in ordinary contexts speakers treat knowledge and possibility as *connected* in the way implied by (5), but denied by Dougherty and Rysiew. For example, in ordinary contexts non-philosophers would find ‘Trump might not be the president’ as odd as ‘we don’t know Trump is president.’ But, the Fallibilist will say that the latter is false, and Dougherty and Rysiew, at least, allow that the former is true. Hence, “the fallibilist is unable to explain common-sense intuitions about the *connection* between what we know and what might be true” (Dodd 2010: 682, emphasis his).

I said above that Dougherty and Rysiew allow that ‘Trump might not be the president’ is true for most people. This is because they analyze epistemic possibility in terms of evidence, rather than knowledge: “what is epistemically possible for a subject are those things which his evidence, rather than what he knows, does not rule out” (2009: 127). It is worth noting that the Infallibilist can accept *both* this analysis *and* the standard analysis of epistemic possibility as what is not ruled out by our knowledge. This is because the Infallibilist is in a position to accept the thesis that knowledge and evidence are coextensive. So here again, *the Infallibilist gets to have it all*.

The Infallibilist can easily accept (5), according to which, if S knows that P, then ~P is epistemically impossible for S. The Fallibilist can only do so by denying (12). But (12) is extremely plausible. So, the Fallibilist again has a much harder time accepting an intuitive datum about knowledge than the Infallibilist.
4.1.6 Knowledge is a norm of action

Here is another argument for (11) somewhat similar in form to the last one:

(6) If S knows that P, S can rationally act as if P.
(14) If knowledge does not imply epistemic probability 1, then it is possible that S knows that P but cannot rationally act as if P.
(11) If S knows that P, the epistemic probability of P for S is 1. [from (6), (14)]

(6) should be read as a necessary claim. Thus, if (14) is true, its antecedent is inconsistent with (6), and (11) follows.

Principles similar to (6) are endorsed by many epistemologists, often in the context of arguing for Interest-Relativism about knowledge. For example, Hawthorne (2004: 30) writes that “it is acceptable to use the premise that \( p \) in one’s [practical] deliberations if one knows it and (at least in very many cases) unacceptable to use the premise that \( p \) in one’s practical reasoning if one doesn’t know it.” Similarly, Stanley (2005: 10) says that

A standard use of knowledge attributions is to justify action. … To say that an action is only based on a belief is to criticize that action for not living up to an expected norm; to say that an action is based on knowledge is to declare that the action has met the expected norm.

(6) is plausible because, as Stanley says, there is an apparent conceptual connection between knowledge and rational action, just as there is an apparent conceptual connection between knowledge and evidence. We can use anything we know as a premise in theoretical reasoning because knowledge is evidence; we can use anything we know as a premise in practical reasoning because we can rationally act on what we know.²³

²³ One might object that (6) is subject to the following kind of counterexample: S knows that P, but rationally believes that he does not; so, S cannot rationally act as if P. (My thanks to Robert Audi for this point.) I am wary of adding higher-order requirements like this to rationality because of concerns about
Interest-Relativists like Stanley are in a position to deny (14). This is because sometimes P is uncertain for S, but it is rational for S to act as if P because S’s evidence that P makes P sufficiently probable relative to the costs of S’s being wrong – and according to Interest-Relativism, this is just part of what it is to know that P. I discuss Interest-Relativism further in section 4.2. What I want to argue here is that the traditional (non-Interest-Relativist, non-Contextualist) Fallibilist is not in a position to deny (14). So (6), while usually presented as evidence for Interest-Relativism, is equally good evidence for Infallibilism.

Suppose that S has a choice between φ-ing or doing nothing. If S does nothing, nothing happens: *ex nihilo nihil fit*. If P is true, and S φ-s, S gains $1. If P is false and S φ-s, then S loses some amount of money. S knows all this (with certainty). In this case φ-ing constitutes acting as if P: this is the course of action that has higher utility if P is true, and S knows this (with certainty).

Now suppose that S’s belief that P has epistemic probability .9, that this exceeds the threshold for knowledge, and that any other necessary conditions for Fallibilist knowledge are met. Then S (Fallibilistically) knows that P. However, suppose that we make the loss S will incur if P is false $10. Then S’s expected utility of φ-ing is (.9)($1) + (.1)(−$10) = $0.90 − $1 = − $0.10. Since the expected utility of not φ-ing is $0, S ought not φ.

regress and paradox, but cannot address this subject here. Suffice to say that if this counterexample works, we can construct a new valid argument by adding in a requirement that S does not (rationally) believe that he does not know P to both (6) and (14), and the revised version of (14) will remain plausible for the reasons discussed below.
If the threshold for knowledge is above .9, then we can simply increase S’s loss if P is false. The only way to ensure that acting as if P maximizes expected utility is to give P an epistemic probability of 1. Hence, (14) is true. Thus, the Infallibilist, but not the (traditional) Fallibilist, can accept (6).

4.1.7 Knowledge is an end of inquiry

We saw that one Fallibilist response to BonJour’s argument that only Infallibilism can explain the value of knowledge is that knowledge is valuable because it allows us to close inquiry. However, the fact that knowledge lets us close inquiry can itself be used to support Infallibilism, via an argument structurally identical to the one in the last section:24

(7) If S knows that P, S can rationally stop inquiring whether P.
(15) If knowledge does not imply epistemic probability 1, then it is possible that S knows that P but cannot rationally stop inquiring whether P.
(11) If S knows that P, the epistemic probability of P for S is 1. [from (7), (15)]

(7) is endorsed by Hannon (2014: 1132) in the course of defending Fallibilism. It is plausible for reasons similar to those that make (6) plausible: there is an apparent conceptual connection between knowledge and inquiry closure. If you come to know that P, then this settles the question of whether P for you. There is no more need for you to inquire whether P.25

Together with (15), however, (7) implies that what we know has epistemic probability 1. As with the last argument, the Interest-Relativist is plausibly in a position to deny (15), because he can hold that it is part of S’s knowing that P that S’s evidence

24 If there is some kind of higher-order requirement on rational inquiry closure, such as true belief that one knows that P, then we can again add this in to both (7) and (15) without loss of plausibility.

for P makes P sufficiently probable, given the stakes, for S to close inquiry regarding P. If the costs of being wrong about P were higher, then the threshold for closing inquiry, and so for knowledge, would be higher.

The traditional Fallibilist, however, is not in a position to deny (15). For suppose that S’s belief that P has epistemic probability .9, that this exceeds the threshold for knowledge, and that any other necessary conditions for Fallibilist knowledge are met. Then S (Fallibilistically) knows that P. However, if the costs of being wrong about P are high enough, then S ought not close inquiry with respect to P; instead, she ought to keep inquiring whether P. By continually increasing the stakes, we can run the same argument for any constant threshold that falls short of probability 1. Hence, (15) is true. Thus, the Infallibilist, but not the (traditional) Fallibilist, can accept (7).

4.1.8 Knowledge is closed under deduction

Epistemologists have traditionally found various closure principles about knowledge very plausible. The proper formulation of closure principles is notoriously controversial, but in general, a closure principle says that knowledge of some set of propositions in some sense puts one in a position to know other facts entailed by those propositions. This kind of principle captures the intuitive idea that we can extend our knowledge by deduction.

In this sub-section I will argue that we can accept what is sometimes called multi-premise closure only if we accept Infallibilism. I will formulate multi-premise closure as follows:

(16) If at a time \( t \), S knows each of \( \{P_1, P_2, \ldots P_n\} \), knows that these premises entail Q, has the thought that \( P_1 \), has the thought that \( P_2 \), and so on, and has the thought that Q, then S knows that Q at \( t \).
By ‘has the thought that’ I mean that S has this proposition before her mind at \( t \), so that she is occurrently aware of its content. For example, I take it that if, at a single time, S clearly perceives both \( P_1 \) and \( P_2 \) and that together these entail \( P_1 \& P_2 \), and has both conjuncts and the conjunction before her mind, then she comes to clearly perceive the truth of the conjunction. So I take it that, if knowledge = clear perception, (16) is true.

I have attempted to formulate (16) in such a way that it does not fall prey to several common counterexamples to closure principles, such as S not recognizing that the entailment holds. If further qualifications are necessary to avoid other counterexamples, I presume that they can be added to (16) without loss of plausibility. That is, even if there are other apparent counterexamples to (16), I take it that they will be of a sort that it is still very plausible that some principle close to (16) is true.

One worry that you might have about a principle like (16) is that it is too psychologically demanding. Perhaps I can hold two simple premises before my mind at the same time and come to see the truth of their conjunction on this basis, but as soon as we move to more complicated entailments from more than two premises, is it really plausible that the antecedent of (16) is ever met?

I do not think this is a serious problem for (16). (16) only states a sufficient condition on coming to know a proposition entailed by facts one already knows. It is compatible with (16) that one sometimes comes to know the consequences of one’s knowledge when the antecedent of (16) is not met – for example, perhaps sometimes one comes to clearly perceive the truth of entailments of what one already knows without consciously considering the facts one already knows. So if the antecedent of (16) is never or only rarely met, this does not imply that we never or only rarely extend our knowledge.
by deduction. And even if we do never or only rarely extend our knowledge by
deduction, it remains plausible that if we did meet the antecedent of (16), then we would
extend our knowledge. But, as I shall now argue, the Fallibilist cannot accept this.

Because the qualifications already present in (16) and any others that we might
see fit to add are not crucial to my argument in the rest of this section, I will henceforth
abbreviate (16) as

(8) If S knows each of \{P_1, P_2, \ldots, P_n\}, and this set entails Q, S is in a position to
know Q.

With (8) in hand, we can now give the following argument that knowledge requires
epistemic probability 1:

(9) If S knows each of \{P_1, P_2, \ldots, P_n\}, and this set entails Q, S is in a position to
know Q.

(17) If knowledge does not imply epistemic probability 1, then it is possible that S
knows each of \{P_1, P_2, \ldots, P_n\}, and this set entails Q, but S is not in a position to
know Q.

(11) If S knows that P, the epistemic probability of P for S is 1. [from (9), (17)]

The most common argument for (17) in the literature is from lottery cases (see,
e.g., Hawthorne 2004: 6-7, 182; BonJour 2010: 66-70; Reed 2012: 588-90). Suppose that
I am holding a 100-ticket fair lottery. If you know this, the epistemic probability for you
that ticket #1 is a loser is .99. If knowledge only requires an epistemic probability of, say,
.95, and you meet any other conditions for knowledge, then it follows that you know that
ticket #1 is a loser. However, analogous remarks go for all the other losing tickets (you
cannot know that the winning ticket is a loser because that proposition is false). Suppose
that ticket #100 is the winner. Then you can know that ticket #1 is a loser, that ticket #2 is
a loser, and so on, through ticket #99. If (8) is true, this puts you in a position to know
that all of the first 99 tickets are losers. But given your background knowledge, it follows
that ticket #100 is the winner. It follows that you are in a position to know that ticket
#100 is the winner. But this is absurd. Since requiring any epistemic probability short of
1 for knowledge will allow construction of a parallel case with a larger lottery, it follows
that knowledge must require epistemic probability 1 in order to avoid such lottery-style
counterexamples.

For this argument to work, it must be possible in this case that you meet the non-
probabilistic conditions for knowledge besides belief and truth. However, one might
argue that the set-up of the case precludes this. For example, Nelkin (2000) has argued
that we cannot know on the basis of the kind of purely statistical evidence we have in this
case. In response, others (e.g., Christensen 2004: 62-64, Bonjour 2010: 68-69) have
argued that this requirement would preclude me from knowing such propositions as “I
will not have a heart attack this year” (inasmuch as I know the statistical frequency of
heart attacks per year in people sharing my relevant demographic characteristics), and
that if closure were true, I would be in a position to know this proposition if I knew that,
e.g., I am going on a trip to Paris next year. It follows that either I do not know that I am
going to Paris next year, or closure is false. If this line of argument is right, then we
cannot use Nelkin’s proposal to save closure and continue to hold that we know the kinds
of propositions Fallibilists usually take us to know.

It is difficult to say whether there is some way of chisholming Nelkin’s proposal
to avoid such consequences. Rather than try to show that there is no way to do so, I think
it is better to rely on a different argument for (17), based on the so-called preface case.
Suppose that you write a meticulously researched book in which you make 1000 claims:
C_1, C_2, ..., C_{999}, and C_{1000}. Each of these claims has a high but non-maximal epistemic
probability for you. Suppose that the probability of each claim is .99, and that the claims (and conjunctions of the claims) are all probabilistically independent from each other given your evidence.\textsuperscript{26} This means that the probability of any conjunction of them is equal to the product of the probability of the conjuncts, e.g., $P(C_1\&C_2|K) = .99^2 = .9801$ (where $K$ is your evidence). It follows from this that the probability that all of the claims in your book are true is equal to $0.99^{1000} \approx 0.00004$. As such, you acknowledge in your preface that, in all probability, there are some false claims in this book, and that they are solely the result of your peers’ unhelpful suggestions or your own error.

Since in this case the claims in your book can be about anything at all, we can assume that any conditions on knowledge of the individual $C_i$ are met: they are all true, your beliefs in them are reliably formed, your evidence for them is not purely statistical, and so on. It follows that you ought to be able to know that all of the claims in your book are true. But clearly, you cannot know this. This follows immediately if we assume that there is any probabilistic requirement on knowledge. For example, if knowledge requires epistemic probability above .5, you cannot know that all the claims in your book are true. If the probabilistic threshold is lower than this, then we can always add more claims to the book to make the probability of their conjunction lower than that threshold. Likewise, if we raise the probabilistic threshold above .99 so as to preclude knowledge of the

\textsuperscript{26} That is, any two conjunctions of claims (counting an individual claim itself as a trivial conjunction) with no conjuncts in common are independent of each other. This is, admittedly, an unlikely stipulation to hold true in ordinary cases. However, we can imagine books for which it is plausible. For example, perhaps the book is a list of 1000 interesting facts. Each fact is about a completely different subject matter: the first has to do with Newton and Leibniz independently inventing calculus, the second with the largest city in the world in 100 BC, and so on. In this case it is plausible that each of these (purported) facts will be probabilistically independent. For more ordinary books, the claims made will often be positively relevant to each other. However, even with some positive relevance, given enough claims we can still make the probability of their conjunction as low as we like.
individual claims of the book, we can simply increase your evidence for them so that their individual probability now exceeds that threshold. The only way to avoid this result is to set the threshold to 1 – i.e., to accept (11).

One might hold that there is no probabilistic requirement on knowledge. In this case, one can coherently accept that you are in a position to know that all the claims in your book are true. But this is still an absurd result. Indeed, it is still an absurd result even if one rejects mathematical probability as an adequate formalization of plausibility. The above mathematical argument is useful for formalizing the extreme implausibility of the conjunction of all the claims in your book, but that implausibility is still evident even if we reject that formalization. It just doesn’t seem that you can know a proposition like “all the claims in my book are true,” when this proposition is so obviously one which you should be extremely confident is not true.

One response to both of these cases is that once one makes the set of propositions large enough that their conjunction is not rationally believable, it becomes impossible for a human agent to actually consider their conjunction. This kind of worry seems especially pressing given the explication of the conditions under which an agent can come to know something she is in a position to know laid out in (16). Plausibly, actual human agents

27 For example, in response to BonJour’s use of the lottery argument to show that Fallibilists must reject closure, Pritchard and Turri (2014) suggest that rejecting probability theory as measuring justification lets Fallibilists keep closure, writing “If we pair the [Fallibilist] conception of knowledge with a qualitative [i.e., non-probabilistic] model of justification..., then it’s no longer clear that the resulting view will fail to respect the closure of knowledge under conjunction, because the rules of probability theory employed in BonJour's argument don't obviously apply to the qualitative categories.”

28 For further counterintuitive consequences of the claim that one can know that all of the claims in one’s book are true, see Christensen 2004: ch. 3.3-3.4. (Christensen’s focus is on rational belief, but his remarks are equally applicable to knowledge.) For (decisive, in my judgment) responses to other common objections to the Preface Paradox, see Christensen 2004: ch. 3.1 and Easwaran and Fitelson 2015: 65-70.
cannot hold before their mind more than a few atomic propositions at a single time. As such, the antecedent of (16) is arguably never satisfied in a case in which its consequent is counterintuitive.

This response is easily side-stepped. It is easy to imagine agents with greater cognitive and computational powers than our own who can consider and believe book-length conjunctions. The consequence that such agents can know that their book contains no errors remains extremely implausible (cf. Christensen 2004: 38).

Infallibilists can allow that knowledge is closed under consciously recognized entailment, but, I have argued, Fallibilists cannot. Like the various theoretical claims about knowledge considered in the previous several sub-sections, the claim that knowledge is closed under consciously recognized entailment is not indubitable. If the costs of rejecting Fallibilism are high enough, then we should deny it. But, just like these other theoretical claims about knowledge, (8) is extremely plausible. That a theory of knowledge entails that it is false is a cost of that theory.

4.2 Contextualism and Interest-Relativism

As I said in chapter 2, Contextualists about knowledge hold that ‘knows’ picks out different epistemic states in different contexts, so that the truth-conditions of ‘S knows that P’ depend on the context in which that sentence is uttered. Contextualists will typically hold that in contexts in which skeptical hypotheses are taken more seriously, or speakers think that getting it right is very important, ‘knows’ will pick out a harder-to-reach epistemic state than in more “ordinary” contexts.
Interest-Relativists hold that whether S knows that P depends partly on S’s practical interests vis-à-vis P: how much is at stake for S with regard to being right about P? If it is very important for S to be right about P – if the costs of being wrong are high – then Interest-Relativists will typically hold that it is harder for S to know that P.

Interest-Relativists can offer elegant resolutions to several of the problems facing traditional Fallibilists. For example, they can say that S’s belief meets the probabilistic threshold condition for knowledge just in case the expected utility of acting as if P is greater than the expected utility of not acting as if P. Although this threshold will vary depending on an agent’s utilities, it is not arbitrary – and Interest-Relativists can thus explain why (1) knowledge is qualitatively different from non-knowledge. In connecting rational belief to rational action in this way, Interest-Relativism can explain why (6) knowledge that P lets us act on the assumption that P. In addition, inasmuch as we can close inquiry about whether P when P is probable enough on our evidence that we can take P for granted in our practical deliberations, Interest-Relativism can also explain why (7) knowledge that P lets us close inquiry on whether P. Finally, a belief that one can rationally act on and close inquiry regarding is valuable in a way that other belief is not; hence, Interest-Relativism can also explain (2) the unique value of knowledge.

Contextualists can offer an analogous explanation of (1) that appeals to the speaker’s context. It is not as obvious that this will explain our other intuitive data, but perhaps the Contextualist could argue that the threshold for knowledge-attributions in a context varies with the threshold for what the speaker takes to be high enough (e.g.) probability to act upon/stop inquiring, and that in the speaker’s context belief that meets

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29 I take acting as if P to be acting the way that would maximize expected utility conditional on P.
this threshold is conceived as valuable in a way that belief that fails to meet it does not. For the sake of argument, let us grant that the Contextualist can in this way explain the unique value of knowledge and its conceptual connection to rational action and inquiry.

We are granting, then, that Interest-Relativists and Contextualists can both explain (1), (2), (6), and (7). This leaves four other intuitive data from section 4.1: (3) subjects in Gettier cases lack knowledge, (4) knowledge is evidence, (5) knowledge that P makes ¬P epistemically impossible, and (8) knowledge is closed under consciously recognized entailment.

Interest-Relativists and Contextualists continue to face the Gettier problem. The same counterexamples that plague traditional Fallibilist theories plague Interest-Relativist and Contextualist theories, when we fix the speaker’s context and the knower’s practical stakes. So, Interest-Relativists and Contextualists have a harder time than traditional Fallibilists explaining (3).

Let us consider (8) next. I formulated (multi-premise) closure as follows:

(16) If at a time \( t \), S knows each of \( \{P_1, P_2, \ldots P_n\} \), knows that these premises entail Q, has the thought that \( P_1 \), has the thought that \( P_2 \), and so on, and has the thought that Q, then S knows that Q at \( t \).

I abbreviated this as:

(8) If S knows each of \( \{P_1, P_2, \ldots P_n\} \), and this set entails Q, S is in a position to know Q.

Interest-Relativists and Contextualists cannot, I think, allow for multi-premise closure.\(^{30}\) For Interest-Relativists, this is because the property of being probable enough...
to rationally act upon is not closed under conjunction. For example, perhaps \( C_1 \) (the first claim of your book) is probable enough for you to take it for granted in your deliberations. However, the conjunction \( C_1 \& \ldots \& C_{1000} \) is most likely not probable enough for you to take it for granted in your deliberations. Suppose that your book is about to be scrutinized by a committee who will infallibly determine whether or not it contains errors. If it does not contain errors, then (thanks to a generous grant from the John Templeton foundation) you will be given a $1,000,000 cash prize. Even if each individual claim in the book is probable enough that you can act on the assumption that it is true, you cannot rationally act on the assumption that you will win $1,000,000 by, e.g., quitting your job and buying a ticket for a cruise around the world. However, if you were in a position to know that your book contains no errors, as you would be if (16)/(8) were true, then, presuming you meet the necessary conditions mentioned in (8), you would know that your book contains no errors, and so, according to (6), you could rationally quit your job and buy a ticket for a cruise around the world. Inasmuch as the Interest-Relativist is committed to (6), he must thus reject (16)/(8).

The Contextualist would like to save a meta-linguistic version of closure, namely:

(18) If in a context \( c \), “S knows that \( P_1 \)”, “S knows that \( P_2 \)”, …, “S knows that \( P_n \)” and “S knows that \{\( P_1, P_2, \ldots, P_n \)\} entail \( Q \)” would all state true propositions, and S has the thought that \( P_1 \), has the thought that \( P_2 \), and so on, and has the thought that \( Q \), then “S knows that \( Q \)” would state a true proposition in \( c \).

However, if the Contextualist sets a certain threshold of probability for knowledge-attributions in a given context, that \( P \) and \( Q \) meet that threshold does not imply that \( P \& Q \) meets that threshold. For example, if the speaker’s threshold for knowledge-attributions

Contextualists can maintain single-premise closure in such cases, I will now argue that they cannot maintain multi-premise closure.
is .8 probability, then P and Q may each individually be at least this probable while their conjunction is less probable. Thus, their conjunction is not probable enough for the proposition that would be expressed by “S knows that P&Q” to be true.

The Contextualist might try to rescue multi-premise closure by claiming that mention of a large enough conjunction changes the context in such a way that the speaker can no longer truly say “You know that C_i” for any of the claims C_i. So, if we are talking about your book, I might truly say, “You know that C_1,” “You know that C_2,” etc., but then when you ask me “And do I know C_1&…&C_{1000}?” you have shifted the context to a high-standards one in which I can no longer truly say “You know that C_1,” “You know that C_2,” etc. – nor, for that matter, “You know that C_1&…&C_{1000}?”

Setting aside whether this claim about the change of contexts is plausible or not, it does not save multi-premise closure. (18) is about closure within a context, not closure across contexts. Even if your mentioning the conjunction of the claims in your book shifts the context, it is still the case that in the initial context, “You know that C_i” would express a truth for each C_i, and that, if (17) is true, then “You know that C_1&…&C_{1000}” would express a truth in that context. But it is implausible that “You know that C_1&…&C_{1000}” would express a truth in that context, even granting that it is a “low-standards” context. If standards are codified as probability, then this follows immediately given a sufficient number of claims and independence assumptions; the C_i could individually all be above the probability-threshold and the conjunction be below it. And even if standards are not codified in this way, it just is not plausible that there is any sense of ‘know’ (even one in which “You know that you are not a brain in a vat”
expresses a truth!) such that the proposition expressed by “You know that C₁&…&C₁₀₀₀” is true, when you should be extremely confident that C₁&…&C₁₀₀₀ is false.

We can see from the above conclusion that Interest-Relativists and Contextualists cannot accept that knowledge is evidence either. For it follows from the claim that knowledge is evidence that knowledge has epistemic probability 1 (given (9), which says that the epistemic probability of P for S is n iff n is the probability of P conditional on S’s evidence). And if knowledge has epistemic probability 1, then the conjunction of everything one knows has epistemic probability 1. Hence, it ought to be known as well, if we presume that one believes this conjunction in a properly based way (for, as I argued in section 3.2.2, this implies that any plausible necessary conditions for knowledge are met). But, since we just saw that an Interest-Relativist cannot allow that knowledge is closed under conjunction, it follows that they cannot allow that the conjunction of everything one knows has epistemic probability 1.

We need to be careful here. Interest-Relativists will usually endorse (6), according to which S can know that P only if it is rational for S to act as if P. If we construe “acting as if P” as acting the way that would maximize expected utility conditional on P being true, it follows that, if the pragmatic condition on knowledge is met, one can “pretend” that P is part of one’s evidence and it will not make a difference for rational action – what it is rational for one to do will be the same whether one assigns P its actual probability on one’s evidence or one conditionalizes on it, assigning it probability 1. One can, as it were, hypothetically add P to one’s evidence for the purposes of action. It might initially seem, then, that the Interest-Relativist can endorse the rational permissibility (at least
practically speaking) of assigning *everything* one knows probability 1, and hypothetically adding everything one knows to one’s evidence.

This argument tacitly assumes a false closure principle of the following form: if adding P to one’s evidence does not change what actions it is rational to perform, and adding Q to one’s evidence does not change what actions it is rational to perform, then adding P&Q to one’s evidence does not change what actions it is rational to perform.

Where E is your actual evidence, the first claim in your book, C₁, may be probable enough for you that conditionalizing on C₁&E rationalizes the same actions as conditionalizing on E. For example, if you are considering a bet on C₁ that would have positive expected utility either way, you should take it either way, and if you are considering whether to quit your job and buy that cruise around the world, you should not do it either way, because you almost certainly will not win the Templeton prize even conditional on C₁&E, and so that action has negative expected utility either way. The same may be true for each other Cᵢ. But, conditionalizing on C₁,…&C₁₀₀₀&E does not rationalize the same actions as just conditionalizing on E, for relative to C₁,…&C₁₀₀₀&E, quitting your job and cruising around the world has (we can suppose) positive expected utility, whereas conditional just on E it still has negative expected utility.

So Interest-Relativists cannot accept that knowledge is evidence, because Interest-Relativist conditions on knowledge are not closed. Contextualists cannot accept a metalinguistic analogue of the claim that knowledge is evidence for similar reasons. It follows from the claim that an utterance of “S knows that P” in a context expresses a truth only if an utterance of “P is part of S’s evidence” expresses a truth in that context.
that an utterance of “S knows that P” expresses a truth in that context only if an utterance of “P has epistemic probability 1 for S” also expresses a truth in that context.

Contextualists must deny that the latter generally holds, because otherwise knowledge-ascriptions (or position-to-know ascriptions) would (wrongly) be closed under conjunction. Thus, they must deny that the former holds as well.

If knowledge (or the truth of “S knows that P”) does not imply epistemic probability 1, then, as argued in section 4.1.6 above, it is not the case that we are in a position to accept that S knows that P (or to truly say, “S knows that P”) only if ~P is epistemically impossible for S. So, just like traditional Fallibilists, the Contextualist and Interest-Relativist must also deny the link between knowledge and epistemic modality posited by (5).

Interest-Relativists and Contextualists can arguably avoid the threshold problem, explain the value of knowledge, and preserve the conceptual links between knowledge, action, and inquiry. However, they cannot preserve the conceptual links between knowledge, evidence, and epistemic possibility, they still face the Gettier problem, and they cannot allow that knowledge is closed under conjunction. So four of our eight intuitive data provide evidence against Interest-Relativist and Contextualist versions of Fallibilism in addition to traditional forms of Fallibilism.\(^{31}\)

\(^{31}\) One might hold that this is not a bad a result for the Contextualist as the Interest-Relativist. This is because Contextualists can accept the non-metalinguistic statement of Infallibilism, that S knows that P iff P is certain. They can hold that, in the current context, ‘knowledge’ picks out ‘knowledge with certainty’ – even if in other contexts it picks out something that does not require certainty. And Contextualists can happily endorse the above connections between evidence, epistemic possibility, and knowledge with certainty, and they can accept that knowledge with certainty is closed under consciously recognized entailment. I think, however, that the Contextualist’s inability to accept the relevant metalinguistic theses connecting ‘knows,’ ‘evidence,’ ‘may,’ and so on remains a serious cost. When we fix our attention on ordinary, non-philosophical contexts, it remains implausible that the proposition expressed by “I know that the bank is open, but perhaps it’s not” could ever be true. Similarly, sentences like those used by authors
4.3 Conclusion

In this chapter I have presented a cumulative case argument for Infallibilism, citing eight advantages the Infallibilist enjoys over the Fallibilist. Infallibilism, I claim, entails that (1) knowledge is qualitatively different from non-knowledge, (2) knowledge is uniquely valuable, and (3) subjects in Gettier cases lack knowledge. Traditional versions of Fallibilism have a harder time allowing for these claims. In addition, Infallibilism allows us to accept that knowledge is (4) evidence, (5) a basis for epistemic modal claims, (6) an inquiry stopper, (7) a basis for action, and (8) closed under consciously recognized entailment. Fallibilists cannot accept any of these claims, or they can do so only by denying very plausible claims about the relation between probability and evidence, the relation between probability and possibility, and so on.

Interest-Relativists and Contextualists can easily accept (1), (2), (6), and (7), but cannot as easily accept (3), (4), (5), or (8). Table 4.1 summarizes the advantages of Infallibilism over traditional Fallibilism and Contextualism and Interest-Relativism canvassed in this chapter.

writing about probability in section 4.2.1, about the connection between knowledge and evidence, might easily be uttered in low-standards contexts – e.g., contexts in which we are engaging in mundane, low-stakes reasoning and are not at all concerned about Cartesian skepticism. As for closure, I noted in note 30 above that one frequently touted advantage of Contextualism is that it preserves a metalinguistic formulation of single-premise closure. If this thesis is plausible, a metalinguistic formulation of multi-premise closure should also be plausible.
TABLE 4.1  
COMPARISON OF THEORIES OF KNOWLEDGE  

<table>
<thead>
<tr>
<th></th>
<th>Infallibilism</th>
<th>Traditional Fallibilist Theories</th>
<th>Contextualism and Interest-Relativism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge qualitatively different</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Knowledge uniquely valuable</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>No Gettier problem</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Knowledge is evidence</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Knowledge that P makes ~P epistemically impossible</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Knowledge lets us act</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Knowledge lets us end inquiry</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Knowledge is closed under recognized entailment</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

Most epistemologists who have recognized that knowledge can only be distinctly valuable, closed, etc. if Infallibilism is true have used this fact to argue that we should reject the claim that knowledge is distinctly valuable, closed, etc. This chapter turns such arguments on their heads. Giving up closure is a cost, because closure is intuitively plausible. Pulling apart knowledge and evidence is a cost, because intuitively what we know can serve as evidence for us. Perhaps on their own these costs are worth paying. But when we combine them, they become very weighty indeed. At a certain point it becomes more rational to accept Infallibilism than to incur yet another of the costs of Fallibilism.
It remains to consider possible disadvantages of Infallibilism. If these are great enough, then the rational thing to do may be to deny that knowledge plays the theoretical roles that Fallibilists cannot allow for, and to accept any other costs of Fallibilism. Before we can see what disadvantages Infallibilism has, however, we have to consider how far our knowledge potentially extends, if Infallibilism is true. It is this task I turn to in the next chapter.
CHAPTER 5

INFALLIBILISM WITHOUT SKEPTICISM?

In the last two chapters, I presented nine evidences for an Infallibilist theory of knowledge, according to which we know all and only those propositions which are certain for us. In the next chapter, I will consider several facts that appear to be evidence against Infallibilism. The most important of these facts is that it seems to us that we have a lot of knowledge about the world. Before we can consider how surprising this fact is, given Infallibilism, we must first determine how much knowledge we actually have, if Infallibilism is true. In this chapter I will argue that Infallibilists should be skeptical of many kinds of knowledge, but not all kinds of knowledge. In the course of advancing this argument, I will consider the relationship of Infallibilism to Timothy Williamson’s influential epistemology, and whether Williamson’s theory allows for more knowledge than Infallibilism.

In section 5.1, I introduce two versions of Infallibilism, skeptical Infallibilism and anti-skeptical Infallibilism. Skeptical Infallibilists hold that we can get knowledge through, at most, a priori intuition, introspection, perception, and (perhaps) testimony. Anti-skeptical Infallibilists, by contrast, hold that we can know all sorts of facts about the world that could not be known through any of these methods, including facts about the future, universal generalizations, and the conclusions of abductive inferences. In section 5.2, I outline Timothy Williamson’s influential epistemology, which I call Quasi-
Infallibilism, and compare it to (robust) Infallibilism. In section 5.3, I argue, contra some suggestions of Williamson’s, that skeptical Infallibilists need not be radically skeptical – they can hold that we really do have knowledge through at least some of the four sources above. In section 5.4, I argue, contra Williamson’s desire to be robustly anti-skeptical, that both anti-skeptical Infallibilism and anti-skeptical Quasi-Infallibilism are untenable. Infallibilists and Quasi-Infallibilists must both be moderately skeptical – they must deny knowledge of facts that could not be known through the above methods, such as facts about the future. Finally, in section 5.5, I argue that, in light of the conclusions of sections 5.3 and 5.4, there is little reason to accept Quasi-Infallibilism rather than Infallibilism.

5.1 The Scope of Infallible Knowledge

5.1.1 Skeptical Infallibilism

It is plausible that, if Infallibilism is true, any non-basic knowledge that one has – knowledge that is derived from one’s other knowledge – must be entailed by one’s basic knowledge.\(^1\) If a proposition is merely highly probable on your basic knowledge, inferring it on that basis could surely not make it certain for you. It could, at best, give you a highly probable belief. It is further plausible that only certain kinds of facts could be known in a basic way. Facts about the future, for example, would seem to be impossible to know except by (at least tacit) inference, because we cannot observe or experience the future, and neither can we learn about it from others who have observed or

\(^1\) I discuss infallible knowledge on the basis of deduction in chapter 2, note 18.
experienced it. Moreover, non-trivial facts about the future are not entailed by what we know about the past and present, and so we cannot have non-trivial infallible knowledge of the future. Similar remarks go for knowledge of other kinds of facts not known either by us or those who have testified to us on the basis of observation or experience, such as universal generalizations or the conclusions of abductive inferences.

These reflections are bolstered by the argument in chapter 2 that, if Infallibilism is true, so is Mentalism, the thesis that knowledge is a mental state – in particular, that mental state in virtue of which the known proposition is certain for one, which I stipulatively labeled ‘clear perception.’ For it is natural to think that one can only be in this kind of mental relation to a fact at a given time if this fact is among the causes or explanations of one’s mental state at that time. If the fact in question has no causal or explanatory connection to one’s state of mind, then how could one possibly clearly perceive it? Ordinary objectual perception, after all, requires that the object perceived be among the causes of one’s experience.\(^2\) (Perhaps this analogy is letting the connotations of a stipulative term carry too much weight, but my choice of terminology was itself partly based on the natural thought that that mental state in virtue of which a proposition is certain for one is one that partially results from the truth of that proposition, just as the mental state of perceiving an object is one that partially results from the existence of that object.) And if this is right, then such knowledge of facts not known either by us or those who have testified to us on the basis of observation or experience will again be ruled out,

\(^2\) Perhaps one can be acquainted with universals or other abstract objects in a non-causal way, but even here these objects are part of the explanation of why one has the experience one does, even if the explanation is not a causal one.
inasmuch as we could not be causally connected to these facts in the right way to know them.

For ease of discussion, let us call that part of the world which neither we nor anyone who has testified to us has observed ‘the unobserved.’ The unobserved includes not only the future but also most of the world of the present. That a theory of knowledge implies that we cannot know anything about so much of the world is enough for most contemporary epistemologists to consider that theory a skeptical theory of knowledge. As such, I will call the version of Infallibilism according to which we do not have knowledge of the unobserved ‘skeptical Infallibilism.’ The primary aim of this chapter is to defend skeptical Infallibilism against other forms of Infallibilism and Quasi-Infallibilism.

What kinds of knowledge might we have, if skeptical Infallibilism is true? Taking our cue from the first line of reasoning above, let us consider what possible sources of basic knowledge there are. Audi (2002: 13-20, 2004: 18-27) lists four canonical sources

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3 This label is not perfect, because it is natural to think of a priori and perhaps introspective knowledge as non-observational. In a broader sense introspection and a priori reflection may be forms of observation, but nothing I say here turns on that, and the label is purely for convenience.

4 I do not much like the label of ‘skeptical’ for my view, because in ordinary – as opposed to (contemporary) philosophical – speech, a “skeptic” is someone who doubts the truth of certain propositions – e.g., theological propositions – not someone who doubts that one has knowledge of them. One can admit that one does not know that God exists while nevertheless being highly confident that he does, and in this case one is hardly a theological skeptic. In the case at hand, I deny that we have knowledge of various claims about the future, but I am not a skeptic about those claims themselves (except in the very weak sense that I am not certain that they are true). In particular, I allow that they are, in many cases, highly probable for us. The label of ‘skepticism’ can misleadingly suggest that I think we have no good grounds for judging commonsensical claims about the future, such as the claim that the sun will rise tomorrow, to even be probable. But I think no such thing. Nevertheless, with this caveat out of the way, I defer to common epistemological usage in my terminology.
of basic knowledge: introspection (also called ‘consciousness’), a priori intuition (also called ‘reason’), perception, and memory. Audi helpfully distinguishes between a source being basic and the knowledge (or rational belief) it yields being basic. A source is basic if it does not essentially depend for its operation on the operation of other sources. Knowledge is basic if it is not essentially based on other knowledge. According to Audi, intuition, introspection, and perception are all basic sources and yield basic knowledge. As we will see, testimony is a potential source of basic knowledge which is not a basic source. Memory, for its part, is not strictly speaking a source of knowledge at all, because it preserves, rather than generates, knowledge. However, knowledge preserved in memory may be basic. For convenience I will continue to speak of memory as a possible “source” of knowledge in what follows.

Audi (2002: 18) suggests that the canonical list of basic sources of knowledge is not a priori closed. However, the following is a plausible argument that we could not come to have knowledge through any basic source besides introspection, intuition, perception, and memory. The world can be divided into the world of concrete things and the world of abstract objects. Any knowledge of the latter must ultimately come from

5 Audi discusses both knowledge and rational belief, but my focus shall be on the former here, as, on the theory developed in this dissertation, it is explanatorily prior to the latter.

6 A persistent theme of this dissertation has been that Infallibilism lets us reconcile various seemingly opposed epistemological positions. Maher (1996), Goldman (2009: 85-90), and Dougherty and Rysiew (2014), among others, have endorsed theories of evidence which imply that evidence consists in outputs of these or similar basic sources, the latter two in explicit opposition to Williamson’s view of our evidence as that which we know. Skeptical Infallibilism lets us reconcile this view of evidence with Williamson’s. For according to skeptical Infallibilism, our knowledge is exhausted by the outputs of these sources (except for non-basic knowledge entailed by our basic knowledge, but adding this to our evidence will not make any difference to the degree to which our evidence supports a proposition).

7 Or, at least, this is the orthodox view. See Frise forthcoming for an argument against this orthodoxy.
intuition. As for the world of concrete things, it can be divided (for me) into my mind and
the external world. Basic knowledge of the former must come through introspection, and
basic knowledge of the latter through perception. Since I am a being that continues to
exist through time, knowledge that I gained through one of these three sources in the past
may then be preserved through memory, and in this way I may know things about the
past. With the world and our access to it thus delineated, there is no more room for
another basic source of knowledge. Any unfamiliar kind of access to the external world
would just be a new form of perception (e.g., a new sense modality), and any unfamiliar
kind of access to our minds would just be a new form of introspection. Therefore, this list
of basic sources is complete.

With that argument acknowledged, our ordinary epistemic practices reveal that
we often tacitly take testimony to be another source of basic knowledge. If, after I ask
you how your day was, you tell me that your car broke down this morning, I will likely
take myself to now know that your car broke down, your having “transmitted” that fact to

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8 Against this, one might think that one could have non-perceptual access to external world facts through phenomena such as blindsight. Blindsight subjects can make accurate guesses about portions of their visual field (e.g., whether it contains an “X” or an “O”) which they have no phenomenological awareness of, as well as do things like reach out and grab objects in that portion of their visual field. I am inclined to not attribute knowledge in cases of blindsight guesses, for they are not 100% accurate and, since there is no attendant phenomenology, it is not plausible that the subject clearly perceives the external world fact. However, if one did wish to attribute knowledge in such cases (or in idealized hypothetical analogues), one could interpret ‘perception’ more broadly so as not to imply phenomenology, in which case any kind of access to the external world would again count as perception.

9 The plausibility of this list can also be tested by comparing it with cross-linguistic data on knowledge sources. According to Aikhenvald (2004), around a quarter of Earth’s languages require a speaker, in making a declarative statement, to report their grounds for that statement, in the same way that English requires speakers to mark the tense of a declarative statement. Drawing on Aikhenvald’s research, Speas (2008: 944) has identified four basic kinds of grounds marked by languages. These correspond to introspection, perception, inference, and testimony. (I am indebted to the excellent summary of the above in Nagel 2015: 297-301 for these references.) While philosophical reflection might lead us to include intuition as another basic category, this list suggests that, except for testimony (discussed below), we do not pretheoretically take there to be any sources of basic knowledge beyond the canonical list (inference being a source of non-basic belief).
me through testimony. Moreover, I will at least not consciously infer that your car broke
down from the premise that you told me that it did; instead, I will simply believe it in an
apparently basic way. It appears, then, that in circumstances like these we tacitly take
testimony to be a source of basic knowledge.

Unlike the first three sources, testimony is not a *basic source* of knowledge
because it depends essentially for its operation on the operation of other sources: I cannot
learn through your testimony that your car broke down without learning through my
perception that you are telling me that your car broke down. In this way testimony
contrasts with intuition, perception, and memory; while the operation of these may
necessarily involve experiences which I could recognize by introspection, I need not
*actually* be introspecting on that experience. So I may come to know, for example, that 2
+ 1 = 3 by intuition without coming to know that it seems to me that 2 + 1 = 3, simply
because I have neither considered that latter proposition nor introspected on my
experience while coming to know that 2 + 1 = 3.

Even if testimony can generate basic knowledge in this way, any knowledge
gained through testimony must initially have been learned through one of the three basic
sources by the originator of the testimonial chain.¹⁰ If you tell me that your car broke
down, this must be something that you yourself learned through perception, unless you
also learned it through testimony, in which case the testimonial chain must ultimately
bottom out in perception. As such, while testimony can expand our knowledge a great

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¹⁰ Lackey (1999) presents alleged counterexamples to this principle in which the original testifier
does not know that P because of a misleading defeater which his hearer lacks. Since Infallibilism implies
that knowledge cannot be defeated (see section 5.4.1.1 below), these cases do not threaten this principle if
Infallibilism is true – either, contra Lackey’s suggestions, the original testifier really does know the claim
in question, or he does not know it for some reason other than its being defeated, in which case the hearer
cannot come to know it on the basis of his testimony.
deal, it cannot give us knowledge of the unobserved. So even if we adopt a version of skeptical Infallibilism on which we can gain infallible knowledge through testimony, we must still be skeptical about many kinds of knowledge. I not only cannot know that I will drive to Pennsylvania next month (because my car might be stolen), I also cannot know that my car is currently where I parked it this morning (because it might already have been stolen), nor that Trump is (still) president (because he might have died in the past hour).

5.1.2 Varieties of skeptical Infallibilism

If skeptical Infallibilism is right, and we cannot have knowledge of unobserved facts, what knowledge can we have? In particular, is it plausible that we can get knowledge through the five sources above? Is it really credible, for example, that we can infallibly know facts about the external world through perception, much less through testimony?

While there are many conceivable skeptical Infallibilist answers to the question of how widely our knowledge extends, different philosophers are likely to find attractive three varieties of skeptical Infallibilism in particular. According to externalist Infallibilists, we have basic knowledge through all four of the traditional sources, and perhaps testimonial knowledge as well.\footnote{The requirement that the knowledge be \textit{basic} is to keep Descartes, who thought that we could deductively infer external world facts from our knowledge of our perceptual experience and our knowledge that God is not a deceiver, from counting as an externalist Infallibilist. (My thanks to Robert Audi for pointing out the need for this requirement.)} According to internalist Infallibilists, we only have \textit{a priori} and introspective basic knowledge.\footnote{Internalists may need to include working memory as well. After all, our experience of the world itself appears to be temporally extended: working memory is involved in our having experiences at all.} Finally, according to radically
skeptical Infallibilists, we have no knowledge at all (or at least no non-trivial knowledge),\textsuperscript{13} because nothing (non-trivial) is certain for us (and perhaps because nothing even \emph{could} be certain for us).

Philosophers (e.g., Feldman 1981: 267) tend to associate the infallibilist thesis that we only know what is certain for us with the internalist thesis that only the deliverances of introspection and reason are certain for us. Although I lean towards internalist Infallibilism myself, Infallibilists need not be internalists. Certain forms of direct realism about perception might be used to motivate externalist Infallibilism. Externalist Infallibilists also have “common sense” on their side, for, as G.E. Moore observes, in ordinary conversation it would be absurd to say such things as “I think I’ve got some clothes on, but it’s just possible that I haven’t” or “I know that it is very likely indeed that I have, but I can’t be quite sure” (Moore 1959b: 223). To be sure, there are pragmatic explanations that one can give of the absurdity of these assertions (see the discussion of loose talk in section 6.1.2), but not only do we not say such things as this, we plausibly do not in our non-philosophical moments consider it so much as possible that we are not wearing clothes or sitting down, when we can see or feel quite plainly that we are. Our pre-theoretic presumption that what we (apparently) plainly see, hear, or feel to be the case is certain may not be correct, but it is some support for a theory that it conforms to our intuitions about what things are certain. Although several reasons to

\begin{footnotesize}
Skepticism about working memory would thus seem to extend to skepticism about introspection, and, according to the internalist, it is hard to imagine what it could even mean for us to be mistaken about fundamental aspects of our own experiences. Memory presents many difficult epistemological issues which I lack the space to address here.

\textsuperscript{13} By trivial knowledge, I mean knowledge of such propositions as that I exist, or that I am here now. Knowledge of this kind could not justify any kind of substantive conclusions about my mind or the world, even with probability.
\end{footnotesize}
doubt these things are certain for us will come up in passing (and see also the discussion in section 6.1.1 for how an internalist Infallibilist might explain away our intuitions here), I remain officially neutral on this internalist/externalist divide in this dissertation.¹⁴

I do not remain neutral on radically skeptical Infallibilism. In section 5.3.1 below I will respond to some arguments for radical skepticism. Inasmuch as none of these are compelling, it is reasonable for us to reject this thesis on the grounds that it upsets our pretheoretic epistemology much more radically than even internalist Infallibilism. For the argument in section 4.2.1 that knowledge is evidence serves equally well to show that in order for any proposition to be part of our evidence, it must have probability 1. If probability 1 implies certainty, then if nothing is ever certain for us we never have any evidence. The radically skeptical Infallibilist is thus committed to radical skepticism about epistemology more generally: we never have any evidence for or against various propositions about the world. This is a much more implausible consequence than anything internalist or externalist Infallibilists are committed to.¹⁵ That I do not know that I have hands is a surprising claim; that I do not so much as have any reason to think that I have hands (or even any reason to think that it seems to me that I have hands) is an

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¹⁴ I do think it is very implausible that we have knowledge through testimony, and some reasons for this will come up in passing in what follows. However, for official purposes I am again content to argue only for skepticism about knowledge of the unobserved, as this thesis is sufficiently radical in the context of contemporary epistemology.

¹⁵ The radical skeptic might respond by appealing to Jeffrey conditionalization as a way to respond to experience that makes no propositions certain for you, but rather “directly” changes some of your probabilities. I cannot give Jeffrey conditionalization the discussion it deserves, but merely note that I am sympathetic to Williamson’s (2000: 216) criticism that “Jeffrey conditionalization is hard to integrate with any adequate epistemology, because we have no substantive answer to the question: what should the new weights \( P_{\text{new}}(e) \) [i.e., the new values of the directly updated probabilities] be?”
absurd claim.\textsuperscript{16} Philosophy can sometimes overturn common sense (see section 7.4), but the arguments for radical skepticism would need to be very strong indeed in order to overturn common-sense epistemology to \textit{this} degree. And as I argue in section 5.3.1, while the arguments that have been given for this thesis have some force, they are not irresistible.

5.1.3 Anti-skeptical Infallibilism

Let us move from radical skepticism to radical anti-skepticism. In spite of the plausibility of the claim that, if Infallibilism is true, we can only have knowledge of the observed, it will be useful to consider a version of Infallibilism which rejects this claim. I shall call this view ‘anti-skeptical Infallibilism.’ Where skeptical Infallibilists hold that we have, at most, knowledge through introspection, intuition, perception, and testimony, anti-skeptical Infallibilists hold that we can also come to (infallibly) know unobserved facts through ampliative (non-deductive) inference.

Although anti-skeptical Infallibilism may seem crazy to most philosophers today, Dutant (2015: 110) suggests that many historical philosophers were anti-skeptical infallibilists. He notes that Mill, in his \textit{System of Logic} (1843: Book III, chapter 4.3) infers from an induction having a false conclusion that it is a bad induction, suggesting that only truth-preserving inductions are good:

\textsuperscript{16} Many philosophers have held that if our only basic knowledge is of our minds and the \textit{a priori}, it is impossible to reason even with probability from there to the ordinary kinds of claims we make about the external world. I think such philosophers are wrong, but I do not have space to address this form of skepticism here, and will just note that this is a contentious claim about what evidentially supports what, and should not be taken as obvious.
Some [inductions], we know, which were believed for centuries to be
correct, were nevertheless incorrect. That all swans are white, cannot have
been a good induction, since the conclusion has turned out erroneous.\(^{17}\)

More recently, G.E. Moore endorsed the thesis that we can extend infallible
knowledge through ampliative inference. In his anti-skeptical papers (1925/1959a, 1959b,
1959c, 1939/1959d), Moore equated ‘knowing’ with ‘knowing for certain’ and
‘knowledge’ with ‘certain knowledge.’\(^{18}\) Moore thought that perception could render
certain for us such propositions as that he has hands (1939/1959d: 144), that there are
three misprints on the page of a book (1939/1959d: 145), and that he is wearing clothes
(1959b: 223). But at the end of his “Four Forms of Skepticism” (1959c), Moore concedes
to Russell that such claims as these are not known immediately, but rather on the basis of
non-deductive inferences.\(^{19}\) He denies that this makes them any less certain, writing,

> I am inclined to think that what is “based on” an analogical or inductive
> argument, in the sense in which my knowledge or belief that this is a
> pencil is so, may nevertheless be certain knowledge and not merely more
> or less probable belief (Moore 1959c: 222).

If analogous or inductive arguments based on one’s knowledge of one’s
experiences can issue in certain knowledge that this is a pencil, there is no obvious reason
why similar arguments based on one’s knowledge of observed external world facts could

\(^{17}\) From context it is clear that Mill is stating that this is a bad induction in the sense of being
irrational: he is trying to develop conditions for rational induction. Keynes (1921: ch. XXIII) criticizes Mill
for this, along with Bacon, writing that “Both believed, without hesitation it seems, that induction is
capable of establishing a conclusion which is absolutely certain, and that an argument is invalid if the
generalization, which it supports, admits of exceptions in fact” (ch. XXIII: section 3).

\(^{18}\) See, for example, the quote from Moore’s “A Defence of Common Sense” in the introduction to
this dissertation.

\(^{19}\) This is a concession that most contemporary epistemologists who hold that we have knowledge
of the external world would not make, and it is not one that Infallibilists who think we have knowledge of
the external world should make, given the problems with extending infallible knowledge through
ampliative inference discussed below (compare Dodd 2007: 642-44).
not grant one similar certain knowledge of unobserved external world facts. Notably, in a
discussion of Moore’s philosophy, Grice (1989b: 158-59) assumes that Moore would
hold that we have certain knowledge of inductive generalizations. Grice also indicates
sympathy with this position himself, describing the “thesis that we never know for certain
that any inductive generalization is true, that inductive generalizations can at best be only
probably true” as “paradoxical.”

Today most epistemologists would reject the claim that we can extend certainty
through ampliative inference. But, as we will see, some do hold, with Williamson, that
we can extend probability 1 through such inference. It is thus useful to have anti-skeptical
Infallibilism of the sort apparently endorsed by Mill, Moore, and Grice on the table, as
several of the objections that I go on to give to Williamson’s anti-skeptical theory of
knowledge also apply to this even bolder anti-skeptical epistemology.

5.2 Quasi-Infallibilism

5.2.1 Timothy Williamson’s Knowledge and its Limits

In 2000, Timothy Williamson published an extremely influential book,
Knowledge and its Limits. Williamson’s theory of knowledge is closer to mine than most
other contemporary epistemologists’, and several theses that I have defended already,
such as the claim that knowledge is a mental state and that knowledge is evidence, are

However, Dodd (2007: 640-41) argues that Peter Klein commits himself to this thesis in pages
219-23 of Klein 1995.
best known today as aspects of Williamson’s epistemology.\textsuperscript{21} \textit{Knowledge and its Limits} is wide-ranging and not easily summarized, but Greenough and Pritchard (2009: 2-3) identify five central theses of the book: knowledge is a mental state, knowledge is an ineliminable aspect of full explanations of actions, there are no luminous conditions (where a condition is luminous just in case, whenever it obtains, we are in a position to know that it does), our evidence consists of what we know (E = K), and knowledge is the norm of assertion. I endorse all of these theses except for the third (anti-luminosity),\textsuperscript{22} and I argue in section 5.3.2 below that the Infallibilist need not even deny that one.

For our purposes here, the most important difference between our accounts of the nature of knowledge is that Williamson denies that knowledge requires absolute certainty: “Very little (if any) of what we know is indubitable” (Williamson 2000: 205). However, because he endorses the E = K thesis, Williamson thinks that knowledge has epistemic probability 1. Accordingly, Williamson holds that “[w]e should question the association between evidential probability 1\textsuperscript{23} and absolute certainty” (213). “I know

\textsuperscript{21} In light of how similar my epistemology is to Williamson’s, the reader may wonder why I have put off discussion of Williamson until now. The main reason is that many of the theses (such as the thesis that knowledge is evidence) which Williamson and I agree on are often discussed in contexts which take anti-skepticism for granted, and many philosophers critical of Williamson thus (wrongly) take arguments that these theses cannot be combined with anti-skepticism as a decisive refutation of them. I have put off discussion of Williamson’s epistemology partly to show that these theses can be motivated from a very different framework than Williamson’s, one that does not take a “common-sense” conception of the scope of our knowledge for granted and is willing to give skepticism about the scope of our knowledge a fair shake.

\textsuperscript{22} The fifth may seem problematic for my theory, inasmuch as it implies that most of our assertions are improper. I discuss this problem in section 6.2.1.

\textsuperscript{23} Williamson uses the term ‘evidential probability’ rather than ‘epistemic probability,’ but we have essentially the same thing in mind.
many things without being prepared to bet my house on them” (86);^24 nevertheless, what I know has probability 1 because knowledge is evidence, and the probability of any evidence on itself is 1.

In holding that what is known has probability 1, Williamson comes close to Infallibilism. However, in divorcing probability 1 from certainty, he avoids going the whole way. As such, I shall call his theory of knowledge ‘Quasi-Infallibilism.’^25 The Quasi-Infallibilist is able to take advantage of many of the same arguments as the Infallibilist proper. Several of the arguments I put forward in the last chapter only directly showed that if S knows that P, then the epistemic probability of P for S is 1. To get from here to Infallibilism, we need the following argument to be sound:

1. If S knows that P, the epistemic probability of P for S is 1.
2. If S knows that P and the epistemic probability of P for S is 1, then P is certain for S.
3. If P is certain for S, then S knows that P.
4. Infallibilism: S knows that P iff P is certain for S. [from (1)-(3)]

(3) should be accepted even by Fallibilists, at least once we clarify that P is only certain for S if S has considered P (see section 2.1.4). As for (2), in explicating the thesis of Infallibilism in chapter 2, I argued that probability 1 only comes apart from certainty when P is a trivial consequence of propositions which are certain for S, and so has

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^24 Although Williamson makes this remark in illustration of the claim that knowledge does not require psychological certainty, he may himself be committed to the view that rationality requires him to bet his house on what he knows: see section 5.4.1 below.

^25 On the more common definition of infallibilism noted in chapter 2, as the position that knowledge requires entailing evidence/grounds, Williamson’s theory may or may not be infallibilist. Since Williamson holds that knowledge is evidence, and any known proposition trivially entails itself, he thus holds that knowledge always involves entailing evidence. On the other hand, this does not imply that the grounds on which one’s knowledge is based entail the known proposition. (Schiffer 2009 uses a similar distinction to criticize Williamson’s response to skepticism.) So whether Williamson counts as an infallibilist on this definition will depend on the details of both his theory and this definition.
probability 1 conditional on those propositions. However, P is not itself certain for S, because S has not considered it. (2) is consistent with this, because it only says that if the epistemic probability of P for S is 1 and S knows that P, then P is certain for S. And plausibly whatever kind of cognitive awareness of P is involved in knowing that P, when one has this and the epistemic probability of P for S is 1, then P is certain for S.

Nevertheless, Quasi-Infallibilists deny this, accepting (1) and (3) above, but denying (2). In this way they are able to agree with the Infallibilist that knowledge plays many of the theoretical roles we examined in the last chapter, such as serving as evidence and rationalizing action, without holding that knowledge requires certainty.

5.2.2 Quasi-Infallibilism and skepticism

While the most important difference between Williamson and me with respect to the nature of knowledge is his dissociation of probability 1 from certainty, the most important difference between our theories overall may be with respect to the scope of knowledge. Williamson is a committed anti-skeptic, and holds that we know all sorts of facts about the world, including unobserved facts.

One could endorse Quasi-Infallibilism as explicated above and being moderately or even radically skeptical. We can define versions of Quasi-Infallibilism that correspond to the skeptical versions of Infallibilism delineated above: radically skeptical Quasi-Infallibilism, according to which we know nothing, internalist Quasi-Infallibilism, according to which we have introspective and a priori basic knowledge, and externalist Quasi-Infallibilism, according to which we have introspective, a priori, perceptual, memorial, and perhaps testimonial basic knowledge. All of these are versions of skeptical Quasi-Infallibilism, according to which we lack knowledge of the unobserved.
Williamson, by contrast, is an anti-skeptical Quasi-Infallibist. His combination of Quasi-Infallibilism with anti-skepticism suggests that one of his reasons for rejecting robust Infallibilism is to avoid skepticism. Most of Williamson’s arguments for Quasi-Infallibilism are directed at traditional Fallibilists, understandably given that most contemporary epistemologists are Fallibilists. But in the few passages of *Knowledge and its Limits* where Williamson comments on infallibilist theories of knowledge and evidence, we can detect a clear anti-skeptical motivation for rejecting these theories (compare Bird 2004: 261-63):

The traditionalist claim that the possibility of later doubt shows that $e$ never was part of my evidence presupposes an untenably Cartesian epistemology (219).

Such examples depend on less than Cartesian standards for knowledge and evidence; Bayesian epistemology must learn to live with such standards (226).

What propositions could attain that unassailable epistemic status [of never being undermined by further evidence]? Science treats as evidence propositions such as ‘Thirteen of the twenty rats injected with the drug died within twenty-four hours’; one may discover tomorrow that a disaffected laboratory technician had substituted dead rats for living ones. The Cartesian move is to find certainty in propositions about one’s own current mental state (‘I seem to see a dead rat’; ‘My current degree of belief that thirteen of the twenty rats died is 0.97’). Arguably, we are fallible even about our own current mental states (see Chapters 4 and 8). But even if that point is waived, and we are assumed to be infallible about a mental state when we are in it, we do not remain infallible about it later. … We are uncontroversially fallible about our own past mental states (214-15).

Implicit in these remarks is that “Cartesian epistemology” is untenable because it implies skepticism. Bayesian epistemology must live with “less than Cartesian standards for knowledge and evidence” because these standards are not met by any putative knowledge or evidence, and yet it is plain that we do have some evidence and do know some things.
In the next two sections, I will advance two criticisms of this argument for Quasi-Infallibilism. The first is that Infallibilism does not really imply radical skepticism, as these remarks suggest. The second is that even Quasi-Infallibilists must be moderate skeptics, denying knowledge of the unobserved. I will argue the first point in section 5.3 and the second point in section 5.4.

5.3 Must Infallibilists Be Radical Skeptics?

In the last sub-section I considered an argument against Infallibilism of the following form:

(5) If Infallibilism is true, then knowledge requires certainty.
(6) Nothing (non-trivial) is certain for us.
(7) We have some (non-trivial) knowledge.
(8) Therefore, Infallibilism is false. [from (5)-(7)]

(5) is definitionally true. The Infallibilist, then, must deny either (6) or (7).

It is tempting to respond to this argument the way that Williamson frequently responds to arguments against the identification of evidence with knowledge (e.g., 2005: 478-79): from the perspective from which it is uncertain whether I have hands, I do not know whether I have hands, and from the perspective from which I know that I have hands, it is certain for me that I have hands. Certainty and knowledge appear to come and go together. If Williamson is right that nothing is certain for us, then he has simply given us an argument for radical skepticism, according to which we know nothing. Conversely, arguments that we do know many things are ipso facto arguments that these things are certain for us.

Dialectically, though, this is not satisfying, because however apparent the intuitive connection between knowledge and certainty is to the Infallibilist, it is not so
apparent to the Quasi-Infallibilist (and traditional Fallibilist), many of whom will be willing to jettison certainty to save knowledge. As such, it would be better for the non-radically skeptical Infallibilist to argue directly against (6).

A positive argument against (6) would require a fuller analysis of the conditions for certainty and the nature of introspection, intuition, perception, and memory than I am able to undertake here. I will focus in this section instead on responding to two of the most pressing arguments for (6). I will focus in particular on defending infallible internalist knowledge, but some of what I say could be adapted to defend infallible externalist knowledge.

5.3.1 Tests for certainty

The first argument that I will consider is that the most plausible candidates for infallible knowledge fail what I shall call tests for certainty: procedures by which we might try to introspectively determine whether a proposition really is certain for us. Let us consider three such tests: the rational betting test, the epistemic comparison test, and the defeasibility test.

The first test is based on rational betting. According to orthodox Bayesian decision theory, if the probability of P for you is 1, then you ought to be willing to accept a bet on P for any price. So if it is certain for you that you $2 + 1 = 3$, it is rational for you to accept a bet on which you gain a penny if $2 + 1 = 3$ and suffer billions of years of horrific torture if not. If it would not be rational for you to accept this bet, then it is not certain for you that $2 + 1 = 3$.

I would not take this bet, and I do not think most other people would either. However, this does not clearly imply that this proposition is not certain for us. First, that
we would lose our nerve in such a situation does not imply that we would be rational to do so. Perhaps we lack higher-order knowledge that we know that $2 + 1 = 3$, or higher-order knowledge that we have this higher-order knowledge, etc., and this leads us to refuse the bet (see section 5.4.1 below).

Second, it is difficult to even understand what being offered a bet on *a priori* or introspective facts would amount to. How would the bet possibly be settled? Given the difficulty in imagining such a case, our intuitions about it are not likely to be reliable.

Third, and relatedly, in any actual case in which we were offered such a bet, the strangeness of the situation would make it impossible for us to be certain that we were actually being offered the bet in question. We would wonder, for example, whether our interlocutor was using terms in a different sense than us, or was just joking around. And it would *not* be rational for us to accept a sufficiently bad bet that we are not certain we have even understood.

Finally, it may be that the decision theory upon which the conclusion that we ought to take the bet is based is incorrect. Orthodox decision theory may be independently unacceptable, at least in extreme cases like this. Searle (1995), for instance, contends that decision theory in any of its traditional forms is unsatisfactory, as it implies such apparent absurdities as that if you are rational, then “if you value a dime and you value your life, there must be some odds at which you would bet your life against a dime” (138).\footnote{All of these responses can be made against applications of the rational betting test to apparently obvious perceptual and memorial knowledge. Only the first and fourth, however, seem to be available for testimonial knowledge – for we could much more easily imagine an actual bet on something we learned through testimony, which might be settled by going and looking to see whether, for example, one’s keys really are where one was told they were.}
The second test is based on *epistemic comparison*. Upon introspection, do you find that there are other propositions you believe that appear to be even *more* certain than the putatively certain proposition? If so, this suggests that the putatively certain proposition is not certain for you after all. A corollary of this test is to ask yourself whether it is possible for the proposition in question to become *more* certain for you. If it is, then it is not yet certain.

This test provides a serious challenge to infallible external knowledge. It seems that it is more certain for me that I *seem* to be sitting down than that I actually *am* sitting down. One might think it provides an equally serious challenge to infallible internal knowledge. For is it not *more* certain for me that it *seems* to me that $2 + 1 = 3$ than that $2 + 1$ really does equal 3? And is it not even more certain that I exist? Perhaps nothing is more certain for me than this last proposition, but could I not imagine getting more evidence for it – e.g., testimonial evidence by philosophers and scientists who I regard as very reliable?

For my own part, it does not appear to me on introspection that the proposition that it seems to me that $2 + 1 = 3$ is more certain than the proposition that $2 + 1 = 3$. Both appear completely certain, and my knowledge of the latter does not appear to be based on my knowledge of the former. Likewise, I deny that testimonial evidence really would raise the probability of the propositions above. These propositions are already part of my evidence; they have probability 1 with or without this testimony. We may be misled here because similar testimony *would* give us evidence for the content of testimony in other

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27 This test is suggested, though for psychological rather than epistemic certainty, by Unger (1971, 1975: ch. 2).
cases, but in the case at hand, the propositions testified to are already maximally probable.

The third test is similar to the corollary of the second test, and is based on *defeasibility*. If you can imagine learning, or getting strong evidence, that a proposition is false, without losing any of your present evidence, then that proposition is not certain for you. This follows from the assumption that what you clearly perceive is part of your evidence, and that propositions that are part of your evidence are maximally probable no matter what else you add to that evidence – \( P(P|P&E) = 1 \), for any \( E \). Thus, if you can get evidence against \( P \) without losing any evidence, \( P \) cannot be part of your evidence right now, and so cannot be certain for you. (The condition that you do not lose any of your present evidence is crucial – if it is certain for me right now that there is a chicken outside because I can see that there is, and I then turn my head so that I can no longer see this, the fact that it is no longer certain for me that there is a chicken outside does not show that it was not certain for me originally. By turning my head, I lost my clear perception that there is a chicken outside, and thus I lost evidence that I had.)

This test also provides a serious challenge to infallible external knowledge. Unger (1975: 125) imagines having the following experience:

I … experience a voice, coming from no definite location, which tells me this, in no uncertain terms: All the experiences I am having, including that of the voice, are artificially induced. Indeed, this has been going on for all of my conscious life and it will continue to do so. The voice tells me of various experiences I have had, some of which I had myself forgotten almost entirely. It then says that scientists accomplish all of this with me; it seems to tell me what they are like, what I am really like, and, in great detail, how they manage to bring about these effects in me.

If we suppose that this is all going on while I seem to see a chicken outside, and that my visual phenomenology does not change, it certainly seems that I have gotten evidence
against there really being a chicken outside. Similar remarks go for even more securely held propositions, such as that I have hands. And the experience described above appears to be possible: people do hear voices in their heads, after all, and there is nothing impossible in an auditory experience of that kind having the content described.

What about internal knowledge? While we can imagine a voice telling us that we are mistaken about such basic facts as whether $2 + 1 = 3$, we should not give it any credit, even if it is otherwise reliable. As above, we should not be misled here because similar testimony would give us evidence for the content of testimony in other cases. In the case at hand, I know that $2 + 1 = 3$, and relative to that knowledge, this proposition is no less probable given the voice’s testimony than it was before. At best, the voice’s testimony may be evidence that I have been misusing the words ‘two,’ ‘plus,’ and so on; but it cannot be evidence that $2 + 1$ does not really equal 3.

In line with this last remark, Unger (1975: 131-34) seeks to induce skepticism even about knowledge of one’s own existence by asking us to imagine the voice telling us that we are confused about the meanings of the words ‘exist’ and ‘persist,’ and so wrongly think that “I exist now” is true, when in fact “I persist now” is true. In response to the obvious rejoinder that I can still be certain that I exist now, just not that the proposition expressed by the sentence “I exist now” is true, Unger replies that one ought not be certain of the view of propositions presupposed in this rejoinder, and that one ought to think it at least possible that the truth of the above sentence becoming uncertain makes the truth of the corresponding proposition similarly uncertain.

For this reply to imply that it is not really certain for me that I exist in this situation, however, some kind of KK (knowledge of knowledge) principle needs to be
true – for example, one according to which, if I clearly perceive that P, then I clearly perceive that I clearly perceive that P. But this principle is clearly false, and more plausible KK principles will not support the inference from higher-order uncertainty to first-order uncertainty. For example, from the principle that if I clearly perceive that P, it is in principle possible for me to clearly perceive that I clearly perceive that P, it does not follow from the fact that I do not in fact have this higher-order clear perception that I do not have the first-order clear perception either.

5.3.2 Williamson’s anti-luminosity argument

In the last quote from Williamson in section 5.2.2 above, he defends the claim that our current mental states are not certain for us by appeal to earlier arguments of his that “we are fallible even about our own current mental states.” That argument is his influential anti-luminosity argument. According to Williamson (2000: 95), a condition C is luminous iff “For every case α, if in α C obtains, then in α one is in a position to know that C obtains.”

In support of the claim that no non-trivial condition is luminous, Williamson offers a reductio of the assumption that the condition of feeling cold is luminous by describing a case in which one gradually but imperceptibly goes from feeling cold to feeling hot. In such a case, Williamson claims, one does not know that one feels cold when one is too close to not feeling cold. He then argues that similar cases can be described for any non-trivial potentially luminous conditions, such as being in pain or seeming to see a purple patch, and concludes that no non-trivial conditions are luminous.

Although I do not think Williamson’s anti-luminosity argument is sound, rather than add to the already large literature on the argument, let us assume for the sake of
argument that its conclusion is correct, and that no (non-trivial) conditions are luminous, and consider what that shows. What does this conclusion have to do with

(6) Nothing (non-trivial) is certain for us?

Williamson seems to think that there is a connection here, writing:

The Cartesian move is to find certainty in propositions about one’s own current mental state (‘I seem to see a dead rat’; ‘My current degree of belief that thirteen of the twenty rats died is 0.97’). Arguably, we are fallible even about our own current mental states (see Chapters 4 and 8 [where the anti-luminosity argument is presented and reiterated]). But even if that point is waived, and we are assumed to be infallible about a mental state when we are in it, we do not remain infallible about it later (2000: 214-15).

This passage suggests that the anti-luminosity argument shows that “we are fallible even about our own current mental states,” and so cannot “find certainty in propositions about one’s own current mental state.”

How would one move from the anti-luminosity argument to this conclusion? It is tempting to read Williamson as equivocating between two different senses of ‘infallible.’ On one natural sense of the word, a source of belief, such as introspection, is infallible just in case it never issues in false beliefs (Audi 2004: 25). If, as the anti-luminosity argument would have it, introspection sometimes wrongly issues in the belief that I feel cold when I do not, or that I do not feel cold when I do, then it is not an infallible source. However, that introspection is not an infallible source does not straightforwardly imply that on a particular occasion in which it issues in a true belief that I feel cold, my belief is not infallible, in the sense that it is not certain. A craftsman may be highly fallible, making many flawed statues, but that does not imply that this statue of his is in any way flawed.
Perhaps we can supply some bridge principle from the fallibility of a source in particular cases to the fallibility of the true beliefs it issues in in other cases, based on a safety condition for knowledge. In chapter 3, I endorsed the following condition as necessary for knowledge, where M is the method/cognitive process by which S believes that P:

(Maximal Safety) For all worlds W and propositions Q: S believes that Q via method/cognitive process M in W only if Q is true in W.

The original anti-luminosity argument uses a principle like this to rule out knowledge of feeling cold in borderline cases. However, since my formulation of safety holds that one’s belief must be completely safe in order to be certain, and not just safe as far as “nearby” possible worlds go, it might appear that all knowledge of feeling cold is ruled out. For one’s belief that one feels cold is not completely safe inasmuch as there are some cases in which one falsely believes similar propositions, even if they are more distant.

Whether these cases make one’s belief unsafe in the relevant sense depends on whether they are formed by the same method. Even in the case where one’s beliefs about whether one feels cold are a split-second apart, the cognitive processes will almost certainly differ at least slightly, as Williamson grants: “The underlying basis on which one believes that one feels cold changes at most slightly between \( t_i \) and \( t_{i+1} \)” (99, emphasis mine).\(^{28}\) But a slight change is still a change. And even if one’s phenomenology...

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\(^{28}\) Williamson holds that safety should be relativized to bases (2000: 128), but, as this quote suggests, he thinks bases need only be similar, not identical (2009: 306-07, 364-65). So Williamson’s suggestion is that we should understand S’s belief that P being safe as S’s not believing P falsely on a similar basis in similar cases. Williamson clarifies that by ‘bases’ he means something more like ‘processes’ than ‘grounds’: “I had in mind a very liberal conception, on which the basis of a belief includes the specific causal process leading to it and the relevant causal background” (2009: 307). The Infallibilist, however, should reject as a necessary condition on knowledge a formulation of safety in terms of “similar bases,” for if we extend (in Infallibilist fashion) “similar bases” to “any bases” then the safety requirement
at $t_i$, where one feels cold, and $t_{i+1}$, where one does not, really are identical, one’s phenomenology when one *obviously* feels cold would still be different from one’s phenomenology at $t_{i+1}$, and so one’s belief in that kind of case would be formed by a (very) different method, if methods are individuated phenomenologically. Hence, Maximal Safety would not be violated, and so it might still be certain for one that one feels cold in the case where one obviously feels cold.

The Infallibilist need not think that methods are individuated phenomenologically, although many internalist Infallibilists will find this view attractive. If they are not individuated phenomenologically, they might be (as Williamson thinks) individuated according to external causal antecedents. Individuating methods this way would be more amenable to externalist Infallibilism. But here again the cause of one’s belief when one obviously feels cold is (very) different from its cause when one does not feel cold.

Indeed, there is a more general reason for the Infallibilist to think that the beliefs he holds to be infallible can never be believed falsely on the same basis or by the same method. This is that, as I suggested in chapter 3, it is plausible that clear perception that $P$ compels belief that $P$, so that whenever one clearly perceives that $P$ – that is, whenever one infallibly knows that $P$ – one believes that $P$ on the basis of this clear perception. This is an infallible method; one cannot believe falsely on the basis of clear perception. Now, if a case of true belief and of false belief *appear* to be held on the same basis or arrived at by the same method, this puts pressure on the claim that the true belief is held on the basis of clear perception. But it is in principle open to the Infallibilist to deny appearances would require me to be (necessarily!) infallible in *all* my beliefs in order for *any* of my beliefs to be infallible. This is too strong a requirement.
in particular cases. The Infallibilist need not hold that we cannot make mistakes about whether a true belief is formed on the basis of clear perception: that is, he need not hold that clear perception is luminous. Just like Williamson, he can deny the KK principle, according to which whenever one knows that P one is in a position to know that one knows that P. 29

I have argued that the claim that no conditions are luminous does not imply that nothing is certain for us. Even if not all of our beliefs about a condition are infallible, some of them might be. Together with my objections to the skeptical arguments considered above, I have shown that the arguments that nothing is certain for us are themselves far from certain. Infallibilists thus need not be radical skeptics.

5.4 Why Infallibilists and Quasi-Infallibilists Must Be Moderate Skeptics

In sections 5.1 and 5.2, I introduced the theses of skeptical Infallibilism, anti-skeptical Infallibilism, skeptical Quasi-Infallibilism, and skeptical Quasi-Infallibilism. I further considered more and less extreme varieties of skeptical Infallibilism and Quasi-Infallibilism. I then argued in section 5.3 that, contrary to some suggestions of Williamson’s, Infallibilists need not be radically skeptical, holding that we know nothing.

29 Bird (2004: 261) also endorses the inference from anti-luminosity to uncertainty, and his suggestion seems to be that being luminous is just what it is for something to be certain: “Luminosity is one of the two more natural interpretations to be put on the claim that evidence must be certain. (The other interpretation is that certain knowledge is knowledge that is free from potential undermining, which is the interpretation that Williamson discusses when rejecting the thesis that evidence must be certain.)” But when I explicated the concept of epistemic certainty in chapter 2, I said nothing about luminosity. And as the above arguments show, there is no straightforward inference from the former to the latter. (I likewise never appealed to freedom from undermining in explicating certainty. As the discussion of defeasibility in section 5.4.1 below shows, that a proposition cannot be undermined does follow from its being certain, but this is just because it follows from its being evidence, and so Williamson and Bird cannot consistently allow for knowledge to be undermined either.)
Neither Infallibilists nor Quasi-Infallibilists need be radical skeptics. In this section I will argue for a similar parity thesis: neither Infallibilists nor Quasi-Infallibilist should be radical anti-skeptics. In particular, they should both be skeptical about knowledge of unobserved facts: facts about parts of the world which neither we nor anyone who has testified to us have observed. These are facts which we could not possibly learn about through one of the five sources of basic knowledge canvassed in section 5.1.

I will offer three arguments for the conclusion that Infallibilists and Quasi-Infallibilists should be skeptical about the unobserved. First, the tests for certainty considered earlier deliver clearly negative results for unobserved propositions, and these tests apply almost as well for probability 1 as for certainty. Second, knowledge of the unobserved would have to proceed through (conscious or tacit) ampliative inference, and the possibility of this kind of inferential knowledge would allow for us to extend our knowledge absurdly far through iterative ampliative inferences. Third, infallible or quasi-infallible knowledge of the future in particular would allow for paradoxical kinds of explanatory circularity when one acts upon that knowledge; and inasmuch as knowledge of other unobserved facts would be gained in similar ways as knowledge of the future, it is implausible that we could have the former but not the latter.

5.4.1 Tests for certainty

In section 5.2 we considered the application of three putative tests for certainty to propositions which internalist and externalist Infallibilists say are certain for us: the

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30 Several authors have advanced arguments for similar conclusions, including Hawthorne (2005), Dodd (2007), Hawthorne and Lasonen-Aarnio (2009), and Kaplan (2009). My discussion of the first two tests for certainty builds on some of these previous discussions. The details of my other arguments are, as far as I know, original to me.
rational betting test, the epistemic comparison test, and the defeasibility test. According to the rational betting test, if P is certain for you, you ought to be willing to bet anything on P’s truth. According to the epistemic comparison test, if P is certain for you, then you ought not be able to identify any other proposition which is more certain for you. According to the defeasibility test, if P is certain for you, then it ought not be possible for you to get evidence that undermines your knowledge that P.

As we saw above, it is prima facie plausible that facts allegedly known on the basis of perception or memory fail each of these tests. As we move to facts about the unobserved, this prima facie plausibility becomes even stronger and harder to override. I should not bet everything I own against a dime on the proposition that I will go to Paris next year, for this proposition is less certain for me than the proposition that I have bought my plane tickets, and I could imagine getting evidence against this proposition, e.g., if the airline which I bought my tickets from goes under.

5.4.1.1 Betting

Let us now consider how applicable each of these tests is to the claim that a given proposition has probability 1, or is part of our evidence. On orthodox decision theory, the rational betting test applies just as well. If the probability that I will be in Paris on vacation next year is 1, then the expected utility of my buying cheap life insurance for the next year is negative – for the probability that the life insurance will pay out is 0, since my being in Paris on vacation next year is inconsistent with my dying before then (setting aside the possibility of resurrection). But it seems plain that if the life insurance is cheap enough, I should buy it. So the probability that I will be in Paris on vacation next year
must not be 1. (This example is modified from Hawthorne 2005: 445-46; see also Kaplan 2009 for similar arguments.)

Williamson (2009: 336-38; compare 2005: 479-84) responds to this challenge by arguing that it is a problem for any epistemologist who employs epistemic probabilities, and not just Quasi-Infallibilists. The axioms of probability imply that complex logical truths have probability 1 for me, and yet it doesn’t appear rational for me to bet everything I own on them. Likewise, the probability that a coin flipped an infinite number of times will land heads each time is 0. The principles of decision theory thus imply that I ought to be indifferent between a bet on this outcome and a bet on \(A = \neg A\) being true, and yet it appears that I ought to prefer a bet on the former, for it is a real empirical possibility. Examples like these, Williamson claims, show that “in some logically possible situations,” any agent whose credences are probabilities “is bound to violate at least one plausible decision-theoretic constraint.” While this does not mean “that anarchy reigns in decision theory,” it does mean that we should not take any particular decision theory for granted, and so not let decision-theoretic principles unduly constrain our theorizing about epistemic probability (2009: 338).

It may be possible to develop non-standard theories of probability which do not have these consequences. But let us waive that point, and grant Williamson that these are cases in which probability 1 comes apart from certainty. Even so, as we saw above, the anti-skeptical Infallibilist has a similar response to the rational betting test available to him, namely that the principles of decision theory have counterintuitive consequences for everyone.
Neither of these responses, however, is particularly compelling. For we can construct cases that are unlike the above in not involving betting on propositions with probability 1 or 0, and the plausibility of which does not turn on controversial principles of decision theory. Suppose that I find a coin on the floor in your house and, not knowing whether it is fair, flip it 10 times. It comes up heads each time. You come up to me and (truthfully) say, “Ah, you’ve found my lucky flipping coin! I’ve carefully weighted it to make sure it’s perfectly fair.” Though you politely request it back, I respond “Finders keepers!” and run off. Sometime later I am taken prisoner by a mad decision theorist, who takes the coin and prepares to flip it. He tells me that if I guess the outcome of the flip, my life shall be spared, but that otherwise he will kill me. It is clear that I should guess heads, and would be irrational to guess tails. But on an anti-skeptical epistemology, I seem to have gained knowledge that the coin is fair from your testimony in a fairly straightforward way. (If 10 heads in a row is enough to keep me from gaining this knowledge, we can lessen the numbers of tosses accordingly.) Given that knowledge is evidence, it then seems to follow that I should be indifferent between guessing heads or tails on the coin flip.

This case does not involve betting on propositions with probability 1 or 0 and the oddities that come with that. And while the claim that you should be indifferent if your evidence tells you that the coin is fair follows from orthodox decision theory, it is independently plausible even if, as Williamson suggests, there are counterexamples to the general principle that we should be indifferent between bets on propositions with equal probability (like an infinite series of heads and an obvious logical falsehood), and even if,
as I suggested above, there are apparent counterexamples to orthodox decision theory more generally.\footnote{One might think that in a case where my evidence equally supports a bet on X and a bet on Y, it is rational to use other factors, like evidence about my evidence, as a tie-breaker. However, we can imagine your telling me, not that the coin is fair, but that it has an extremely slight bias towards tails, where this bias is slight enough that intuitively, the series of heads I observed should still lead me to be more confident that the coin will land heads than tails.}

Williamson has another move in response to counterintuitive apparent decision-theoretic consequences of his views. That is to draw a distinction between \textit{rationality} and \textit{reasonableness}, arguing that reasonable agents may sometimes be excusably irrational. This can happen in particular in cases where we fail to know that we know – “When stakes are high, agents with good cognitive habits who do not know that D is irrational may do D although D is in fact irrational” (2005: 482). On this line of thinking, I may irrationally but excusably buy life insurance for the next year even though I know that I will be in Paris on vacation next year, or irrationally but excusably prefer to guess heads than tails, and be reasonable in doing so. Indeed, because I fail to know that I know, I may be unreasonable (though not irrational) in arbitrarily guessing tails or in not buying life insurance. Williamson recognizes that “[s]ome will be tempted to build an alternative account of rationality around the ‘good cognitive habits’ involved in reasonableness, but responds that “such habits are too loose and contingent on the accidents of human psychology to provide a systematic decision theory” (483).

As I noted above in section 5.2, the Infallibilist can also explain away the apparent irrationality of refusing a given bet on P by claiming that, while we know that P, we do not \textit{know} that we know that P. We saw in section 5.3 that the Infallibilist is not committed to the claim that knowledge is luminous, and even if he were, we could still
have cases where we fail to know that we know, even though we are in a *position* to know that we know. So the anti-skeptical Infallibilist is again in no worse a position than the anti-skeptical Quasi-Infallibilist with regards to putatively known facts that seem to fail the rational betting test. The rational betting test puts pressure on both anti-skeptical Infallibilists and Quasi-Infallibilists, and both groups can attempt to explain away our intuitions about the cases by distinguishing between rationality and reasonableness and appealing to lack of higher-order knowledge.

5.4.1.2 Epistemic comparison

Consider next the epistemic comparison test, which Fumerton (2010: 252n7) uses to argue against Williamson’s epistemology. It is apparently less certain for me that I will go to Paris next year than that I have bought my plane tickets. An anti-skeptical Infallibilist, who holds that I know both of these propositions with (absolute) certainty, thus appears to ignore genuine epistemic differences between these propositions. The anti-skeptical Quasi-Infallibilist distinguishes between probability 1 and absolute certainty, and so can arguably capture some differences better than the anti-skeptical Infallibilist. For example, he can arguably better capture the difference between the proposition that a coin flipped an infinite number of times does not land heads every time (probability 1, but not certain) and $2 + 3 = 5$ (certain). However, in the case at hand, Williamson would presumably hold that it is not *certain* for me that I will go to Paris next year or that I have bought my plane tickets (for perhaps I am misremembering). Thus we have two unequally plausible propositions which the Quasi-Infallibilist assigns the same probability and the same uncertainty to.
Williamson also responds to objections of this sort with an appeal to higher-order knowledge:

Some parts of one’s evidence may have other epistemic advantages over others: for instance, one may know of some parts of one’s evidence that they are part of one’s evidence while not knowing (or even being in a position to know) of other parts of one’s evidence that are part of one’s evidence. Thus some propositions with evidential probability 1 will have epistemic advantages over other propositions with evidential probability 1. But that will hold for any useful notion of evidential probability: one will know (or at least be in a position to know) of some propositions with evidential probability 1 for one that they have evidential probability 1 for one while not knowing (or even being in a position to know) of other propositions with evidential probability 1 for one that they have evidential probability 1 for one. Since such epistemic differences between propositions that share evidential probability 1 are inevitable, I am unmoved by their emergence on my account of evidential probability. One’s knowledge is not all on a par in all epistemic respects, even though all of it has probability 1 on one’s evidence. No single probability distribution can capture all those epistemic differences. (Williamson 2009: 339, emphasis mine)

Here again, the appeal to higher-order knowledge is equally available to the anti-skeptical Infallibilist, who can claim that, while I know (with certainty) both that I have bought my plane tickets and that I will go to Paris next year, I only know that I know the former fact (or only know that I know that I know…, etc.). Anti-skeptical Infallibilism and Quasi-Infallibilism are again on a par.

How plausible is this response to the epistemic comparison objection? While Williamson is right that differences in probability do not capture all relevant epistemic differences, the epistemic difference between the propositions that I will go to Paris next year and that I have bought my tickets seems to be a difference in probability. For (we can suppose) I will only go to Paris if I have bought tickets, and so the former proposition could be false in more ways than the latter proposition. Moreover, I can apply fairly straightforward probabilistic reasoning in thinking about how likely it is that I will go to
Paris on vacation. I can, for example, consider how likely it is that the airline I have bought my tickets from will go under (U) or that I will die (D), and how likely it is that I will go to Paris on vacation (P) under each of those circumstances. I can then apply the theorem of total probability to calculate the all-things-considered probability that I go to Paris on my evidence E. Assuming that U and D are independent relative to E, this says that

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+ P(\neg U|E)P(D|E)P(P|\neg U&D&E) \\
+ P(\neg U|E)P(\neg D|E)P(P|\neg U&\neg D&E)
\]

Not only can I do this, this seems the rational way to think about how likely P is for me. But if P(P|E) = 1, then I either must, implausibly, say that the probability of me going to Paris on vacation given that I am dead or that the airline goes under is still 1, or I must hold that the probability of me dying or the airline going under is 0. Anti-skeptical Infallibilism or Quasi-Infallibilism thus cannot capture the plain sense in which it is rational for me to think about the probability that I will go to Paris next year as a function of non-extreme probabilities of different possibilities and non-extreme probabilities of my going to Paris conditional on those possibilities.

Williamson could attempt to explain away this case too, by arguing that it is not really rational for me to think about the probability of P in this way, only that it seems rational because I do not know that I know that P. However, the above case is partially just an illustration and dramatization of the prior fact that the epistemic difference between the propositions that I will go to Paris next year and that I have bought my tickets seems to be a difference in probability. Williamson could error-theorize this
intuition too, saying that we are confusing a difference in probability relative to what we know to be our evidence with a difference in probability relative to our actual evidence. Error theories of this sort are always available, but as the counterintuitive consequences of anti-skepticism pile up, they look increasingly *ad hoc*.

5.4.1.3 Defeasibility

Consider finally the defeasibility test. It seems clearly possible that I get evidence against the proposition that I will go to Paris – for example, I learn that the airline I bought my tickets from has folded. Thus, by the defeasibility test, this proposition is not certain for me. That a proposition is defeasible would seem to show equally well that it is not part of my evidence. For suppose that P is part of my evidence, and that I learn some proposition which putatively undermines P, U. Since P(P|P&E) = 1 for any E, the probability of P on my new evidence is still 1. So U has *not* undermined P. Now, as I noted in section 5.3.1, if you *lose* P as evidence – say, because you forget it – then it need not have a probability of 1 later. But in this case U does not *undermine* or *defeat* your knowledge that P, even if learning U is causally responsible for your losing your knowledge that P – say, by making you forget it.

We have seen that, with our first two tests, Williamson holds that it really is (in some sense) rational to bet anything on what you know, and that there really is no difference in probability between the proposition that I will go to Paris and the proposition that I have bought my tickets. He then attempts to explain away appearances to the contrary by appealing to level confusions between what we know and what we know that we know. In the case at hand, however, Williamson does not think that what
you know really is indefeasible: “Very little (if any) of what we know is indubitable” (2000: 205). According to Williamson,

On any reasonable theory of evidence, an empirical proposition which now counts as evidence can subsequently lose its status as evidence without any forgetting, if future evidence casts sufficient doubt on it. Given E = K, this process is the undermining of knowledge (206).

Why does Williamson think that his theory can accommodate defeasibility?

Williamson agrees that Infallibilism cannot accommodate defeasibility, suggesting a conceptual connection between a proposition’s being certain and one’s being unable to lose it as evidence. Williamson proposes that we reject the claim that “Once a proposition has evidential probability 1, it keeps it thereafter” (218). He notes that this allows for forgetting, and says that, “Thus a proposition can decrease in probability from 1. In that sense, evidence need not be certain” (220).

Williamson is wrong to suggest that identifying probability 1 with certainty implies that whatever has probability 1 keeps it thereafter. Infallibilists can readily agree that what we clearly perceive right now, we may not clearly perceive later. We can lose evidence by no longer clearly perceiving what we perceived a moment ago. Infallibilists should thus agree with Williamson that we should reject Bayesian conditionalization as a universal updating rule, and instead identify the epistemic probability of P for one at a time as the probability of P on one’s evidence at that time (220).32

The question at hand, however, is not whether Infallibilists or Quasi-Infallibilists can allow for knowledge to be lost, but whether they can allow for it to be undermined by further evidence. The problem for this claim does not come from assuming that a

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32 See chapter 8, as well as Climenhaga forthcoming-a: section IV.
proposition with probability 1 cannot thereafter drop below probability 1. Rather, it
comes from the fact that for evidence to be undermined, one must get evidence against it.
And as long as it is part of one’s evidence, one cannot get evidence against it, whereas if
stops being part of one’s evidence for some other reason, then it has not been
undermined. So if evidence is knowledge, it cannot be undermined.

Williamson gives no clear indication of how he can respond to this problem. The
most he gives us is an example (I have silently changed variable names, and the emphasis
below is mine):

I put exactly one red ball and one black ball into an empty bag, and will
make draws with replacement. Let B be the proposition that I put a black
ball into the bag, and R the proposition that the first ten thousand draws
are all red. I know B by a standard combination of perception and
memory, because I saw that the ball was black as I put it into the bag a
moment ago. Nevertheless, if after ten thousand draws I learn R, I shall
have ceased to know B, because the evidence which I shall then have will
make it too likely that I was somehow confused about the colours of the
balls (205).

When I see [ten thousand red draws], I will rationally come to doubt B; I
will falsely suspect that the ball only looked black by a trick of the light.
Thus B will no longer form part of my evidence (219).

When I have seen a red ball drawn each time on the first ten thousand
draws, that further evidence undermines my knowledge that a black ball
was put into the bag, and the previously known proposition ceases to be
part of my evidence (222).

Unfortunately, this example does not answer our problem, but only sharpens it. For how
is it that in this case learning R undermines Williamson’s knowledge that B, and so leads

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33 As stated, the case looks like one in which there might be forgetting of a sort – for as time
passes on, Williamson’s memory of having put the black ball in the bag will move from working memory
to long-term memory, and will get less vivid over time once there. It presumably does no violence to the
example to suppose that Williamson started his draws a day after putting the black ball in the bag, so that it
is plausible that, as he continues drawing, his apparent memory does not decrease in vividness. In this case
it does not look as if Williamson loses knowledge by forgetting – if he knows at the beginning of the
second day, and does not know at the end, his knowledge must have been undermined.
him to rationally doubt it? Williamson suggests in the first quote that it is by “mak[ing] it too likely that I was somehow confused about the colours of the balls.” But (assuming Williamson still knows that he believed that the balls were black and red, and that he was confused only if that belief was false), if, when he learns R, Williamson’s evidence still includes the propositions that the balls he put into the urn were black and red, then R does not make it likely that he was confused – the probability that he was confused remains 0. If, by contrast, Williamson’s evidence does not include these propositions, then they have been lost at some previous point, and so were not undermined by R. The problem remains.

In order to maintain that knowledge is defeasible, Williamson must hold that it is possible for evidence to undermine other evidence without lowering its probability. But he gives us no indication of how this is supposed to happen, and it is implausible that this is the right way to describe the situation for a reason similar to one of the reasons that it was implausible to describe the difference between my knowledge that I will be in Paris next year and my knowledge that I have bought my tickets in terms of higher-order knowledge – the natural rational reconstruction of what is going on in this case appeals to probabilistic reasoning about how likely B is, given successive red draws. Williamson acknowledges as much in speaking of R making B “unlikely.” The internalist Infallibilist can accommodate this fact, arguing that Williamson never clearly perceived that he put the black ball in the urn, but only that it seemed to him that it did. This seeming (which may also get less vivid over time) makes it highly likely, but not certain,

34 In addition, even if Williamson could tell some plausible story about how R can undermine B without lowering the probability of B, this story would seem to be equally available to the Infallibilist, so that there would again be parity here.
that B. Successive red draws (or appearances of successive red draws) then give evidence against B in a straightforward manner, by raising the probability that, as Williamson says, he was somehow confused about the colours of the balls.

The anti-skeptical Quasi-Infallibilist could go the other way on examples like this, digging in his heels and claiming that knowledge cannot be defeated. But especially when we turn to unobserved facts, this looks absurd. It would imply that if my doctor tells me that I have a fatal illness and gives me two months to live, I can still know that I will go to Paris in a year’s time – at least, provided that this is true, that I continue to believe it, and so on. I leave it as an exercise to the reader to consider the (im)plausibility of error theories for the judgment that this is absurd based on appeals to higher-order knowledge, and am content here to make the dialectical point that even Williamson is unwilling to go this route.

5.4.2 Evidential chain reactions

The arguments I considered in the last section sought to show that unobserved facts do not have certainty/probability 1 because they do not bear the marks of certainty/probability 1. At the beginning of section 5.1, I gave two brief arguments that unobserved facts could not be certain in principle. According to the first of those arguments, we cannot know unobserved facts in a basic way. As such, if we are to know them, it must be by conscious or tacit inference from facts we do know in a basic way. (‘Inference’ should be understood in a broad sense here: the important claim is simply that beliefs about unobserved facts are based on knowledge of observed facts, even if only tacitly.) However, as Hume taught us, no non-trivial unobserved facts are entailed by facts that we have observed:
The bread, which I formerly ate, nourished me; that is, a body of such sensible qualities, was, at that time, endowed with such secret powers: But does it follow, that other bread must also nourish me at another time, and that like sensible qualities must always be attended with like secret powers? The consequence seems nowise necessary (Hume 1748/1999: section 4.2.16).

Given this, it seems that we cannot get *infallible* knowledge of unobserved propositions by inferring them from our basic knowledge. At best, we can get probable opinion. And the same is true for getting knowledge *with probability 1* – for if the probability of Q conditional on E is less than 1, how can inferring Q from E make Q have probability 1 for us?

It is hard to deny that knowledge of unobserved propositions must be non-basic, and that these propositions are not entailed by our basic knowledge. The anti-skeptical (Quasi-)Infallibilist must thus hold that we can get knowledge with probability 1 by ampliative inference. Although I do not know of any place in which Williamson addresses this argument, Littlejohn (2008) responds to Dodd’s (2007) presentation of a similar argument in exactly this way. According to Littlejohn (2008: 683),

Williamson says that it is a trivial consequence of S’s knowing *p* that $PSp = 1$. We are using knowledge to tell us what it is for a proposition to be epistemically necessary. We are using knowledge to tell us what it means to say that there is no chance for S that some proposition is false (i.e., for it to be the case that $PS\neg p = 1$). We are not using an independent conception of what it would take for it to be the case that $PSp = 1$ in order to determine whether S knows $p$, or to determine

35 Williamson rarely discusses knowledge by ampliative inference, but he is clearly committed to it. For example, he is committed to our having knowledge of future facts not entailed by our evidence about the past and present, or, indeed, by any facts at all about the past and present: “Strange though it may sound, we cannot take for granted that there is no knowledge of future outcomes whose [physical] chances are known to be low” (2009: 323). Other anti-skeptical Quasi-Infallibilists endorse knowledge by ampliative inference more explicitly. Bird (2004, forthcoming) argues that we can have evidence by inference, and although he holds that the inference cannot be statistical (forthcoming: 4) he think that it can be non-deductive, as when “an electrician … infers from the movement of the needle in a properly functioning ammeter that the batter to which it is connected is not dead” (forthcoming: 3).
whether we ought to take back knowledge ascriptions we initially thought were warranted. To think there is something shocking about the claim that $P_{Sp} = 1$ for some contingent proposition $p$, while not admitting scepticism, is to read into the notion of epistemic probability something to which Williamson is not committed (e.g., that $P_{Sp} = 1$ entails that $p$ is absolutely certain for $S$).\(^{36}\)

So, according to the anti-skeptical Quasi-Infallibilist, once we *know* $P$, *then* it has probability 1, but it does not become known *because* it has probability 1 on our prior evidence. Rather, that evidence enables us to know it, and once we competently deduce it, then we come to know it, and it has probability 1 for us.

The skeptical Infallibilist will hold that the anti-skeptical Quasi-Infallibilist’s move here illicitly gets it plausibility by smuggling in an Infallibilist conception of knowledge, which is what enables knowledge to play these roles. Once we take this Infallibilist conception seriously, though, it again becomes mysterious how I could possibly come to *know* that I will be in Paris next year. If I *did* know this, then, to be sure, it would have probability 1 for me, but the problem is that, once we take seriously what it means to *know* something, it doesn’t seem I could come to know such a thing in the first place, inasmuch as I would have to base my belief in this proposition on facts which do not ensure its truth.

The anti-skeptical Quasi-Infallibilist will presumably deny that there is anything else in our concept of knowledge that makes the above way of coming to know that I will be in Paris next year absurd. For the Quasi-Infallibilist, knowledge and its properties are *sui generis*, and the impossibility of extending epistemic properties like certainty by

\(^{36}\) Although he here defends Williamson, in a later essay Littlejohn (2011b: 246-48) himself rejects the thesis that all knowledge is evidence on the basis of an argument similar to Dodd’s.
ampliative inference should not be taken to imply that it is similarly impossible to extend
knowledge in this way.

But note again that, contra Littlejohn’s suggestion that the claim that it is
impossible to extend probability 1 through ampliative inference is based on conflating
probability 1 and certainty, the above moves are equally available to the anti-skeptical
Infallibilist. The anti-skeptical Infallibilist could similarly insist that certainty is grounded
in knowledge, and hold that, just as I can make the proposition that I will go to Paris next
year have probability 1 for me by coming to know it, I can similarly make it certain for
me that I will go to Paris next year. Given the general “knowledge-first” methodology of
Knowledge and its Limits, it would be natural to reduce certainty to knowledge in this
way, and the consequence that we can extend certainty through ampliative inference
hardly seems less plausible than that we can extend evidence in this way.

For his part, the skeptical Infallibilist will again agree with the anti-skeptical
(Quasi-)Infallibilist that ‘knowledge’ is conceptually primitive; he simply claims that
when we clarify what all is involved in this concept, we will see that it is the kind of thing
that cannot be extended in this way. It would be tiresome to extend this dialectic further,
however. Rather than continue pounding my fists, I will now offer an independent
argument against the claim that we can extend knowledge through ampliative inferences,
on the assumption (which both Infallibilists and Quasi-Infallibilists grant) that knowledge
is evidence.

In criticizing a rival conception of evidence as justified true belief, Williamson
(2000: 201) writes:

If evidence required only justified true belief, or some other good
cognitive status short of knowledge, then a critical mass of evidence could
set off a kind of chain reaction. Our known evidence justifies belief in various true hypotheses; they would count as evidence too, so this larger evidence set would justify belief in still more true hypotheses, which would in turn count as further evidence .... The result would be very different from our present conception of evidence.

As Brueckner (2005: 437-38) and Goldman (2009: 88) observe, this is a dangerous criticism for Williamson to make, for his own theory of knowledge seems to allow for similar kinds of chain reactions. However, Goldman does not develop this point, and Brueckner’s only example (knowing that this animal is not a painted mule on the basis of knowing that it is a zebra, and knowing that proposition on the basis of evidence that it looks like a zebra) is one that many epistemologists will think is unproblematic (Williamson 2005: 470n1). As I shall now show, however, some evidential chain reactions allow for knowledge that no epistemologist should be willing to grant.

Suppose that I have very strong inductive evidence E that ~B_{2017}: the atomic bomb will not be used in 2017. I infer ~B_{2017} from E and thereby come to know it. Then, if knowledge is evidence, I add ~B_{2017} to my evidence. E&~B_{2017} presumably supports ~B_{2018} even more highly than E supported ~B_{2017}. So, if I could come to know ~B_{2017} on the basis of E, I can come to know ~B_{2018} on the basis of E&~B_{2017}. Analogous remarks go for iterated inferences that the bomb will not be used in years after 2018. By drawing a series of inferences, I can thus come to know that the atomic bomb will not be used for the next 10,000 years, even though this proposition is (we can suppose) incredibly unlikely on my original evidence E. This is an absurd result, even if it is in fact true that the atomic bomb will not be used for the next 10,000 years.

One might reply that I could not come to know ~B_{2017} merely on the basis of a track record: there needs to be some kind of explanatory connection between my
evidence and this fact. But we can imagine that I know enough about human psychology and international relations that my inference proceeds via upwards inference to a higher-order explanation of the track record data, and then downwards from that explanation to the prediction that the bomb will not be used in 2017. As the bomb continues to not be used, this higher-order explanation becomes increasingly more secure. This is as good a kind of explanatory connection as we can ever have with contingent future facts, and so if we can ever know such facts, it seems that I can know \neg B_{2017} here.

One might also reply that some other condition on knowing is not met for propositions inferred later in this chain, so that these inferences do not deliver knowledge. However, it seems that we can stipulate that any conditions the Quasi-Infallibilist can appeal to are met. We can imagine, for example, that my belief is quite safe, that in fact there are no nearby worlds in which the atomic bomb is used in the next 10,000 years. The result that I can come to know this proposition in this way is still absurd.

Evidential chain reactions of the above sort are problematic for at least two reasons. The first is that they can enable us to come to know, on the basis of our original evidence, conclusions that are incredibly unlikely on that evidence. The second is that they can enable us to come to know, on the basis of our original evidence, conclusions that are actually disconfirmed by that evidence. To see this, consider a more abstract case.

We have the following partitions: \{A, \neg A\}, \{B_1, B_2, \neg B\}, \{C, \neg C\}, \{D, \neg D\}, \ldots, \{Z, \neg Z\}. Each partition screens off its neighbors from each other: that is, if we know (e.g.) B_2, then learning A gives us no information about whether C is true, in the sense that \Pr(C|A&B_2) = \Pr(C|B_2). We have the following conditional probabilities:
P(B_1|A) = .9 \quad P(B_1|\neg A) = 0
\quad P(\neg B|A) = .1 \quad P(\neg B|\neg A) = 0
P(B_2|A) = 0 \quad P(B_2|\neg A) = 1
P(C|B_1) = .9 \quad P(C|B_2) = .9 \quad P(C|\neg B) = 0
P(D|C) = .9 \quad P(D|\neg C) = 0
P(E|D) = .9 \quad P(E|\neg D) = 0
\quad \ldots
P(Z|Y) = .9 \quad P(Z|\neg Y) = 0

Assume that a conditional probability of .9 is sufficient for evidence to let us know a conclusion by inference. Assume also that the first member of each partition above is true, so that it can come to be known in this way. In this scenario, then, if A is our original evidence, it enables us to know B_1. B_1 enables us to know C, and C enables us to know D. However, while \( P(B_1|A) = .9, \) \( P(Z|A) = (.9)^{26} \approx .065. \) By extending the chain further downwards, we can let A allow you to know, through a series of inferences, conclusions arbitrarily improbable on A.

That is not all. In the above case, A confirms B_1, and B_1 confirms C relative to A, because \( P(B_1|A) = .9 > P(B_1|\neg A) = 0 \) and \( P(C|B_1\&A) = .9 > P(C|\neg B_1\&A) = P(C|\neg B) = 0. \) But A does not confirm C: the case is a counterexample to the transitivity of confirmation. In fact, A \textit{disconfirms} C, for \( P(C|A) = .81, \) whereas \( P(C|\neg A) = .9. \) (A also disconfirms D, \ldots, and Z, as the reader can check.) As such, learning A makes C \textit{less} probable than it would have been for you had you not learned A. And yet, by inferring B_1
from A and C from B₁, you can come to know C. So A allows you to know, through a series of inferences, a conclusion that it disconfirms.⁴⁷

There is no obvious way for the anti-skeptical Quasi-Infallibilist to rule out the possibility of this kind of case. As above, we can stipulate that the conclusion of your chain of inferences is safe, and that each step meets any criteria that we care to put on ampliative knowledge-extending inferences. If a conditional probability of .9 is not high enough, we can make it arbitrarily high. We can add in appropriate explanatory connections between the premise and the conclusion in each case. Another plausible condition is that E cannot enable you to come to know H unless E confirms H, and as we saw, that condition is already implied for each step by the description of the case.

I have shown that anti-skeptical Infallibilism and Quasi-Infallibilism allow for problematic evidential “chain reactions,” in which, by drawing a series of ampliative inferences and thus expanding one’s knowledge base, and without having any new experiences or making new observations, one can come to know propositions that were incredibly unlikely on one’s initial evidence, and even disconfirmed by that evidence. This is an absurd result. We should thus reject the claim that we can expand our knowledge through ampliative inferences, if Infallibilism or Quasi-Infallibilism is true.

⁴⁷ If we were dealing with more “internal” norms of inference, where one is permitted to infer a conclusion with probability 1 provided that it exceeds some conditional probability threshold on one’s evidence and one has sufficiently strong evidence for an appropriate explanatory connection, then we could devise a case like this one in which one can either infer B from A, and C from B, or infer ¬C from A directly. The proposed norm would thus allow for inferences to inconsistent conclusions (compare Climenhaga forthcoming-a on IBE). However, since knowledge is factive, you could not come to know ¬C by inferring it directly in the imagined scenario.
5.4.3 Explanatory circularity

The second argument I gave at the beginning of section 5.1 went as follows. If Infallibilism is true, Mentalism is true – knowledge is a mental state. However, unobserved facts could not be causally or explanatorily related to one’s state of mind in the right way for one to bear this kind of mental relation towards them. Since Mentalism is a central plank of Williamson’s epistemology, the anti-skeptical Quasi-Infallibilist is in no position to reject it. He must thus reject the second premise of this argument. I will now give an argument for that premise that works equally well against anti-skeptical Infallibilists and anti-skeptical Quasi-Infallibilists.

Suppose that I know that I will go to Paris on vacation next year, but that I have not bought my tickets yet. On the basis of this knowledge, I do research on Paris that I would not have otherwise done. This leads me to win a tidy little bundle of cash at my local trivia night, when a number of questions about Paris are asked. A month later, I check my bank balance. Noting that it is comfortably high, I go ahead and buy my tickets, and next year I take my trip as planned.

This scenario describes an impossibility. For in this scenario, all of the following obtain:

(viii) My going to Paris partially explains my knowledge that I will go to Paris.
(ix) My knowledge that I will go to Paris partially explains my winning at trivia.
(x) My winning at trivia partially explains my bank balance being comfortably high.
(xi) My bank balance being comfortably high partially explains my buying my tickets.
(xii) My buying my flight tickets partially explains my going to Paris.
In general, partial explanation is not transitive for the same reason confirmation is not transitive: partial explanation implies probability-raising, and probability-raising is not transitive. However, that A partially explains B also implies that A is *explanatorily prior* to B. And explanatory priority *is* transitive: if A is prior to B and B is prior to C, then A is prior to C. Hence, it follows from (i)-(v) that my going to Paris is prior to my knowledge that I will go to Paris, and that my knowledge that I will go to Paris is prior to my going to Paris. This is an explanatory circle, which is impossible.

The anti-skeptical (Quasi-)Infallibilist could deny that I know that I will go to Paris in this case. But this seems like a fairly ordinary case of knowledge of the future, if such there be. My belief that I will go is safe – I was not actually in any serious danger of not having the money to go. (iii) is a case of overdetermination – my trivia winnings, together with my seven-figure salary as a philosophy teacher, overdetermined that I would have the money to buy my tickets.

The obvious conditions to deny the possibility of are (i) and (ii). The skeptical (Quasi-)Infallibilist will deny the possibility of (i) on the grounds that knowledge of the future is impossible. The Fallibilist, on the other hand, will deny (ii), on the grounds that it is one’s beliefs (perhaps along with other internal components), and not one’s knowledge, that explain one’s actions. But, assuming that this is an ordinary case of knowledge of the future, Williamson is committed to the possibility of both (i) and (ii). That knowledge depends on external facts and that it partially explains action are both defended at length in chapter 2 of *Knowledge and its Limits* (see also Nagel 2013).\(^{38}\)

\(^{38}\) In this chapter Williamson assumes that internalists cannot accept that knowledge is a mental state. But internalist Infallibilists, as we have seen, can and should accept this: it is only internalist Fallibilists who cannot.
Since he thinks that knowledge is factive, Williamson agrees that knowledge that P depends on the truth of P. He only disagrees with traditional Fallibilists about the implications of this thesis, holding that it does not imply that knowledge can be factorized into truth and other components or that knowledge is not a mental state. According to Williamson (2014: 5), “the state of the external environment constitutively constrains one’s epistemic state.” So Williamson is committed to (i). As for (ii), we saw above that one of the central planks of Williamson’s epistemology is that knowledge is an ineliminable aspect of full explanations of actions.

That knowledge sometimes explains action does not imply that it always does. But a condition like (ii) ought to at least be possible, if my knowledge that I will go to Paris is the same kind of mental state as knowledge in general. It would be unacceptably ad hoc to hold that knowledge in general plays an ineliminable causal role in action, but that knowledge of the future does not. It may be odd to think that I would do further research on Paris because I know (and not merely believe) that I am going to Paris, but this is just because knowledge of the future is actually impossible. If I could (somehow) know that I am going to Paris, then I really might act as described in (ii).

It follows that, if knowledge of the future is possible and knowledge is a mental state, then explanatory circles are possible. However, explanatory circles are not possible. So, assuming that knowledge is a mental state, knowledge of the future is not possible. Future facts cannot stand in the right kind of explanatory relationship to our current state
of mind to allow for knowledge of them, for if they could, this would allow for explanatory circles.\(^{39}\)

The unobserved includes much more than just the future. And for facts not about the future, there is presumably no possibility of one’s actions being explanatorily prior to those facts. So no kind of explanatory circularity can arise from my, say, knowing that my car is still where I parked it this morning.

However, if knowledge of future facts is impossible, it is plausible that knowledge of many other kinds of unobserved facts is likewise impossible. This is because these other kinds of facts could only be believed on the same kinds of basis as future facts. For example, if I believe that my car (which I parked this morning) has not been stolen earlier today, my belief (if it is rational) must be based on the same kinds of grounds as a belief that my car will not be stolen later today – e.g., my knowledge that my car has never been stolen, and that car thefts in my area are rare. If I cannot know that my car will not be stolen later today (because my knowledge might lead me to act in some way that could make a difference to whether it is stolen, e.g., my leaving valuables in the trunk which I end up needing later in the day, so that I go back to the car earlier than I would have otherwise that day), then it does not seem that I can know that it has not been stolen \textit{earlier} today, when my belief is based on the exact same kind of grounds.

Other kinds of unobserved facts might be believed on a sufficiently different basis from this that this argument does not show that they cannot be known. In particular, we

\(^{39}\)This style of argument may also work against the form of externalism about mental content that Williamson uses to motivate his externalism about knowing as a mental state: for as Hawthorne and Lasonen-Aarnio (2009: 99) put it, “[E]xternalism about the contents of thoughts extends outside a subject’s skin not only to the environment, but also to the future.” I will not pursue this possibility here, though.
can distinguish upwards inference (abduction), in which one infers from some proposition to a potential explanation of that proposition, from downwards inference (prediction), in which one infers from some proposition to a potential effect of that proposition (compare Swinburne 2001: chapter 4). On this way of thinking, our (rational) beliefs about the future are all based on downward inference, from appropriate higher-level hypotheses. So other beliefs based on downwards inference would likewise be ruled out as candidates for knowledge. But propositions inferred by upwards inference, such as scientific theories that explain experimental data, could still be known, for all this argument shows. The truth of a scientific theory is causally prior to one’s state of mind, because it is causally prior to the observed data which it explains. So the explanatory circularity argument only clearly rules out predictive knowledge, not abductive knowledge.

Even so, most of the unobserved is not causally prior to our current state of mind, and so this still rules out most knowledge of the unobserved, a result anti-skeptics will not be happy with. Moreover, even though this argument allows that, e.g., the truth of a scientific theory might be causally related to one’s state of mind in the right way for one to know that theory, it might be independently implausible that this could be so. Not just any causal priority of a fact to one’s state of mind will let one know that fact. As we saw in section 3.1.7, causal theories of knowledge have a hard time spelling out what it is for the causation of one’s belief by the facts to be “appropriate.” I suggested there that one way of spelling out appropriate causation is as direct causation, so that there is no possibility of some intervening factor entering in. Depending on how one understands direct causation, this will either imply internalist (Quasi-)Infallibilism or a form of
externalist (Quasi-)Infallibilism, with the externalist claiming that perceptual knowledge is direct and not, e.g., mediated by internal representations. It is less plausible that testimonial knowledge is direct in this way. It is much less plausible that abductive knowledge (which is, after all, mediated by premises) is direct in this way. So this construal of ‘appropriate’ would give us an argument against both testimonial and abductive knowledge.

5.4.4 Conclusion

In this section I have given three arguments against (quasi-)infallible knowledge of the unobserved. First, even the most secure beliefs about unobserved facts appear to fail various tests for certainty: it would not be rational to bet everything on them, they are defeasible, and we can always find other beliefs which are more probable than them. Second, allowing for facts known though ampliative inference to be part of our evidence would allow for absurd evidential chain reactions. Through a series of inferences, I could come to know that the atomic bomb will not be used for the next 10,000 years, even though this proposition was incredibly improbable on my original evidence. Third, allowing for knowledge of the future would allow for problematic kinds of explanatory circularity; and if we do not have knowledge of the future, it is unlikely that we have knowledge of other facts not causally prior to our state of mind.

The first of these arguments – the argument from failing the tests for certainty – applies to most externalist knowledge. The second argument – the argument from evidential chain reactions – does not apply to perceptual, memorial, or testimonial knowledge, because (according to the externalist Infallibilist) such knowledge is not gained through ampliative inference. The third argument – the argument from
explanatory circularity – applies even more narrowly. Above I distinguished upwards inference, or abduction, from downwards inference, or prediction (where this is understood to encompass inference to any facts explanatorily downstream from our evidence, even if these facts are not about the future). The argument from explanatory circularity only rules out predictive knowledge.

The costs of allowing for (quasi-)infallible knowledge of various kinds are summed up in Table 5.1.

### TABLE 5.1
COMPARISON OF TYPES OF (QUASI-)INFALLIBLE KNOWLEDGE

<table>
<thead>
<tr>
<th></th>
<th>Predictive Knowledge</th>
<th>Abductive Knowledge</th>
<th>Perceptual, Memorial, and Testimonial Knowledge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Obviously Passes Tests for Certainty/Probability 1</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Avoids Evidential Chain Reactions</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Avoids Explanatory Circularity</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The possibility of evidential chain reactions and explanatory circularity are sufficiently damning results as to rule out the possibility of (quasi-)infallible predictive or abductive knowledge. We can safely conclude that, if (Quasi-)Infallibilism is true, we do not have knowledge through more than the five basic sources, and what we can deductively infer from that.

As for the tests for certainty, while I am inclined to think that these show that we do not have perceptual or long-term memorial knowledge, much less testimonial
knowledge, this verdict is more contestable. These tests can be used to attack internalist Infallibilist knowledge too, and the externalist Infallibilist can borrow some of the internalist Infallibilist replies to these attacks. As such, I leave open the possibility that countervailing considerations, such as trying to avoid too much skepticism, might lead us to reasonably prefer an externalist form of Infallibilism (or Quasi-Infallibilism) that allows for these kinds of knowledge.

5.5 Why Quasi-Infallibilists Should Drop the ‘Quasi’

Anti-skeptical Quasi-Infallibilists try to have the best of both worlds: by letting knowledge serve as evidence, they seek to procure most of the advantages of Infallibilism I laid out in chapter 4. At the same time, by letting fallible knowledge have probability 1, they seek to avoid skepticism, and so retain a common-sense view of how widely our knowledge extends. However, I argued in the last two sections for a parity thesis: neither Infallibilists nor Quasi-Infallibilists are committed to denying all knowledge, and both are committed to denying knowledge of the unobserved. Inasmuch as Quasi-Infallibilists are motivated to reject Infallibilism because they think that their theory of knowledge is less committed to skepticism, my arguments suggest that Quasi-Infallibilists do not have a good reason to not go all the way and embrace Infallibilism.

This conclusion is bolstered by the fact that, as we saw in the discussion of tests for certainty in the last section, the relation of probability 1 and certainty posited by Quasi-Infallibilists is obscure. Just how does epistemic probability 1 differ from certainty, if it is not sufficient for it (even assuming that the proposition is known, and that it does not have probability 1 in virtue of some trick with infinities)? The lack of a
clear answer to this question is an important respect in which Quasi-Infallibilism is inferior to Infallibilism.

Quasi-Infallibilists can accept enjoy many of the intuitive claims used to support Infallibilism in chapter 4. A central plank of Quasi-Infallibilism is that knowledge is evidence, and assigning knowledge probability 1 lets Quasi-Infallibilists accept that knowledge is a basis for epistemic modal claims, an inquiry stopper, a basis for action, and closed under consciously recognized entailment. This lets Quasi-Infallibilists accept the five intuitive roles of knowledge discussed in chapter 4. (Anti-skeptical Quasi-Infallibilists may have a hard time accepting that knowledge plays these roles inasmuch as they have implausible consequences if our evidence extends as widely as Quasi-Infallibilists claim. But skeptical Quasi-Infallibilists can accept these claims as easily as skeptical Infallibilists.) In addition, evidence is clearly valuable in a way non-evidence is not, and so the E = K thesis lets Quasi-Infallibilists affirm that knowledge is uniquely valuable.

The relation of Quasi-Infallibilism to two of the other intuitive claims is more complicated. Having a proposition as evidence seems qualitatively different from not having it as evidence, but Quasi-Infallibilists face a hard problem in explaining how our mental relation to P can be qualitatively different from our mental relation to Q in this way, if P is known but Q is almost-but-not-quite-known. This is because Williamson holds that knowledge requires safe belief, but not maximally safe belief. In addition, his explication of safety employs the vague terms ‘similar bases’ and ‘similar beliefs’ (see section 5.3.2 above). As such, it is not clear how barely exceeding the threshold of safety makes one’s belief qualitatively different from being just below the threshold of safety.
As for the claim that Gettiered subjects do not know, whether Quasi-Infallibilism entails this depends on whether it is possible to set up a Gettier case if we hold that knowledge requires probability 1 but not certainty. If our knowledge extends as far as anti-skeptical Quasi-Infallibilists like Williamson maintain, then knowledge in Gettier cases is only ruled out by fiat, inasmuch as this version of Quasi-Infallibilism does not give us a characterization of Gettier cases independent of our concept of knowledge. However, if, as I have suggested, skeptical Quasi-Infallibilism is the only tenable form of Quasi-Infallibilism, then Gettier cases will be harder to come up with, if not impossible, and so Quasi-Infallibilism will face no more of a problem there than Infallibilism.40

As for the “having it all” argument: because Williamson holds that probability 1 is not sufficient for Maximal Safety, and that quasi-infallible knowledge can be defeated, he is committed to pulling apart at least some of the canonical necessary conditions on knowledge discussed in chapter 3. So Quasi-Infallibilists, unlike Infallibilists, cannot accept all these conditions as equivalent, and so they have a harder time explaining why all major theories of knowledge have some intuitive appeal.

Quasi-Infallibilism may be a better theory of knowledge than traditional Fallibilism. But its central disagreement with Infallibilism – that knowledge does not require certainty – is motivated by a separation of probability 1 from certainty that it is difficult to make sense of. Moreover, it may not enjoy all the advantages that Infallibilism does, and it enjoys few or no clear advantages over Infallibilism. In particular, it does not

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40 The possibility of deviant causal chains of the sort mentioned in section 3.1.7, which are similar to Gettier cases, will threaten externalist theories that allow for knowledge of, say, facts about the past stored in long-term memory, or learned through testimony. However, such cases pose an equal threat to externalist varieties of Infallibilism and Quasi-Infallibilism. So they do not give us reason to prefer Infallibilism over Quasi-Infallibilism; rather, they give us reason to prefer internalist varieties of these theories over externalist varieties.
enable us to avoid skepticism about the unobserved. Quasi-Infallibilists might as well go the whole way and embrace Infallibilism. If they insist on being anti-skeptics, they can follow Mill, Moore, and Grice and claim that we can know unobserved facts with certainty. It’s no less crazy than what they say already.

5.6 Conclusion

Still, it is crazy – on that Williamson and I are in agreement. The arguments of this chapter show that it is not tenable to combine Infallibilism with anti-skepticism about facts only knowable through ampliative inference, such as facts about parts of the world neither we nor those who have testified to us have observed, empirical generalizations, and scientific theories. While Infallibilists need not be radical skeptics, they do need to be moderate skeptics, holding that we have much less knowledge than most contemporary epistemologists think we do. In the next chapter we will consider whether this result is acceptable or not.
CHAPTER 6
BITING THE SKEPTICAL BULLET

In chapter 2, I presented a theory of knowledge according to which

(Infallibilism) S knows that P if and only if P is certain for S.

In chapters 3-4, I advanced a cumulative case argument for Infallibilism based on its capacity to unify differing theories of knowledge, avoid or solve problems that afflict most versions of Fallibilism, and allow knowledge to play intuitive theoretical roles that Fallibilism cannot allow it to play.

Given that Infallibilism has so many advantages over Fallibilism, why are contemporary epistemologists so reluctant to accept it? The main reason is that they hold that it is an unacceptably skeptical theory of knowledge – it implies that we have too little knowledge. We saw in chapter 5 that Williamson and other Quasi-Infallibilists – who hold that knowledge implies probability 1, but not certainty – are moved to reject Infallibilism for this reason. I argued there that, contra these philosophers’ remonstrations, Infallibilists need not be radical skeptics: internalist Infallibilists can allow that we have knowledge through intuition and introspection, and externalist Infallibilists can allow that we have knowledge through perception (and perhaps testimony) as well. Moreover, Quasi-Infallibilists are not better off than robust Infallibilists as far as skepticism goes, for neither group can reasonably allow that we
have knowledge of unobserved facts, such as facts about the future. Both Infallibilists and Quasi-Infallibilists must be *moderate* skeptics.

How bad a consequence is this? This is the main question I will address in this chapter. In order to make my task as difficult as possible, I will assume that, if Infallibilism is true, internalist Infallibilism is true. Because internalist Infallibilism is a more skeptical theory than externalist Infallibilism, the intuitive and linguistic data considered in this chapter are less probable on internalist Infallibilism than externalist Infallibilism. So the degree to which these data disconfirm Infallibilism as a whole will be less than the degree to which they disconfirm internalist Infallibilism in particular. As such, if I can show that they only disconfirm internalist Infallibilism to a moderate degree — that the internalist Infallibilist can offer plausible error theories for these data that make them not-too-unlikely — then I will have shown, *a fortiori*, that these data only disconfirm Infallibilism as a whole to (at most) a moderate degree.

This chapter proceeds as follows. In section 6.1, I present two error theories for why we attribute knowledge more widely than it actually extends. In section 6.2, I consider five other intuitive facts which are in conflict with Infallibilism, mostly because of Infallibilism’s having skeptical implications in other domains – e.g., its implying that we frequently violate the knowledge norm of assertion. In each case, I argue that the explanations in section 6.1 for why we often make false knowledge attributions can be extended equally well to explain away our intuitions about these other domains.

The broader dialectical role of these error theories will become clearer in the next chapter, where I weigh the evidences against Infallibilism addressed in this chapter against the evidences for Infallibilism presented in chapters 3-4. For now it will suffice to
say that I am not claiming that my error theories are *obviously* true, and I certainly am not claiming that, in light of them, Infallibilism does a *better job* than Fallibilist theories of explaining our attributions and intuitions of knowledge in particular cases. In other words, the dialectical goal of this chapter is defensive, and moderately so: I am granting that the data presented in this chapter disconfirm Infallibilism, and only arguing that they do not do so to an insurmountable degree, because there are reasonable explanations that the Infallibilist can give of these data which are not too initially implausible.

6.1 Explaining Ordinary Knowledge Attributions

Let us grant that skeptical Infallibilism implies that most of the time, when we say or think that we know some proposition, we are wrong. To the extent that anti-skeptical theories predict the linguistic data about knowledge-attributions better than skeptical Infallibilism, they are confirmed relative to Infallibilism by that data. The same goes for putative intuitive data to the effect that it seems to us that we know, say, that Trump is president (despite the possibility of his having been assassinated within the last hour). To the extent that anti-skeptical theories predict this intuitive data better than skeptical Infallibilism, they are confirmed relative to Infallibilism by it.

In this section I will consider two strategies the Infallibilist has for explaining ordinary attributions and intuitions of knowledge. As noted above, I will assume that, if Infallibilism is true, internalist Infallibilism is true: that is, we can only know those facts which we can intuit or introspect. This leaves the skeptical Infallibilist with a great deal of apparent knowledge to explain away, for we very often take ourselves and others to know facts on the basis of perception and testimony. I will also assume that we are, to
some degree, tacitly aware of the truth of Infallibilism, so that the reason we over-attribute knowledge is not simply because we do not realize that it requires certainty.¹

6.1.1 Error about what is certain

Bonjour (2010: 71-72) suggests the following error theory for why we wrongly attribute knowledge of propositions which are not really certain: we wrongly think that they are certain. He is worth quoting at length:

[A]n ordinary person may reasonably regard the justification for a belief as conclusive even where deeper philosophical insight shows, or at least seems to show, that it is not. Consider, for example, a case where an ordinary person seems to himself or herself to be perceiving a standard sort of “medium-sized” physical object at close range and under good conditions, and believes on this basis that such an object is there. Even if the person’s justification in such a case is not in fact conclusive (because of subtle philosophical objections having to do with, for example, Cartesian demons or the possibility of being a brain-in-a-vat), it is easy to see how it might nonetheless seem to him or her to be conclusive, leading to a self-attribution of knowledge (and to attributions of knowledge to others whose situation is similar).

One might worry that Bonjour is still over-intellectualizing ordinary cognition here. For there is a difference between being certain of P and thinking that P is certain: while playing chess, I might be completely confident that I am playing chess, without my having any opinions at all about whether it is certain that I am playing chess. Hence, even if ordinary people are completely confident in many propositions, those propositions may not seem certain to them. It’s not that they seem uncertain to them; rather, they may just not have any intuitions about their certainty or uncertainty.²

¹ An exception is philosophers who have theoretical commitments to Fallibilist theories of knowledge. But I suspect that even such philosophers are not primarily guided by these theoretical commitments in their ordinary knowledge-attributions. (See section 6.1.1 below.)

² My thanks to Blake Roeber here.
If this is right, this would seem to make it easier for the Infallibilist to explain ordinary knowledge attributions. For in this case, when ordinary folk wrongly attribute knowledge of some uncertain proposition, they do not realize that proposition to be uncertain, since they just haven’t thought about whether it is certain or not. But then it is not obviously surprising, given Infallibilism, that they would attribute knowledge, for they are not in a position to recognize that that proposition cannot be known.

Against this, one might argue that there remain other factors which people are aware of that should make a difference to whether they ascribe knowledge. For example, one might argue that, if people are aware of their personal degree of confidence that P, then, if Infallibilism is true, they should only claim to know that P when they take themselves to be 100% confident that P. The idea would be that being psychologically certain of a proposition rationally commits one to its being epistemically certain, in the same way that being 50% confident in a proposition commits one to regarding a bet on that proposition at even odds as fair.

Let us suppose, with the objector, that if Infallibilism is true, people would only self-ascribe knowledge when they take themselves to be completely confident. I will now argue that people often are completely confident in propositions that we philosophers would identify as uncertain. Then I will argue that BonJour is at least right that to the extent that people do reflect on the epistemic status of their beliefs, they often take such confidence to be warranted, and hold that the proposition believed really is certain. So, people are often mistaken about what is certain, whether explicitly or implicitly.

First, it is plausible that people will have degree of belief 1 in many uncertain propositions because human beings are computationally limited. In most contexts, it is
neither feasible nor practical for us to mentally represent the difference between a proposition’s being, say, 98.7% probable and its being 100% probable. Greco (2015) uses this consideration to argue that outright belief implies credence 1. He approvingly quotes Ross and Schroeder (2014: 30-31), who say, “we need an attitude of outright belief or of settling on the truth of propositions, so as to limit what we consider in our reasoning to possibilities consistent with what we have settled on.” Greco observes, however, that if our probabilistic reasoning is limited in this way – if we spread out our credences only among those “possibilities consistent with what we have settled on” – then it trivially follows that we will have credence 1 in what we have settled on, i.e., credence 1 in what we believe (Greco 2015: 183-84). Whether or not Greco is right that we assign credence 1 to everything we believe, it is plausible that the same facts about our computational limitations that epistemologists like Ross and Schroeder think explain why we have beliefs also make likely that we will assign credence 1 to quite a lot, because assigning all the actual possibilities non-0 credence would be computationally unfeasible.³

³ Clarke (2013) – who, like Greco, argues that belief implies credence 1 – questions the association of credence 1 and psychological certainty. Although Clarke’s official statement of his view is that belief just is credence 1, I think that it is fruitful to see him and Greco as suggesting that belief, credence, and psychological certainty are related in the same way that Williamson sees knowledge, probability, and epistemic certainty as related. On this construal of Clarke and Greco, belief is not reducible to credence anymore than, for Williamson, knowledge is reducible to probability; rather, belief is a sui generis state which implies credence 1. Psychological certainty is then something above and beyond belief, just as epistemic certainty is, for Williamson, something above and beyond knowledge.

I argued in the last chapter that dissociating probability 1 from epistemic certainty is ill-motivated because probability 1 is just as hard to attain as certainty: arguments that not very much is certain are equally good (or bad) arguments that not very much has probability 1. I think the same is true with respect to Clarke’s dissociation of credence 1 and psychological certainty. For example, Clarke claims that certainty is harder to undermine by evidence than credence 1. However, I argued in chapter 5 that probability 1 is sufficient to make it impossible for a proposition to be indefeasible by further evidence. Given that probability 1 is not more susceptible to being undermined by evidence than epistemic certainty (since neither can be undermined by evidence), it is not clear why credence 1 should be more susceptible to being undermined by evidence than psychological certainty, as Clarke suggests it is.
Second, empirical psychological research supports the claim that people are often completely confident in propositions which are actually uncertain for them. In general, psychologists have found that people are overconfident in a wide variety of settings. For example, Kahneman and Tversky (1979) had subjects fill in the prompt “I feel 98 percent certain that the air distance between New Delhi and Beijing is more than ______ miles but less than ______ miles,” and their guesses were correct only about 70% of the time. This general pattern of overconfidence makes it more likely that people will be overconfident in this particular case, assigning a credence of 1 to propositions with a probability lower than 1.

The literature on overconfidence does not merely indirectly suggest that people will be overconfident in this way. Some studies actually involve people claiming to be 100% confident in propositions that are obviously uncertain. In one study, Vallone et al. (1990) asked college students to answer yes and no to various questions about themselves and their roommates over the next year – e.g., will they drop a course, declare a major, break up with their partner, etc. – and assign a confidence level between 50% and 100% to their guesses. In total, the students made 13,975 total predictions, and reported 100% confidence in 2,449 of them, or about 18% (Vallone et al. 1990: 586). The propositions

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4 For overviews of the psychological research on overconfidence, see Griffin and Tversky 1992 and Myers 2008: 86-88.

5 Many studies of overconfidence require subjects to pick from a predetermined list of confidence levels, for example breaking them down by 5% or 10% intervals. While many subjects report 100% confidence in these studies, this does not imply that they actually think themselves 100% confident even if they are trying to be truthful – they might, in fact, think themselves 98% confident, but that was not an option. (These studies do tend to find that subjects who report 100% confidence are overconfident on any possible confidence level they could have rounded up from. For example, Adams and Adams [1960], who asked subjects to report their confidence that they had spelled a word correctly using a multiple of 5%, found that those who said they were 100% confident were only correct about 80% of the time.) The Vallone et al. study discussed in the rest of this paragraph allowed subjects to write down any confidence level between 50% and 100%.
predicted were all ones which almost all epistemologists would immediately identify as uncertain. Moreover, about 16% of the predictions turned out to be incorrect, suggesting that, on average, they were only about 84% probable on the students’ evidences.\(^6\)

One might suggest that, even if people are often completely confident in obviously uncertain propositions, if they were to reflect at all, even just to the degree required for self-ascribing knowledge, they would realize that these propositions are uncertain.\(^7\) I think this suggestion is implausible, because filling out a psychological questionnaire in the above kind of setting already involves this minimal level of reflection. In this kind of a setting, even non-philosophers can and do reflect on how probable propositions are. If they still report 100% confidence, then presumably these propositions seem certain to them upon this reflection.

Moreover, even if people were to reflect more carefully, BonJour (2010: 72) observes that very often the reasons to think that a proposition is uncertain “involve philosophical considerations, especially skeptical possibilities of various sorts, which ordinary people cannot be assumed to be familiar with (and whose obviousness is easily exaggerated by philosophers).” I have already essentially suggested as much with respect to propositions believed on the basis of memory, perception, and testimony. In chapter 5, I put forward externalist Infallibilism as one potentially viable version of skeptical

\(^6\) I am not assuming any kind of crude frequentism here, only that the frequency with which one is correct in guessing \(P\) tends to correlate with the probability of \(P\) on one’s evidence, so that, were we called upon to estimate how probable a proposition which one of the students in the study assigned 100% confidence to was on that student’s evidence, and not given any further information other than that these propositions tend to be true 84% of the time, we should estimate that it is 84% probable.

\(^7\) For example, Hannon (2014: 1134) thinks that BonJour’s error theory is implausible because “people often come to terms with their own fallibility. We all recognize that a well-supported belief may yet turn out to be false and that we cannot insulate ourselves from all possibilities of error.”
Infallibilism, according to which we know with certainty many propositions believed on these bases. While in this chapter I am, in order to make my task as hard as possible, assuming that externalist Infallibilism is false, externalist Infallibilism is not obviously false, even upon philosophical reflection. As such, it is especially plausible that propositions that the externalist Infallibilist thinks can be known – propositions believed on the basis of memory, perception, and testimony – will seem to many people to be certain, even though they are not.  

Many testimony-based beliefs concern propositions that neither the testifier nor anyone else earlier in the testimonial chain knows by direct observation. But these propositions may often also wrongly seem certain inasmuch as we fail to reflect on the possibility that the person who testified to us could have been mistaken. If I believe that the dinosaurs were killed by a meteor because I was told this in science class, I may not consider that this proposition cannot have been directly observed by either my teacher or anyone earlier in the testimonial chain, and must have originally been judged to be true on the basis of an ampliative inference. I may thus treat it the same way I would treat the proposition that my teacher was sick last week, when she tells me this during class.

Likewise, some beliefs about unobserved facts in the present may wrongly seem certain inasmuch as we fail to consider that things may have changed since we last observed them. While I may grant that my car could have been stolen as soon as someone raises the possibility, if prior to their doing so I had not considered this possibility, it may

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8 Support for this claim comes from the history of philosophy. In his study of the history of philosophical analyses of knowledge, Dutant (2015) argues that many epistemologists throughout history prior to the 20th century – people who presumably had reflected quite extensively on the extent of their knowledge – endorsed both infallibilism and anti-skepticism. For examples, see the earlier discussion of anti-skeptical Infallibilism in section 5.1.3.
seem certain to me that my car is in the garage. For it is easy to conflate “I left my car in
the garage” with “my car is in the garage right now.” The former appears certain (prior to
philosophical reflection on Cartesian demon scenarios) on the basis of memory, and it is
thus easy for the latter to likewise appear certain.\(^9\)

As we move to propositions believed on the basis of uncertain inference, it
becomes less plausible that these propositions will seem certain to us. But in some cases
they still may. For example, I may infer that my car was stolen last night on the basis of
considerations that make this proposition seem quite obvious (my car is gone, the door to
my garage is broken, there was a sound as of someone breaking into my garage last night,
etc.), and in retaining my belief that my car was stolen either forget these considerations
or at least not consciously consider them when I later consider the proposition that my car
was stolen. In such a case I may treat the proposition that my car was stolen the way I
would treat a proposition I had directly observed and then stored in memory, even though
I never directly observed my car being stolen. It may thus seem certain to me when I
consider it.

We should not assume that it is typically pre-theoretically obvious that various
common-sense beliefs about the world might be false, simply because we philosophers
spend a good deal of our careers thinking about skeptical possibilities. Such careful
reflection is rare, and would be practically debilitating for most people if constantly
engaged in. I have argued that pretheoretically, many propositions which people believe

\(^9\) Compare Nagel (2011: 15), who writes that it is only when we explicitly reflect on a memorially-
based belief that “memory-based judgments are recognized as based on past learning, and what is recalled
is dated with more precision…. Once brought into focus in this fashion, the past-tense character of what is
recalled is evidently problematic as a basis for responding to questions about what has happened very
recently.”
seem to them to be certain, or at least would if they were to formulate the question of whether they were certain. It is thus not surprising that people frequently claim knowledge of them.

Even philosophers who have reflected on skeptical scenarios and consciously acknowledged their possibility will often fall back into ordinary patterns of thought and language outside of the philosophy classroom. When we are not doing epistemology, we philosophers think and talk very much like everyone else. As Hume taught us in the *Treatise*, human nature keeps us from taking skeptical arguments seriously for long: “‘Tis happy, therefore, that nature breaks the force of all skeptical arguments in time, and keeps them from having any considerable influence on the understanding” (1738/2000: I. iv.1). If our natural conception of the world really is one on which facts of the above sorts seem certain, then, when we are not reflecting on skeptical possibilities, it will seem to us philosophers too as if these facts are certain. As such, in many contexts we too will be liable to think and say that we know much more than we do.

6.1.2 Loose talk

A second error theory, suggested by Davis (2007), Fumerton (2010: 251), and BonJour (2010: 73), among others, is that we attribute knowledge in cases where we recognize that is not present because we are engaging in loose talk. Just as we may say

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10 Hawthorne (2014: 114-19) considers two varieties of “skeptical infallibilism.” The first endorses an “error theory” about false knowledge attributions, on which we wrongly think that we know when we say that we do. The second adopts an “exaggeration” theory about false knowledge attributions, on which we recognize that we do not know in cases where we falsely say that we do, but are engaging in exaggeration. (He also considers a third theory that is not importantly different from the second for our purposes here.) Neither of these are quite the same as the error theories endorsed here. Hawthorne appears to think that we can only wrongly think that we know if we are blind to the fact that knowledge requires very high standards. But the first error theory I presented is rather that we are often mistaken about the fact that those high standards are not met. (In footnote 33 on p. 127, Hawthorne does briefly consider something
“it’s 3:00” when in fact it’s 3:02, and the difference between 3:00 and 3:02 is not important for conversational purposes, we may say “I know that the bank is open” when we do not in fact know that the bank is open, if we come close enough to knowing for conversational purposes.

Davis gives an example of such loose use from the 2008 Beijing games:

China has no chance of knocking the United States off the top of the medals table at the 2008 Beijing Games or beyond, a top Chinese official said Thursday.

“It is impossible,” Cui Dalin, assistant sports minister and vice president of China’s Olympic Committee, said. “Elite sports in the U.S. are very strong.” (Stephen Wilson AP Sports, 11/10/05)

Davis (2007: 407-08) writes of this example:

Dalin surely recognized that there are a number of possible ways in which the Chinese could win more medals, some more likely than others. We would have missed the point, however, if we pedantically insisted that there is a non-zero probability that all the U.S. contestants would have heart attacks, or be disqualified on drug charges. The point was that the chances of such an outcome are negligible: for all practical purposes zero. The possibility of China’s winning more medals is too remote to be worth considering. What Dalin said was strictly speaking false, but what he meant may well be true.

Loose talk of this sort provides an example of implicature, the phenomenon of meaning or implying one thing by saying something else. For example, suppose that Alan

like this possibility, noting psychological data on overconfidence similar to that discussed above.) As for exaggeration, it is close to loose talk, but not the same thing. (Consequently, Hawthorne’s objections to this error theory do not undermine the loose talk error theory, as Davis [2007: 426] observes.) I may say “I know he’s going to lose,” when I obviously know no such thing; here I exaggerate but I do not speak loosely (I need not be implicating, for example, that you would be wise to bet that he will lose, so that I may not in fact come close enough to knowing for practical purposes). An additional problem with Hawthorne’s discussion is that he appears to see these varieties of skeptical infallibilism as mutually exclusive. But the error theories I endorse here are compatible with each other: we may in some cases wrongly think that we know, and in other cases recognize that we do not know but speak loosely and say that we do. (Some cases may also be indeterminate between these, inasmuch as upon reflection we would be hard-pressed to say which of these was going on.) We need to recognize this to keep from foisting unreasonable commitments upon the skeptic.
asks Barb if she is going to the party tonight, and Barb says “I have to work.” What Barb has said is that she has to work – this is the literal meaning of her utterance. Her saying this in this context, however, implies that she is not going to the party – so Barb implicates that she is not going to the party.

Whereas Barb implicated that she was not going to the party by saying something true, when we speak loosely, as Dalin did, we say something false, but implicate something true. Loose talk shows that what is said need not always be part of what is communicated. Dalin said something that he and his audience knew to be false – namely, that there was no chance that the Chinese would win more medals than the Americans. But he did not communicate this proposition. Instead he communicated the proposition he implicated, namely that there was practically no chance that the Chinese would win more medals.

According to the present error theory, we falsely say “S knows that P” in many contexts because we are communicating the weaker proposition that S comes close enough to knowing that P for conversational purposes. If I say, “I know that the bank is open,” when we both recognize that I do not know this (because, for all I know, they may have changed their hours), I do not communicate that I know the bank is open. Instead, I implicate, and communicate, the weaker claim that I come close enough to knowing that the bank is open for our current purposes.

There are multiple competing theories of implicature, and which theory is correct will make a difference to what explains this implicature – how it is that I manage to implicate the proposition that I come close enough to knowing that the bank is open by saying that I know that bank is open – just as which theory is correct will make a
difference to how it is that Barb manages to implicate that she is not going to the party. One promising theory for explaining the above knowledge-implicature is relevance theory, according to which a cooperative speaker balances the goals of communicating what is necessary for conversational purposes with speaking efficiently. Davis (2014: sec. 11) summarizes Sperber and Wilson’s (1986) relevance theory as follows: “Contribute that which has the maximum ratio of contextual effects to processing cost.” ‘Contextual effects’ here refers, roughly, to the information one communicates that is not already part of the conversational context; and ‘processing cost’ refers to how much work the hearer has to do to process the speaker’s statement.

Speakers often engage in loose talk in order to communicate more efficiently. If I live in Evanston, Illinois, just north of Chicago, and you ask me where I am from, I could say “Chicago,” “Evanston,” or “just north of Chicago.” If the difference between Evanston and Chicago is not important for conversational purposes, I am likely to say “Chicago” because either of the other answers would require more processing on your part (the latter because it is longer, and the former because you will not as readily know where Evanston is). Similarly, according to the present error theory, if the difference between knowing and coming close to knowing is not important for conversational purposes, then I may say that I know that the bank is open, rather than that I come close to knowing that the bank is open, or that it is highly probable on my evidence that the bank is open, because this would be less efficient without communicating any information relevant to our conversational purposes. (There is an analogy here with the first error theory. I suggested there that one reason we may often be 100% confident in propositions that are not 100% probable is because, in most contexts, the accuracy gained
in internally representing a proposition as 98.7% rather than 100% probable would not outweigh the additional computational cost associated with this. Just as such internal accuracy is often not worth the mental inefficiency, similar external accuracy is often not worth the conversational inefficiency.)

What are our conversational purposes in attributing knowledge? In chapter 4 I mentioned several important theoretical roles that knowledge plays. These include providing evidence, allowing us to close inquiry, and guiding action. I endorsed in that chapter principles to the effect that whenever S knows that P, S has P as evidence, can close inquiry regarding P, and act as if P. However, we can also sometimes rationally act as if P or close inquiry regarding P when we do not know that P. If the stakes are low, or further investigation would be very costly, it may be rational to act or close inquiry even though we do not know that P. In such a case we may say that we know that P to signal that we come close enough to knowing for the purposes of action or of closing inquiry.

As for what is in our evidence, we saw in chapter 5 that we cannot allow uncertain propositions to be part of our evidence. Nevertheless, in many cases a proposition may be so highly probable that adding it to our evidence will not make a difference, say, to which hypothesis in a domain of interest is best supported by our evidence. If treating that proposition as evidence simplifies our theoretical reasoning, we may then falsely claim to know it (or possess it as evidence) to indicate that it can be treated as evidence for present conversational purposes.

The above analysis illustrates one possible explanation for our saying that S knows that P in order to implicate that S comes close to knowing that P. This explanation
relied on the relevance theory of implicature. Perhaps this theory is not correct. Even so, the existence and propriety of loose talk in other cases is clear (even if the exact extension of loose talk is controversial), and so even if we lack a satisfactory explanation of the way in which loose talk functions, the similarity between the way we use the word ‘knows’ and the way we vary other terms in loose talk provides evidence that implicature is present in this case as well (cf. Davis 2007: 412). Moreover, even if relevance theory is not correct, it is likely approximately correct, since most theories of implicature posit principles based around similar conversational goals (informativeness, relevance, perspicuity, etc.). It is likely that the correct theory, whatever it is, is will permit a similar explanation for our using ‘knows’ to implicate coming close enough to knowledge for present purposes.

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11 Davis (2014) presents several objections to the relevance theory, along with other leading theories of implicature.

12 As Davis observes, this enables us to respond to DeRose’s worry that error theories of the present type are ad hoc, since they appeal to “special rules for the assertability of ‘knows,’ such as ‘If someone is close enough, for present intents and purposes, to being a knower, don’t say that she doesn’t know, but rather say that she knows’” (DeRose 2002: 176, emphasis his; cf. DeRose 2009: 88). It also allows us to respond to objections based on putative characteristics of implicature that are lacking in this case, since these characteristics will be lacking in other cases of loose talk as well. For example, Grice (1989a: 39), the first philosopher to explicitly identify implicatures as a feature of language, claimed that implicatures are cancellable: “Some passengers died” implicates that not all passengers died, but we can cancel this implication if we say “Some passengers died – indeed, all did.” One might use this claim to object to the present error theory, on the grounds that I cannot cancel the implicature from “I know that the bank is open” to “I come close enough to knowing that the bank is open for current purposes.” Similarly, DeRose (2009: 114) claims that, in general, we can explain the impropriety of a true assertion by appeal to its generating a false implicature, but we cannot explain the propriety of a false assertion by appeal to its generating a true implicature, as the present error theory does. But other cases of loose talk provide counterexamples to both these claims. Saying “there is no bathroom on this floor” implicates “There is no open bathroom on this floor,” and the truth of the latter proposition may make the former proper to assert even if it is false. And because the former proposition entails the latter, one cannot cancel the implicature – one cannot say “There is no bathroom on the floor, but there is an open bathroom on this floor.” Hence, other instances of loose talk give us a principled reason to deny the principles behind these two objections – that one cannot speak properly by implicating a true proposition with a false one and that one can always cancel an implicature.

13 Not all theories of implicature will permit the implicature in question. For example, Grice’s (1975/1989a) maxim of quality requires speakers to not say what they believe to be false, so if this maxim
6.2 Other Supposed Problems for Infallibilism

In the last section I presented two error theories which, if they are true, can substantially explain why we so commonly make false knowledge-attributions, given that Infallibilism is true:

1. We are often mistaken about what is certain.
2. We often say that people know things in order to implicate that they come close enough to knowing for conversational purposes.

In this section I will consider four more phenomena, in addition to widespread knowledge-attributions, which are prima facie difficult for the Infallibilist to account for. I will argue that, in each case, our error theories can explain these phenomena just as well as they can explain widespread knowledge-attributions, so that, if (1) and (2) are true, these phenomena are not surprising. As such, these phenomena give us very little additional evidence against Infallibilism, if we have already taken into account our ordinary practices of attributing knowledge much more widely than the Infallibilist thinks it is actually present.

6.2.1 Assertions

The first phenomenon that is apparently hard for Infallibilists to account for is our ordinary practice of assertion, in particular, the wide range of propositions which we are willing to assert in ordinary contexts. This is because Infallibilism, when combined with the knowledge norm of assertion, implies that most of these assertions are improper.

takes precedence over others, it will not allow me to say that I know that the bank is open when I believe that I do not. However, the general phenomenon of loose talk violates this maxim, and so it is plausible that this maxim, if it is a maxim, does not always take priority over others. Similar remarks would go for other theories of implicature which disallowed the implicature in question.
Unger (1975: ch. 6) and Williamson (2000: ch. 11) argue that knowledge is the *norm of assertion*, in that one ought assert that P only if one knows that P. This norm is constitutive of the activity of assertion. It is part of the nature of assertion that, in asserting that P, one represents oneself as knowing that P (Unger 1975: ch. 6.2). An assertion is thus correct only if one does know that P, just as a chess move is only correct if it follows the rules of chess (Williamson 2000: 241).

The knowledge norm of assertion is logically independent of Infallibilism, and the Infallibilist could deny it, holding instead that assertions are proper only if they are highly probable on our evidence, or some such. However, this would be both philosophically and dialectically problematic, for a central aspect of my case for Infallibilism is that it is the best explanation of the theoretical importance of knowledge and its centrality in our thought and language. It is not plausible that knowledge plays all the roles canvassed in chapter 4 but that it is not the norm of assertion, when the reasons for thinking that it is the norm of assertion are similar to the reasons for thinking that knowledge provides evidence, allows us to close inquiry, and so on. Moreover, these reasons are, I think, plainly good ones. It seems plain to me that in asserting P one does represent oneself as knowing it, and that this explains why it is appropriate to challenge assertions with “How do you know?” At any rate, since accepting that knowledge is the norm of assertion makes my task in this dissertation *more* difficult, I need not justify that acceptance here.

If the knowledge norm of assertion is true, then it follows from (skeptical) Infallibilism that many – most, if internalist Infallibilism is true – of our ordinary assertions are improper (Hawthorne 2004: 133). Indeed, many of my assertions in this very chapter are improper on this account, including the previous sentence: I do not really
know that over 50% of the assertions people make are of facts not known on the basis of introspection or intuition, although my experience strongly suggests that this is so. A great number of ordinary assertions are thus deemed improper by skeptical Infallibilism, including many which the skeptical Infallibilist will himself make in the course of expounding his view – so there is an element of pragmatic contradiction here.

According to (1), we are often mistaken about what is certain. If I mistakenly think that P is certain, or if I am irrationally 100% confident in P, then it is not only not surprising that I would assert that I know that P, it is also not surprising that I would assert that P. So our first error theory carries over to this context equally well.

What about (2)? Can our second error theory explain why we make assertions even when we believe that the asserted proposition is not certain (as is presumably the case, for example, with many of the propositions I assert in this dissertation)? I think that it can. Suppose that I were to try to restate my expositions of and arguments for skeptical Infallibilism in such a way that, according to skeptical Infallibilism, I know all the sentences which I assert. Reflection on examples leads me to conclude that we can usually replace “P” with “It seems to me that P,” “I judge that P,” “P is probable on my evidence,” and the like. If my eyes and memory are not deceiving me, I have phrased all my assertions in this paragraph in this manner. As such, the skeptical Infallibilist could, I think, defend his view without engaging in any even \textit{prima facie} pragmatic contradiction. That said, the sentences in this paragraph all appear to me to be cumbersomely phrased, and I find myself thinking that rephrasing the rest of this dissertation in this manner would be difficult, time-consuming, and make it significantly less readable.
I said in defense of (2) in section 6.1.2 that the main reason that we (intentionally) falsely claim to know, when in fact we only come close to knowing, is that in many cases it would be inefficient and serve no conversational purpose to describe my actual doxastic state more precisely. The fact that it is so difficult to only assert propositions which are really certain for us, rather than propositions which are highly probable for us or which strongly seem to us to be true, suggests that it would be equally inefficient for us to qualify our assertions so that we always know what we assert. And since we make assertions in general much more often that we make assertions of knowledge in particular, this inefficiency would be even more detrimental to ordinary communication.

Communication would be extremely inefficient if we constantly prefaced our assertions with “It seems to me that…,” “Probably…,” “The evidence supports the claim that…,” and so on, and the gain in accuracy would generally not be worth the change. So, if the inefficiency in the case of knowledge-ascriptions would routinely lead to false knowledge-ascriptions, the inefficiency in the case of assertions should similarly routinely lead to violations of the knowledge norm. So, if our second error theory about false knowledge-attributions is correct, it is not surprising that we also often violate the knowledge norm of assertion.

Our second error theory also provides a model for how we can acknowledge that there is still something proper about many ordinary assertions, in the same sense that there is something proper about false knowledge claims in contexts where the difference between knowledge and my actual doxastic state is unimportant. Just as we distinguish

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14 For example, suppose that I write a 10,000 word paper containing 300 declarative sentences. Adding “it seems to me that” to the beginning of each sentence would then add 1,500 words to the paper, making it 15% longer and significantly less readable.
between what is literally said in assertion and what is pragmatically implicated by saying that thing, we can distinguish between what is literally represented by asserting – the representation constitutive of assertion – and what is pragmatically implicated by representing that thing. Saying “I know that the bank is open” may be semantically improper in that I have said something literally false, but pragmatically proper in that I have implicated something true. Similarly, simply saying “The bank is open” may be “constitutively” improper in that I have wrongly represented myself as knowing this proposition, but it may be pragmatically proper in that, by so representing myself, I have rightly implicated that I come close enough to knowing that the bank is open for conversational purposes.

On this picture, the knowledge norm of assertion is correct as far as the constitutive norms of assertions go, but it is false as far as the pragmatic norms of assertions go. In this respect it is no different from any other norm of assertion one might propose, because of the pragmatic propriety of loose talk. For example, the norm “assert only what you believe to be true” is violated when I say “There is no gas station nearby,” when I believe there to be a closed gas station a block away. We thus have good reason to draw the above distinction for any norm of assertion, and it is not ad hoc to use it to defend skeptical Infallibilism. And once we recognize this distinction, we can see that skeptical Infallibilism allows that most of our assertions are pragmatically proper, even if they are not constitutively proper. We can also explain why we so often assert propositions that we do not know: doing otherwise would egregiously violate the maxim to communicate efficiently (compare BonJour 2010: 74-75). Given (2), then, this
linguistic datum is not surprising given Infallibilism, and so is not (strong) evidence against it.

6.2.2 Attributions of knowledge-entailing mental states

A second skeptical implication of Infallibilism turns on the fact that many ordinary attributions of mental states appear to be knowledge-entailing (Unger 1975: ch. 4, Williamson 2000: ch. 1). For example, “I am happy that I will be flying to Paris next year,” “He regrets that he will not be able to attend the funeral,” and “They were surprised that the dinosaurs were killed by a meteor” seem to entail that I know that I will fly to Paris next year, he knows that he will not be able to attend the funeral, and that they know that the dinosaurs were killed by a meteor. If, in fact, I, he, and they do not know these things, then these statements are all false. This seems to imply that, if skeptical Infallibilism is true, many – most, if internalist Infallibilism is true – of our ordinary attributions of mental states are false. It is thus prima facie difficult for the Infallibilist to explain why we make those attributions.

These attributions are often made in the same kinds of contexts where, I suggested in defending (1), the allegedly known proposition seems pretheoretically to be certain for the person in question. In these cases, it is not surprising that we would attribute these other mental states in addition to knowledge. In other cases where we attribute knowledge-entailing mental states, (2) says that we recognize that knowledge is not present but speak loosely and attribute knowledge. Is it surprising that we would attribute knowledge-entailing mental states in these cases? It is not surprising if we can find some nearby truth that is pragmatically implicated by these attributions, just as the fact that one is close to knowing that P is implicated by assertions or claims to knowledge.
In this case it is somewhat harder to find this nearby truth. Consider the proposition that I will travel to Paris next year. Whereas I might initially claim to know this proposition, when pressed I may back off and say only that I know that I plan to travel to Paris next year, or that I have strong evidence that I will travel to Paris next year. But when I initially claim to be happy that I will be traveling to Paris next year, there is no obvious other proposition that I am happy about that I can “back off” too. I am not happy that I plan to travel to Paris next year – what I am happy about is actually visiting Paris, seeing the Eiffel Tower and so on, not making plans. And I am not happy that I have strong evidence that I will travel to Paris – I don’t care what evidence I have that I will go, I care about actually going. Nor am I happy that it seems to me that I will travel to Paris or that I will probably go, for similar reasons. It seems that we need the proposition that I go to Paris to be the object of my mental state. Neighboring propositions will not do. There is no obvious non-knowledge entailing adjective in our language, however, that refers to happiness and takes a proposition as its object.

This is not just a problem for skeptics. Non-skeptics must also explain what is going on in cases where we are wrongly inclined to attribute a knowledge-entailing mental state because we wrongly take ourselves to know. For it could be that I do not know that I will travel to Paris even by Fallibilist lights – e.g., because I in fact will not travel to Paris, or because I am carelessly forgetting conflicting plans that I have made which make it likely that I will not travel to Paris (even if I in fact end up cancelling those plans in order to take my trip). Although there is no completely satisfactory way to describe my situation in our language, we all have a rough idea of what is going on in such a case: I believe that I will travel to Paris, and this makes me happy due to my

So long as we all have a rough idea of what it is for someone to be in a situation like this, then it is possible for us to implicate that someone is in such a situation. Indeed, the fact that there is no natural succinct way to describe this situation makes it more likely that we would pragmatically implicate rather than explicitly assert that someone is in such a situation, for this fact implies that any such explicit assertion would be difficult and confusing. Given (2), then, it is not surprising that we would frequently attribute a knowledge-entailing mental state to someone when we recognize that, in fact, what is actually present is something only very close to that.

6.2.3 Our treatment of evidence as intersubjectively available

A third argument that skeptical Infallibilism is unacceptably skeptical appeals to Williamson’s thesis that evidence = knowledge. If skeptical Infallibilism is true, then we know very little. As such, very little can serve as evidence for us, if all evidence is knowledge. Williamson (2000: 214-15) appeals to scientific practice to argue that this result is unacceptable:

Science treats as evidence propositions such as ‘Thirteen of the twenty rats injected with the drug died within twenty-four hours’; [this is not certain because] one may discover tomorrow that a disaffected laboratory technician had substituted dead rats for living ones. … We are … fallible about the mental states of others. You can doubt whether I seem to myself to see a dead rat. Even if I tell you that I seem to myself to see one, you may wonder whether I am lying. Yet science relies on intersubjectively available evidence.
If internalist Infallibilism is true, then observations about the external world and the content of others’ testimony are uncertain for us. As Williamson says, this implies that, at least typically, scientists (and others) cannot share evidence. It is thus prima facie difficult for the Infallibilist to explain why scientists (and others) act as if they can share evidence.

If (1) and (2) are true, however, this phenomenon is again unsurprising. According to (1), very often, the kinds of propositions cited as evidence in the sciences appear to us to really be certain, so we wrongly take ourselves to know them and so to have them as evidence. Our pretheoretic view of the world is one on which we can share evidence about directly observed facts in the external world through mutual observation or testimony. If internalist Infallibilism is true, so that these facts are not part of our evidence, it is a revision of this pretheoretic view, justified by the possibility of skeptical scenarios which philosophical reflection reveals. It is thus not surprising that, when we are not doing philosophy, we would continue to act as if this pretheoretic view of the world is correct in the way we talk about evidence.

According to (2), in other cases, we recognize that the proposition in question is not really known (e.g., because it is the conclusion of an uncertain inference) but in the present context it is so highly probable that treating it as evidence does not substantially affect the conclusions of any inferences we are interested in drawing. By pretending that

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15 If externalist Infallibilism is true, then there is no obvious problem here: the propositions Williamson cites as uncertain are ones the externalist Infallibilist will hold are in fact certain, and as such can be evidence. However, I am granting for the sake of argument that if Infallibilism is true, internalist Infallibilism is true.
these facts are our evidence (and that we can share them), we avoid needless pedantry in our empirical investigations and allow for science to be done more efficiently.\textsuperscript{16}

6.2.4 The locution ‘know for certain’

A fourth phenomenon apparently difficult for Infallibilism to explain is the locution ‘know for certain,’ and the fact that we appear to use this locution in different ways than we use ‘know.’ If ‘know’ just meant ‘know for certain,’ one might argue, there would be no need for the latter in our language. The fact that we can say “I know that Bill came to the party” and “I know for certain that Bill came to the party,” and that these apparently mean different things, suggests that the property we use ‘know’ to refer to does not imply certainty.

This objection to Infallibilism is advanced by Audi (1988: 106), Stanley (2008: 40–41), and Littlejohn (2011a: 613–14). Stanley puts the objection as follows. If P

\textsuperscript{16}If the arguments in this sub-section are right, then it is possible for us to do science and other communal epistemic activities effectively even if (internalist) Infallibilism is true, given that we can often safely (either intentionally or unintentionally) ignore the difference between evidence and near-evidence. This fact enables us to answer Hannon’s (2014) argument that the social purposes of our concept of knowledge are inconsistent with Infallibilism. Following Craig (1999), Hannon claims that “The practical explication of knowledge is rooted in the socio-epistemological need for pooling and sharing information, which generates a need to flag informants who can provide us with reliable information.” Since infallible knowledge is so rare, he concludes that adopting an Infallibilist standard for reliability “will frustrate our communal epistemic practices and thus would be antithetical to this goal” (Hannon 2014: 1133). However, if, as I have argued in this sub-section, we can effectively engage in communal epistemic activities even if Infallibilism is true, then we can effectively flag reliable informants for a similar reason if Infallibilism is true – by (intentionally or unintentionally) ignoring the difference between perfect reliability and near-perfect reliability. If, as I argued in defending (1), most of us do not realize most of the time that very little is certain for us, then there is little reason to think that we would have preferred a concept of knowledge that required mere high reliability to one that required perfect reliability, if we were making a conscious choice between the two. There is less reason still to think that nature would have given us the former rather than latter, given that the latter is simpler and (again, assuming that (1) is true, so that we often think people are perfectly reliable with respect to a proposition when they are merely highly reliable) the same ends could be achieved by both. (Craig himself would likely agree with this point, for he rejects an argument similar to Hannon’s that we could not have developed an Infallibilist concept of knowledge, writing that “in everyday practice the idea of applying such tests as the standard sceptical fantasies just doesn’t come into anyone’s head. It follows that the opportunity to lay down the practice of rejecting this kind of test, either for the reason of its unsatisfiability or any other, equally just does not occur” [Craig 1999: 116].)
obviously entails Q, it will feel redundant to follow an assertion of P with an assertion of Q. Hence, it seems redundant to say “I know that Bill came to the party – in fact, he did.” However, it does not seem redundant to say “I know that Bill came to the party – in fact, I know for certain that he did.” So, that I know that Bill came to the party does not obviously entail that I know for certain that he did.

Contra Stanley, the relevant linguistic data can be understood by appeal to the pragmatic phenomena already discussed. Suppose that (2) is correct, so that we often use the word ‘know’ to communicate, not that someone actually knows something, but that they come very close to knowing. In this case it is plausible that we would use ‘know for certain’ – along with related locutions like ‘really know’ or ‘know’ (with the appropriate stress) – to make clear that we are not engaging in loose talk, by reinforcing what is already literally asserted with ‘know.’ These locutions are necessary, not because they differ in their semantic content from ‘know,’ but because “S knows that P” is regularly used to communicate the presence of weaker doxastic states: saying instead “S really knows that P” or “S knows for certain that P” make clear that we are interested in communicating something stronger than this – that knowledge really is present.

This practice of reinforcement is familiar from other examples. “There’s no gas station nearby” and “There’s no gas station nearby, not even a closed one” have the same semantic content, but (in the right context) it is consistent with what I communicate with the former but not the latter that there is a closed gas station nearby. More controversially, but still plausibly, “It’s 3:00” and “It’s exactly 3:00” have the same semantic content, but are typically used to communicate different things – that it is 3:02 is consistent with what one would typically communicate with the former but not what
one would typically communicate the latter. ‘Exactly’ and ‘not even a closed one’
reinforce what is asserted, just like ‘know for certain,’ or ‘really knows.’

We can see from these examples that it is often not odd or redundant to follow an
assertion with an obvious entailment of what was asserted, if what was asserted is not
part of what that sentence is typically used to communicate. It obviously follows from the
fact that there is no gas station nearby that there is no closed gas station nearby. But
“There’s no gas station nearby, not even a closed one” is felicitous. This is because we
would often say “There’s no gas station nearby” in order to only communicate the weaker
“There’s no open gas station nearby.” Following this with “not even a closed one” makes
clear that we intend to communicate the stronger claim that there is no gas station at all
nearby, open or closed. Similarly, if (2) is correct, then it is plausible that we would use
“I know for certain that P” to communicate something stronger than we use “I know that
P” to communicate in ordinary contexts. So, if (2) is correct, our usage of ‘know for
certain’ and related locutions is not surprising.

6.3 Conclusion

In section 6.2, I argued that, if the error theories developed in section 6.1 are true,
not only do they predict that we would frequently attribute knowledge when infallible
knowledge is not present, they also predict that we would frequently assert what we do
not actually know, attribute knowledge-entailing mental states when infallible knowledge
is not present, treat evidence as intersubjectively available even though it is not, and use
the locution ‘know for certain’ in a different way from ‘know.’ For this reason, these data
do not constitute strong additional evidence that knowledge ≠ infallible knowledge.
Why does this follow? In the next chapter I will examine the evidential dependencies among the data presented here more formally, but the basic idea is that, when we examine how much a theory is disconfirmed by multiple evidences \( E_1 \) and \( E_2 \), we need to begin by examining how likely \( E_1 \) is, given the theory and its negation, and then examine how likely \( E_2 \) is, given the theory and its negation, assuming that \( E_1 \) is true. (Or we need to do the converse, starting with \( E_2 \).) Given the data about our ordinary intuitions and attributions of knowledge, the most probable version of Infallibilism is one on which the error theories developed in section 6.1 are true. But given that these error theories are true and that they explain our ordinary intuitions and attributions of knowledge, then the remaining data considered in section 6.2 are not at all surprising on Infallibilism. Since a datum disconfirms a theory only to the extent that it is surprising on that theory, the four data in section 6.2 disconfirm Infallibilism at most very little, once we have already taken our ordinary attributions and intuitions of knowledge into account.

Because of this, the degree to which the data considered in this chapter jointly disconfirm Infallibilism can be approximated by the degree to which our ordinary attributions and intuitions of knowledge disconfirm Infallibilism on their own. In the next chapter, I will use Bayes’ theorem to weigh this degree of disconfirmation against the confirmation provided by the evidences considered in chapters 3-4. I will argue that the evidences presented in chapters 3-4 make Infallibilism very probably true, even once we have taken into account the clash between its skeptical consequences and our ordinary attributions and intuitions of knowledge.
CHAPTER 7
WEIGHING THE EVIDENCES

For the most part in this dissertation, I have presented my case for Infallibilism in informal abductive language, in terms of how well Infallibilism and rival theories of knowledge can explain our intuitions about knowledge and the place that knowledge occupies in our thought and language. In this chapter I will estimate the degree to which our evidences confirm or disconfirm Infallibilism in more formal probabilistic terms, as a function of how likely these various evidences are, given different theories of knowledge.\footnote{Although the degree of correlation will vary from case to case, depending, e.g., on what error theories are possible, I assume throughout my analysis that our philosophical intuitions are generally correlated with the philosophical facts to some degree – that is, that we are usually more likely to have an intuition that \( P \) if \( P \) than if \( \neg P \). I argue elsewhere (Climenhaga forthcoming-b) that, while some philosophers might deny it in their theorizing, in practice philosophers in general tacitly make this assumption. I also show there that, while most philosophers do not explicitly analyze the force of philosophical evidences probabilistically, several familiar features of philosophical practice can be formally reconstructed in this way. In particular, the discussion of error theories in sections 5-6 and of diverse intuitions in section 7 of that paper suggest that the probabilistic methodology I employ in this chapter is in keeping with the commitments of analytic philosophical argumentation more generally, differing mainly in making mathematically explicit what is usually left implicit or only stated informally.} This will inevitably involve simplification and idealization, in order to make our probabilistic calculation tractable. However, the simplifications I will make will mostly not introduce large error into our calculations, and they will in many cases bias our calculation against Infallibilism. In addition, while I will eventually assign precise numerical values to the relevant probabilities, the main point of these will not be to calculate a precise posterior probability for Infallibilism, but simply to illustrate the
way in which such a calculation would go, and to suggest that on any reasonable assignment of values, the evidences for Infallibilism that I have put forward will strongly outweigh the evidences against Infallibilism I have considered.

For ease of notation, I will adopt the following abbreviations for our rival theories of knowledge and the evidences relevant to them:

- **Inf** Infallibilism
- **TF** Traditional Fallibilism
- **IR** Interest-Relativism
- **Cont** Contextualism
- **QI** Quasi-Infallibilism
- **E⁺** The evidences for Infallibilism considered in chapters 3-4
- **E⁻** The evidences against Infallibilism considered in chapter 6

In general, Bayes’ theorem tells us that the posterior probability of a theory is a function of three things: (a) its prior probability, (b) how strongly it predicts the data, and (c) how strongly rival theories predict the data. It will simplify matters in what follows to only consider one rival to Infallibilism at a time, focusing mainly on traditional Fallibilism. We can do this with the relative odds form of Bayes’ Theorem, according to which the posterior relative odds of two hypotheses $H_1$ and $H_2$ to each other given evidence $E$ is equal to

$$
\frac{P(H_1 | E)}{P(H_2 | E)} = \frac{P(H_1)}{P(H_2)} \times \frac{P(E | H_1)}{P(E | H_2)}
$$

The last of these terms is the *relative Bayes’ factor* for $E$. We can think of it as a measure of how strongly $E$ confirms $H_1$ over $H_2$. If $E$ can be broken down into multiple evidences
E_1, E_2, \ldots, \text{and } E_n, \text{then we can break down this Bayes’ factor into multiple factors as follows:}

\[
\frac{P(E \mid H_1)}{P(E \mid H_2)} = \frac{P(E_1 \& E_2 \& \ldots \& E_n \mid H_1)}{P(E_1 \& E_2 \& \ldots \& E_n \mid H_2)}
\]

\[
= \frac{P(E_1 \mid H_1)}{P(E_1 \mid H_2)} \times \frac{P(E_2 \mid E_1 \& H_1)}{P(E_2 \mid E_1 \& H_2)} \times \ldots \times \frac{P(E_n \mid E_{n-1} \& \ldots \& E_1 \& H_1)}{P(E_n \mid E_{n-1} \& \ldots \& E_1 \& H_2)}
\]

So, the posterior odds of Infallibilism to traditional Fallibilism is equal to:

\[
\frac{P(\text{Inf} \mid E^+ \& E^-)}{P(\text{TF} \mid E^+ \& E^-)} = \frac{P(\text{Inf})}{P(\text{TF})} \times \frac{P(E^+ \mid \text{Inf})}{P(E^+ \mid \text{TF})} \times \frac{P(E^- \mid E^+ \& \text{Inf})}{P(E^- \mid E^+ \& \text{TF})}
\]

In section 7.1, I will examine this last factor, the Bayes’ factor for E^− once we have taken E^+ into account. In section 7.2, I will examine the second factor, the Bayes’ factor for E^+. My main goal in these sections will be to examine the extent to which the evidences summarized in E^+ and E^− are mutually dependent in such a way as to reduce their cumulative force. In particular, I will argue that the evidences in E^− are all highly dependent in this way, whereas some of the evidences in E^+ are fully or partly independent in this way. I will also consider how matters change if we substitute Interest-Relativism and Contextualism for traditional Fallibilism.

In section 7.3, I will then argue that, in light of the arguments of sections 7.1 and 7.2, the Bayes’ factor for E^+ is substantially more top-heavy than the Bayes’ factor for E^− is bottom-heavy, so that when they are multiplied together Infallibilism is strongly confirmed. Provided that Infallibilism is no less intrinsically plausible than traditional Fallibilism, it follows that Infallibilism ends up much more probable than traditional Fallibilism, all-things-considered. The same goes for Interest-Relativism and Contextualism.
Finally, in section 7.4, I will summarize the basic argument of this chapter in informal, non-probabilistic terms. Readers already persuaded of the strength of the arguments in chapters 3-4 and of the effectiveness of the Infallibilist error theories offered in chapter 6, as well as readers who are afraid of mathematics, can skip to this section. Readers who are still skeptical that the benefits of Infallibilism outweigh its skeptical costs or who are interested in exactly how the evidences we have considered interact probabilistically can read on.

7.1 The Evidence against Infallibilism

$E^*$ is our label for the five facts considered in chapter 6 which seem *prima facie* difficult for the Infallibilist to explain. We can abbreviate these facts as follows:

- **S(K)**: We frequently seem to know, or say that we know, propositions which Infallibilism implies we do not know.
- **Assertions**: We frequently assert propositions that Infallibilism implies we do not know.
- **Mental**: We frequently attribute to ourselves and others knowledge-entailing mental states in situations where Infallibilism implies knowledge is not present.
- **Sharing**: We frequently act as if we can share evidence in cases where Infallibilism implies we cannot.
- **‘KFC’**: We frequently use the phrase ‘know for certain’ (and similar locutions) to communicate something different from ‘know.’

In each case the above propositions should be understood to summarize intuitional and linguistic data which are actually much more complex (e.g., the particular kinds of contexts in which we say that we know).
Our question now is how much these facts disconfirm Infallibilism, once we have taken the evidences for Infallibilism $E^+$ into account. For the most part the only role that these background evidences play is in clarifying the version of Infallibilism that we are considering – for example, clarifying that it is a version of Infallibilism on which knowledge is evidence. I will not mention $E^+$ in the rest of this section, but the reader should understand that we are assuming that Infallibilism has the various characteristics canvassed in chapters 3-4 in what follows.

I argued last chapter that the disconfirmation of Infallibilism by $E^-$ is blunted by two Infallibilist error theories:

1. We are often mistaken about what is certain.
2. We often say that people know things in order to implicate that they come close enough to knowing for conversational purposes.

There are two factors that influence how successful (1) and (2) are at keeping Infallibilism from being disconfirmed by $E^-$. The first is how initially plausible (1) and (2) are, given that Infallibilism is true. If both are completely *ad hoc*, then their prior implausibility will counterbalance the degree to which they help Infallibilism predict $E^-$. (I take it that this is DeRose’s [2002: 176, 2009: 88] basic worry when he complains that pragmatic explanations of the propriety of ordinary knowledge-attributions are *ad hoc*.) The second is how well they predict $E^-$, when combined with Infallibilism.

For example, the degree to which $S(K)$ disconfirms Infallibilism relative to TF is measurable by the Bayes’ factor

$$\frac{P(S(K) \mid \text{Inf&E}^+)}{P(S(K) \mid \text{TF&E}^+)}$$
We can break down the numerator of this ratio using the theorem of total probability, as follows:

\[
P(S(K) \mid \text{Inf}\&E^+)
\]

\[
= P((1)\&(2) \mid \text{Inf}\&E^+) P(S(K) \mid \text{Inf}\&(1)\&(2)\&E^+)
\]

\[
+ P(\neg[(1)\&(2)] \mid \text{Inf}\&E^+) P(S(K) \mid \text{Inf}\&\neg[(1)\&(2)]\&E^+)
\]

The first of these four terms measures the initial plausibility of (1) and (2), and the second measures how well they predict the data S(K) – our two factors above.

In what follows I will assume that the only way that Infallibilism can explain S(K) is through error theories (1) and (2), so that \(P(S(K) \mid \text{Infallibilism}\&\neg[(1)\&(2)]\&E^+)=0\). This assumption is implausible, but it helps the Fallibilist, since it makes S(K) disconfirm Infallibilism more greatly, and so we can safely assume it without prejudicing our case in favor of Infallibilism. We can then simplify the above equation as follows:

\[
P(S(K) \mid \text{Inf}\&E^+) = P((1)\&(2) \mid \text{Inf}\&E^+) P(S(K) \mid \text{Inf}\&(1)\&(2)\&E^+)
\]

This gives us

\[
\frac{P(S(K) \mid \text{Inf}\&E^+)}{P(S(K) \mid \text{TF}\&E^+)} = P((1)\&(2) \mid \text{Inf}\&E^+) \frac{P(S(K) \mid \text{Inf}\&(1)\&(2)\&E^+)}{P(S(K) \mid \text{TF}\&E^+)}
\]

The first factor on the right-hand side of this equality measures the prior plausibility of error theories (1) and (2), and the second measures the comparative degree to which (1)\&(2) and TF predict S(K).

Let us start with the latter factor. (1) and (2) do not entail S(K). But that we are often mistaken about what is certain, and that we often say that people know things in order to implicate that they come close to knowing both make it very likely that we would frequently intuit and attribute knowledge in the kinds of situations we do.
Moreover, TF does not entail S(K) either, but only makes it highly likely. I am thus inclined to think that P(S(K) | Infallibilism&(1)&(2)&E⁺) is not much lower than P(S(K) | TF&E⁺).¹⁸

I also argued in chapter 6 that error theories (1) and (2) are both initially plausible, given Infallibilism. In section 6.1, I argued that our cognitive limitations make it initially probable that we would often be completely confident in uncertain propositions, and that the empirical psychological research bears out this prediction. I further argued that similar considerations make it plausible that it would wrongly seem to many of us that uncertain propositions are certain when we reflect on the matter. In section 6.2, I argued that plausible general principles about implicature, and the way in which loose talk functions in other cases make it probable that, if knowledge requires certainty, we would still often say that people know things in order to implicate that they come close enough to knowing for conversational purposes. In addition, these error theories are positively relevant to each other, because, as I noted in section 6.1.2, (1) and (2) are made plausible by analogous kinds of consideration – just as we may engage in “loose talk” with other people for the sake of conversational efficiency, we may engage in “loose representation”

¹⁸ If we include in S(K) all the salient facts about our ordinary use of ‘knows’ and cognate terms, it is not clear to me that it is less likely on (1)&(2) than on TF at all. For example, while we often attribute knowledge in ordinary contexts, it is not too hard to get us to retract our claims to knowledge by presenting skeptical possibilities. (Non-traditional versions of Fallibilism such as Contextualism are better suited to explain this.) In addition, there appear to be conceptual connections between ‘knowledge’ and ‘certainty’ in ordinary language. The challenges “Do you know?” and “Are you certain?” function similarly in ordinary contexts. And there are some contexts in which knowledge-attributions obviously imply the attribution of certainty. When classical theists say that God is omniscient, they clearly mean that he knows all facts with certainty, not that he merely has a true belief that meet some fallible conditions for knowledge, such as high reliability or high probability. Again, when atheists like Dawkins (2006: 50-51) claim to not know that God does not exist because they cannot prove a negative with certainty, they are employing an Infallibilist conception of knowledge. I think, then, that it is far from obvious that TF fits better with overall ordinary thought and language about particular cases than do our error theories (1) and (2) (although, again, Interest-Relativism and Contextualism may do better than both here.)
internally for the sake of mental efficiency. As such, the conjunction of (1) and (2) is more probable than the product of their individual probabilities. In light of the above, I am inclined to think that, given Infallibilism, both propositions are at least as probable as not, and thus that their conjunction has a probability of at least .25.

Many Fallibilists may not agree with these judgments, holding that (1) and (2) start out much less initially plausible and that they do not explain $S(K)$ nearly as well as does traditional Fallibilism. The main claim I want to defend in this section is that even if the Fallibilist skeptical of the explanatory effectiveness of (1) and (2) in this way is right, the *remaining* evidences against Infallibilism – Assertions, Mental, Sharing, and ‘KFC’ – add hardly any additional disconfirmation to Infallibilism, once we have taken $S(K)$ into account.

In section 6.2, I argued that, if error theories (1) and (2) are true, not only do they predict that we would attribute knowledge when infallible knowledge is not present, they also predict that we would frequently assert what we do not infallibly know, attribute knowledge-entailing mental states when infallible knowledge is not present, treat evidence as intersubjectively available even though it is not, and use the locution ‘know for certain’ in a different way from ‘know.’ I said that since (1) and (2) predict these data as well, these data do not constitute strong additional evidence that knowledge ≠ infallible knowledge.

We can now make this point more precise by examining the impact of $S(K)\&\text{Assertions}$ on the relative odds of Inf to TF. This is calculable with the cumulative Bayes’ factor
\[
P(S(K) \& \text{ Assertions} \mid \text{Inf\&E}^+) \]
\[
= \frac{P(S(K) \mid \text{Inf\&E}^+)}{P(S(K) \mid \text{TF\&E}^+)} \times \frac{P(\text{Assertions} \mid S(K) \& \text{Inf\&E}^+)}{P(\text{Assertions} \mid S(K) \& \text{TF\&E}^+)}
\]
\[
= P\left( (1) \& (2) \mid \text{Inf\&E}^+ \right) \frac{P(S(K) \mid \text{Inf\&(1)\&(2)\&E}^+)}{P(S(K) \mid \text{TF\&E}^+)}
\]
\[
\times \frac{P(\text{Assertions} \mid S(K) \& \text{Inf\&(1)\&(2)\&E}^+)}{P(\text{Assertions} \mid S(K) \& \text{TF\&E}^+)}
\]

We were able to make the last substitution because we assumed above that
Inf\&\neg[(1)\lor(2)] is inconsistent with S(K), so that S(K)\&Inf entails (1)\lor(2). Informally, what this last substitution says is that, when taking into account how probable Infallibilism makes additional evidences besides S(K), we can assume that (1) and (2) are true.

Above I argued that, although error theories (1) and (2) do not entail S(K), they make it quite likely. Analogous remarks go for Assertion – while Assertion is not entailed by (1) and (2), these error theories seem to me to make it quite likely, for the reasons given in section 6.2.1. Here, however, I am granting my Fallibilist critic that (1) and (2) do not make S(K) nearly as likely as does traditional Fallibilism. Even if this is right, in calculating P(\text{Assertions} \mid S(K) \& \text{Inf\&(1)\&(2)\&E}^+), we are conditionalizing not only on (1) and (2), but also on S(K). In other words, we are assuming not only that we frequently are mistaken about what is certain and that we frequently use ‘knows’ to implicate something weaker, but that these error theories successfully explain our ordinary intuitions of and attributions of knowledge. Once we have assumed this, even someone initially skeptical of the explanatory power of these error theories should grant that they
now make quite likely our ordinary practices of assertion. *Given* that we frequently claim
to know that P when we do not because we wrongly think we know or mean to
communicate that we come close to knowing, it is not at all surprising that we would
frequently flat-out assert that P for the same reasons.

Analogous remarks go for our remaining three evidences. Given that we
frequently falsely attribute knowledge because of (1) and (2), it is extremely likely that
we would frequently falsely attribute knowledge-entailing mental states and act as if we
can share evidence for the exact same reasons. It is also very likely that we would use
‘know for certain’ to communicate something stronger than we use ‘know’ to
communicate in ordinary contexts, according to (1)&(2)&S(K).

For these reasons, even someone initially skeptical of the explanatory power of
(1) and (2) should grant that once we take into account S(K), our remaining evidences are
predicted by these error theories as well or almost as well as by TF (or any other rival
theories of knowledge). This means that our remaining Bayes’ factors for each of these
evidences are roughly equal to 1/1, giving us the following cumulative Bayes’ factor:
\[
P(E^- \mid \text{Inf}&E^+) = \frac{P(S(K)&\text{Assertions}&\text{Mental}&\text{Sharing}&\text{'}KFC' \mid \text{Inf}&E^+)}{P(S(K)&\text{Assertions}&\text{Mental}&\text{Sharing}&\text{'}KFC' \mid \text{TF}&E^+)}
\]

\[
= \frac{P(S(K) \mid \text{Inf}&E^+)}{P(S(K) \mid \text{TF}&E^+)} \times \frac{P(\text{Assertions} \mid S(K)&\text{Inf}&E^+)}{P(\text{Assertions} \mid S(K)&\text{TF}&E^+)} \\
\times \frac{P(\text{Mental} \mid \text{Assertions}&S(K)&\text{Inf}&E^+)}{P(\text{Mental} \mid \text{Assertions}&S(K)&\text{TF}&E^+)} \\
\times \frac{P(\text{Sharing} \mid \text{Mental}&\text{Assertions}&S(K)&\text{Inf}&E^+)}{P(\text{Sharing} \mid \text{Mental}&\text{Assertions}&S(K)&\text{TF}&E^+)} \\
\times \frac{P(\text{'}KFC' \mid \text{Sharing}&\text{Mental}&\text{Assertions}&S(K)&\text{Inf}&E^+)}{P(\text{'}KFC' \mid \text{Sharing}&\text{Mental}&\text{Assertions}&S(K)&\text{TF}&E^+)}
\]

\approx P \left( (1)\&(2) \mid \text{Inf}&E^+ \right) \frac{P(S(K) \mid \text{Inf}&(1)\&(2)&E^+)}{P(S(K) \mid \text{TF}&E^+)} \times \frac{1}{1} \times \frac{1}{1} \times \frac{1}{1} \times \frac{1}{1}

= P \left( (1)\&(2) \mid \text{Inf}&E^+ \right) \frac{P(S(K) \mid \text{Inf}&(1)\&(2)&E^+)}{P(S(K) \mid \text{TF}&E^+)}
\]

Hence, as I said above, our four additional evidences do not disconfirm Inf against TF substantially more greatly than S(K) did initially.

If we substitute IR or Cont for TF, we get the same result. For it does not appear that, once we have taken S(K) into account, our four other evidences are much better explained by IR and Cont than by TF, since the variation in our assertions, attributions of knowledge-entailing mental states, and attributions of evidence will closely match the variations in our attributions of knowledge, so that whatever explanation the traditional Fallibilist gives for why our attributions of knowledge do not always match his theory should extend to these other patterns as well. This means that the denominators of our Bayes’ factors for these evidences should not be increased by much, and so the ratios of
our numerators to our denominators should remain roughly the same. This is so even
granting that (as is plausible) IR and Cont explain S(K) on its own better than TF, so that

\[
\frac{P(E^- | \text{Inf}&E^+)}{P(E^- | \text{IR}&E^+)} \approx P ((1)&(2) | \text{Inf}&E^+) \frac{P(S(K) | \text{Inf}&(1)&(2)&E^+)}{P(S(K) | \text{IR}&E^+)} > 0
\]

and likewise if we substitute Cont for IR. Even if this is so, so that E^- confirms IR and
Cont over Inf more strongly than it confirms TF over Inf, if the above reasoning is
correct, E^- only confirms these theories over Inf to the degree that S(K) confirms these
theories over Inf – our remaining four evidences do not add non-negligible further
confirmation.

7.2 The Evidence for Infallibilism

In chapter 4 I considered eight evidences for Infallibilism. Each of these can be
formulated as a claim about our intuitions, or how things seem to us. In each case,
Infallibilism explains this intuition because it entails or easily allows that the intuitive
claim is true, whereas Fallibilism has a hard time explaining the intuition, because it
either entails that the intuitive claim is not true or is difficult to reconcile with the truth of
the intuitive claim. I will adopt the following abbreviations for these eight intuitive
claims, and reorder them in the order I will consider them here:

- **K→E** If S knows that P, P is part of S’s evidence.
- **Modality** If S knows that P, ¬P is epistemically impossible for S.
- **Closure** If S knows each of \(\{P_1, P_2, \ldots P_n\}\), and this set entails Q, S is in a
  position to know Q.
Action If S knows that P, S can rationally act as if P.

Inquiry If S knows that P, S can rationally stop inquiring whether P.

Value Knowledge is valuable in a way that non-knowledge is not.

Unique There is a qualitative difference between knowledge and non-knowledge.

Gettier Subjects in Gettier cases do not have knowledge.

It will further be convenient to represent the fact that it seems to us that X as $S(X)$, and that it seems to us that X and seems to us that Y as $S(X,Y)$. So, for example, $S(K \rightarrow E)$ says that it seems to us that $K \rightarrow E$, and $S(\text{Modality}, \text{Closure})$ says that Modality and Closure both seem true to us. As above, these claims about our intuitions should be understood as convenient abbreviations for the more complex data summarized in chapter 4 about the plausibility of these claims, such as the numerous authors from various disciplines who presuppose $K \rightarrow E$ in their writing.

In chapter 3 I considered an additional advantage of Infallibilism, namely that it can more easily explain the intuitive appeal of each major theory of knowledge than can Fallibilism, since Infallibilism implies that, suitably interpreted, all these theories are true. Here the relevant evidence is the intuitive appeal of all the various mutually exclusive theories of knowledge which have been proposed. Let us abbreviate this evidence as Appeal. Our total evidence for Infallibilism, then, is $S(K \rightarrow E, \text{Modality}, \text{Closure}, \text{Action}, \text{Inquiry}, \text{Value}, \text{Unique}, \text{Gettier}) \& \text{Appeal}$.

The cumulative Bayes’ factor for our nine evidence is then equal to the unwieldy
\[
P\left( E^+ \mid \text{Inf} \right) \\
\frac{P\left( E^+ \mid \text{TF} \right)}{}
\]

\[
= \frac{P\left( S(K \rightarrow E, \text{Modality, Closure, Action, Inquiry, Value, Unique, Gettier}) \& \text{Appeal} \mid \text{Inf} \right)}{P\left( S(K \rightarrow E, \text{Modality, Closure, Action, Inquiry, Value, Unique, Gettier}) \& \text{Appeal} \mid \text{TF} \right)}
\]

\[
= \frac{P\left( S(K \rightarrow E) \mid \text{Inf} \right)}{P\left( S(K \rightarrow E) \mid \text{TF} \right)} \times \frac{P\left( S(\text{Modality}) \mid S(K \rightarrow E) \& \text{Inf} \right)}{P\left( S(\text{Modality}) \mid S(K \rightarrow E) \& \text{TF} \right)}
\]

\[
\times \frac{P\left( S(\text{Closure}) \mid S(\text{Modality, K → E}) \& \text{Inf} \right)}{P\left( S(\text{Closure}) \mid S(\text{Modality, K → E}) \& \text{TF} \right)}
\]

\[
\times \frac{P\left( S(\text{Action}) \mid S(\text{Closure, Modality, K → E}) \& \text{Inf} \right)}{P\left( S(\text{Action}) \mid S(\text{Closure, Modality, K → E}) \& \text{TF} \right)}
\]

\[
\times \frac{P\left( S(\text{Inquiry}) \mid S(\text{Action, Closure, Modality, K → E}) \& \text{Inf} \right)}{P\left( S(\text{Inquiry}) \mid S(\text{Action, Closure, Modality, K → E}) \& \text{TF} \right)}
\]

\[
\times \frac{P\left( S(\text{Value}) \mid S(\text{Inquiry, Action, Closure, Modality, K → E}) \& \text{Inf} \right)}{P\left( S(\text{Value}) \mid S(\text{Inquiry, Action, Closure, Modality, K → E}) \& \text{TF} \right)}
\]

\[
\times \frac{P\left( S(\text{Unique}) \mid S(\text{Value, Inquiry, Action, Closure, Modality, K → E}) \& \text{Inf} \right)}{P\left( S(\text{Unique}) \mid S(\text{Value, Inquiry, Action, Closure, Modality, K → E}) \& \text{TF} \right)}
\]

\[
\times \frac{P\left( S(\text{Gettier}) \mid S(\text{Unique, Value, Inquiry, Action, Closure, Modality, K → E}) \& \text{Inf} \right)}{P\left( S(\text{Gettier}) \mid S(\text{Unique, Value, Inquiry, Action, Closure, Modality, K → E}) \& \text{TF} \right)}
\]

\[
\times \frac{P\left( \text{Appeal} \mid S(\text{Gettier, Unique, Value, Inquiry, Action, Closure, Modality, K → E}) \& \text{Inf} \right)}{P\left( \text{Appeal} \mid S(\text{Gettier, Unique, Value, Inquiry, Action, Closure, Modality, K → E}) \& \text{TF} \right)}
\]

The easiest way to simplify this would be to assume that our nine evidences are
independent of each other, relative to our different theories of knowledge – that
Infallibilism and traditional Fallibilism screen off these evidences from each other. Then
the above cumulative Bayes’ factor would simplify to the product of the Bayes’ factors
\[
\frac{P(E_i \mid \text{Inf})}{P(E_i \mid \text{TF})}
\]

for each of our individual evidences \(E_i\). Since we have nine such evidences, fairly modest assumptions would then give us an extremely top-heavy cumulative Bayes’ factor. For example, if we assumed that in each case the intuition in question was four times more likely given Infallibilism than Fallibilism, we would get a cumulative Bayes’ factor of \((4/1)^9\) or 262,144/1.

This independence assumption is not fair to the Fallibilist, however. For if the Fallibilist can come up with a single error theory that accounts for several of the above intuitions, as I argued above the Infallibilist can do with respect to the five evidences against Infallibilism summarized in \(E'\), then the probability of their conjunction given Fallibilism will be greater than the product of the probabilities of their conjuncts given Fallibilism. That is, speaking slightly less formally, the evidential force of their conjunction will be less than the combined evidential force of each of their conjuncts would be if we looked at each of those conjuncts individually. Hence, although it makes our task more difficult, I will not assume that our evidences are screened off from each other by Inf and TF.

Let us see what we can say about our Bayes’ factors without this independence assumption. In general, there are two ways for a theory to explain one of our intuitions \(S(X)\). The first is to hold that \(X\) is true, and that is why it seems to us to be true. The second is to hold that \(X\) is false, but to give some error theory for why it wrongly seems to us that \(X\) is true. This latter is the strategy I suggested that the Infallibilist should pursue with respect to our ordinary intuitions about how widespread our knowledge is.
I will make two assumptions to simplify our calculations. The first is that the arguments of chapter 4 show that the former strategy is not available to the traditional Fallibilist with respect to the first five of our seemings – that traditional Fallibilists are committed to denying $K \rightarrow E$, Modality, etc.\(^\text{19}\) The second is that the latter strategy is not available to the Infallibilist for these five seemings – that, if Infallibilism is true, we will only have the above intuitions if their contents are true, so that $P(S(X) \mid \neg X \& \text{Inf}) = 0$.\(^\text{20}\)

\(^\text{19}\) Those arguments in some cases relied on premises which could, in principle, be denied: for example, the conclusion that traditional Fallibilists must deny $K \rightarrow E$ relied on the premise that the epistemic probability of $P$ for $S$ is $n$ iff $n$ is the probability of $P$ conditional on $S$’s evidence. However, provided that this premise is very probable, approximating its value to 1 will not make a large difference to the Bayes’ factor for $K \rightarrow E$. Likewise, it will not make a large difference to the subsequent Bayes’ factors for our other evidences unless the version of traditional Fallibilism that denies this premise – despite having a very low prior probability – ends up better able to explain the rest of our intuitions than other versions of traditional Fallibilism. In that case, those additional intuitions would not provide strong additional evidence again Infallibilism. However, it appears that this is not the case, because by denying this premise (and similar premises), the Fallibilist would sever the connections that exist between the five principles at issue, and so fail to make them positively relevant to each other in the way I suggest below some error theories for these intuitions might. For example, I note below that $K \rightarrow E$ makes Modality more plausible because it is plausible that $\neg P$ is epistemically impossible for me if $P$ is part of my evidence. But if the Fallibilist denies the above premise, and so holds that some of my evidence does not have epistemic probability 1, then this principle is no longer plausible. For Dodd’s argument that if $\neg P$ is not epistemically possible for me, $P$ has probability 1 will now show that it is not always the case that if $P$ is part of my evidence, $\neg P$ is epistemically possible for me. Consequently, given Dodd’s argument, the Fallibilist will still have just as hard a time accepting Modality as before.

\(^\text{20}\) This assumption is implausible. A more plausible assumption is that, for each of our intuitions, $P(S(X) \mid \neg X \& \text{Inf} \& K) \approx P(S(X) \mid \neg X \& \text{TF} \& K)$ – that is, it is about equally likely that it would seem to us that $X$, given that $X$ is false, whether Inf or TF is true. This is plausible if, for example, any error theories that the traditional Fallibilist can give for our intuition that $X$ is equally available to the Infallibilist who denies that $X$ is true. Given this assumption and our first assumption above, it would follow that the Bayes’ factor for any of our evidences is approximately equal to

$$
\frac{P(S(X) \mid \text{Inf} \& K)}{P(S(X) \mid \text{TF} \& K)} = \frac{P(X \mid \text{Inf} \& K)P(S(X) \mid X \& \text{Inf} \& K)}{P(X \mid \text{TF} \& K)P(S(X) \mid X \& \text{TF} \& K)} \approx \frac{P(X \mid \text{Inf} \& K)P(S(X) \mid X \& \text{Inf} \& K)}{P(S(X) \mid \neg X \& \text{TF} \& K)} + P(\neg X \mid \text{Inf} \& K)
$$

where $K$ stands for any prior evidence we have already taken into account.

Since $P(\neg X \mid \text{Inf} \& K)$ is positive, this means that the Bayes’ factor we get with our plausible assumption is greater than the Bayes’ factor we get with our implausible assumption, in which this term drops out. This means that our implausible assumption prejudices our case against Infallibilism, not for it. As such, we can safely assume it here in order to simplify our calculations.
Given the above assumptions, we can measure the evidential force of one of these intuitions with the relative Bayes’ factor

\[
\frac{P(S(X) | \text{Inf}&K)}{P(S(X) | \text{TF}&K)} = \frac{P(X | \text{Inf}&K)P(S(X) | X\&\text{Inf}&K)}{P(S(X) | \sim X\&\text{TF}&K)}
\]

where K stands for any prior evidence we have already taken into account.

For example, take the intuition that knowledge is evidence. If, as Infallibilism says, S knows that P only if P has probability 1 for S, then (according to the argument of section 4.1.4) P meets a necessary condition for being evidence. Given Infallibilism, moreover, it is difficult to see what knowledge could be *lacking* that would keep it from being evidence. Hence, even if Infallibilism does not entail K→E, it does make it quite likely, so that P(K→E | Inf) is quite high. Likewise, although K→E does not entail S(K→E), it does make it quite likely, so that P(S(K→E) | (K→E)&Inf) will be quite high. The product of these probabilities, which is the numerator of our Bayes’ factor, will then be fairly high.

How much S(K→E) confirms Inf over TF thus depends substantially on the denominator of our Bayes’ factor. This probability depends largely on whether there are any error theories which would make this intuition likely which are themselves made likely by traditional Fallibilism – that is, put informally, whether there are any non-\textit{ad hoc} good explanations of why it would wrongly seem to us that knowledge is evidence. In the absence of such error theories, S(K→E) will be extremely unlikely given TF, and so be many, many times more like on Inf than TF.

How top-heavy our other Bayes’ factors are then depends on how positively relevant our evidences are to each other, given Inf and given TF. For example, let us take S(Modality) next, conditionalizing on S(K→E). Since we have assumed that the only
possible version of Infallibilism is one that is consistent with our eight seemings, it follows that \( \neg (K \rightarrow E) \& S(K \rightarrow E) \) entails \( \neg \text{Infallibilism} \). This implies that \( S(K \rightarrow E) \& \text{Inf} \) entails \( K \rightarrow E \), so that in assuming \( S(K \rightarrow E) \), relative to Inf, we are also assuming \( K \rightarrow E \).

Given this, assuming \( S(K \rightarrow E) \) raises the probability of our denominator – it makes Infallibilism predict \( S(\text{Modality}) \) more greatly. This is because it is plausible that \( \neg P \) is epistemically impossible for us if \( P \) is part of our evidence (Dougherty and Rysiew 2009: 127), which entails that \( \neg P \) is epistemically impossible for us if we know \( P \), if knowledge is evidence. So, if we assume \( K \rightarrow E \), Infallibilism makes Modality more likely. Moreover, if our intuitions about \( K \rightarrow E \) were accurate – if \( S(K \rightarrow E) \) and \( K \rightarrow E \) are both true – then it becomes more plausible that our intuitions about other principles about knowledge will be true, so that it is more likely that, if Modality is true, we will have the intuition that it is true. Hence, both terms in the numerator of

\[
\frac{P(X | \text{Inf} \& K)P(S(X) | X \& \text{Inf} \& K)}{P(S(X) | \neg X \& \text{TF} \& K)}
\]

will be higher when we fill in Modality for \( X \) and \( S(K \rightarrow E) \) for \( K \).

The same tendency will continue for our other evidences. Sticking with our five principles about knowledge for now, \( K \rightarrow E \) makes Closure more likely to the extent that it is plausible that evidence is closed in some sense, and it makes Action more likely to the extent that there are conceptual links between having something as evidence and being able to act on it. Finally, Action makes Inquiry very likely, since we can think of ending inquiry as a particular kind of action.

If our first numerator (for the Bayes’ factor for \( S(K \rightarrow E) \)) is already quite high, then the effect of these increases will not be large. The more important question for our calculations is whether the values of our denominators will tend towards unity in the
same way. If, for example, the numerators of our first two Bayes’ factors are .6 and .8, and our denominators .05 and .1, then while S(K→E) is 12 times more likely on Inf than on TF, S(Modality) is only 8 times more likely, once we have taken S(K→E) into account. The increase in our numerator is thus outweighed by the increase in our denominator. If our denominators eventually tend towards unity in this fashion, our Bayes’ factors will eventually be only negligibly top-heavy.

Whether the denominator for Modality and our remaining evidences will be increased in this way depends a great deal on what the most plausible Fallibilist error theory for S(K→E) is. For example, if, conditional on Fallibilism&S(K→E), a particular error theory is highly probable, and this error theory also predicts S(Modality), then P(S(Modality) | S(K→E)&TF) will be fairly high. Not all error theories will be like this. For instance, an etiological error theory, according to which the writings of some influential philosopher or philosophers (say, early Bayesian epistemologists) led to the careless conflation of the separate concepts of evidence and knowledge in subsequent thinkers influenced by those writings, would not predict similar confusions about the connections between knowledge and modality. On the other hand, given that there are apparent conceptual connections between K→E and Modality of the kind gestured at above, there may be Fallibilist error theories for S(K→E) which will also predict S(Modality) to some extent. Such error theories will predict S(Closure), S(Action), and S(Inquiry) for similar reasons. As we take more and more of these evidences into account, these error theories will be increasingly confirmed, and so make Fallibilism predict the remaining evidences more strongly, so that our Bayes’ factors will become less and less top-heavy as we move through these five evidences.
Even if no such error theories are forthcoming for K→E, the fact that ending inquiry can be thought of as a special kind of action, and Inquiry accordingly thought of as a special case of Action, makes it independently plausible that, if Action wrongly seemed true to us, Inquiry would similarly wrongly seem true. These two evidences are so closely related that the Fallibilist can plausibly claim that once we have assumed S(Action), S(Inquiry) is scarcely any more likely on Infallibilism than on traditional Fallibilism.

What about S(Value), S(Unique), and S(Gettier)? Infallibilism entails Value, Unique, and Gettier, and in this way makes S(Value), S(Unique), and S(Gettier) very probable, especially if we are assuming that our intuitions about the previous intuitive contents considered were all correct. On the other hand, K→E also entails Value, assuming that evidence is uniquely valuable. So if the Fallibilist can come up with an error theory unifying S(K→E), S(Modality), and so on, this error theory will likely predict S(Value) as well.

Even in the absence of such error theories, Value entails Unique, since being uniquely valuable is a way of being qualitatively different. So here again, as with Action and Inquiry, it is independently very plausible that, if Value wrongly seemed true to us, Unique would similarly wrongly seem true.

What about S(Gettier)? This is a somewhat different case from the others, because most Fallibilists will hold that this intuition is veridical, that is, that subjects in Gettier cases really do lack knowledge. The claim that we lack knowledge in Gettier cases does not appear to be related to any of the intuitive claims we have considered so far, and so how likely TF makes S(Gettier) essentially boils down to how hard it is for Fallibilists to
solve the Gettier problem. Given the history of epistemology in the past half-century, this appears to be quite hard, so that our Bayes’ factor for S(Gettier) still ends up quite top-heavy.

Appeal, like S(Gettier), seems relatively unrelated to any of the intuitions considered so far, and so it similarly continues to provide independent evidence for Infallibilism. Appeal is very likely given Infallibilism, given that (as I argued in chapter 3) Infallibilism entails that all major theories of knowledge are, suitably interpreted, correct (at least extensionally). Appeal is much less likely given Fallibilism. A particular version of Fallibilism can easily explain the intuitive appeal of itself. But it has a harder time explaining the appeal of other theories, and an explanation of the appeal of one other theory (e.g., evidentialism) will not obviously explain the appeal of a different one (e.g., reliabilism). Now, I noted in chapter 3 that some of the intuitive conditions on knowledge discussed there are closely related: e.g., probability and relevant alternatives, or luck and safety. But I suggested in note 5 of that chapter that at least six of the conditions are logically independent, if Fallibilism is true. Suppose that a particular theory takes two of these conditions to be necessary for knowledge. This leaves it with four more conditions to explain the appeal of. If the appeals of these conditions are probabilistically independent, then the probability that they would all be appealing, given this particular version of Fallibilism, will be equal to the product of the probability that each one would be appealing, given this version of Fallibilism. For example, if the probability that any one of these conditions is appealing is 1/2, given Fallibilism, the probability that they are all appealing is \((1/2)^4 = 1/16\). This will give us a very top-heavy Bayes’ factor if our numerator is close to 1.
The above discussion revealed three important points about the evidential force of $E^+:

(i) Given our other evidences, $S($Inquiry$)$ and $S($Unique$)$ are only marginally more likely on Inf than TF."

(ii) Given the conceptual connections between their contents, the Fallibilist *may* be able to come up with an error theory that unifies $S($K→E$)$, $S($Modality$)$, $S($Closure$)$, $S($Action$)$, and $S($Value$)$.

(iii) $S($Gettier$)$ and Appeal cannot be explained by error theories which could explain the intuitions mentioned in (ii), and so are independent of these other evidences relative to both Inf and TF.

In light of (i) and (iii), we can assume that

$$\frac{P(E^+ \mid Inf)}{P(E^+ \mid TF)} = \frac{P(S(K \rightarrow E, Modality, Closure, Action, Inquiry, Value, Unique, Gettier) \& Appeal \mid Inf)}{P(S(K \rightarrow E, Modality, Closure, Action, Inquiry, Value, Unique, Gettier) \& Appeal \mid TF)}$$

$$\approx \frac{P(S(K \rightarrow E, Modality, Closure, Action, Value, Gettier) \& Appeal \mid Inf)}{P(S(K \rightarrow E, Modality, Closure, Action, Value, Gettier) \& Appeal \mid TF)}$$

$$= \frac{P(S(K \rightarrow E, Modality, Closure, Action, Value) \mid Inf)}{P(S(K \rightarrow E, Modality, Closure, Action, Value) \mid TF)} \times \frac{P(S(Gettier) \mid Inf)}{P(S(Gettier) \mid TF)} \times \frac{P(Appeal \mid Inf)}{P(Appeal \mid TF)}$$

The crucial remaining question, then, is whether there really is any Fallibilist error theory that can unify $S($K→E$)$, $S($Modality$)$, $S($Closure$)$, $S($Action$)$, and $S($Value$)$ in the way suggested in (ii). The degree to which such an error theory would keep TF from being disconfirmed by these evidences would then depend on its initial plausibility and how strongly it predicts each of these data.
What about Interest-Relativism and Contextualism? I noted in section 4.2 that several of the intuitive claims that I presented there can be accepted by the Interest-Relativist and Contextualist: Action, Inquiry, Value, and Unique. As such, these theories can explain the intuitive appeal of these claims as well as the Infallibilist.

We have already acknowledged in (i) that Inquiry and Unique provide hardly any independent confirmation of Inf over TF, and so our situation is not changed with respect to these evidences. Likewise, (iii) remains true if we are comparing Infallibilism to Interest-Relativism or Contextualism. So for these theories, we have

\[
\frac{P(E^+ | \text{Inf})}{P(E^+ | \text{IR})} \approx \frac{P(S(K \rightarrow E, \text{Modality, Closure, Gettier}) \& \text{Appeal} | \text{Inf})}{P(S(K \rightarrow E, \text{Modality, Closure, Gettier}) \& \text{Appeal} | \text{IR})} \\
= \frac{P(S(K \rightarrow E, \text{Modality, Closure}) | \text{Inf})}{P(S(K \rightarrow E, \text{Modality, Closure}) | \text{IR})} \times \frac{P(S(\text{Gettier}) | \text{Inf})}{P(S(\text{Gettier}) | \text{IR})} \times \frac{P(\text{Appeal} | \text{Inf})}{P(\text{Appeal} | \text{IR})}
\]

and likewise for Contextualism, replacing IR with Cont.

7.3 The Posterior Odds of Infallibilism

It follows from the assumptions and arguments of the above two sections that the posterior relative odds of Infallibilism to traditional Fallibilism is approximately equal to
\[
\frac{P(\text{Inf} \mid E^+ \& E^-)}{P(\text{TF} \mid E^+ \& E^-)} = \frac{P(\text{Inf})}{P(\text{TF})} \times \frac{P(E^+ \mid \text{Inf})}{P(E^+ \mid \text{TF})} \times \frac{P(E^- \mid E^+ \& \text{Inf})}{P(E^- \mid E^+ \& \text{TF})}
\]

\[
\approx \frac{P(\text{Inf})}{P(\text{TF})} \times \left[ \frac{P(S(K \rightarrow E, \text{Modality, Closure, Action, Value}) \mid \text{Inf})}{P(S(K \rightarrow E, \text{Modality, Closure, Action, Value}) \mid \text{TF})} \times \frac{P(\text{Appeal} \mid \text{Inf})}{P(\text{Appeal} \mid \text{TF})} \right]
\times \left[ P \left( (1) \& (2) \mid \text{Inf} \& E^+ \right) \times \frac{P(S(K) \mid \text{Inf} \& (1) \& (2) \& E^+)}{P(S(K) \mid \text{TF} \& E^+)} \right]
\]

The only one of these factors we have not discussed is the first – the relative prior odds of Infallibilism to traditional Fallibilism. It is plausible that – independently of the theories’ consequences – Infallibilism is more intrinsically probable, since it is so simple. Traditional Fallibilist theories of knowledge tend to be comparatively complicated, including multiple necessary conditions and revisions and re-revisions of these conditions in order to avoid counterexamples. Interest-Relativism and Contextualism are arguably even worse off in this regard, since they add to these theories additional complications regarding the interest-relativism of the necessary conditions for knowledge or contextual variation of the extension of ‘knows.’

\[\text{[21]}\]

\[\text{Nagel (2013: 293n22) notes that ‘know’ is the eighth most common verb in the English language (‘think’ is the twelfth). Children as young as ages 3-4 already have a fairly good grasp on its usage. It would be surprising if a concept so central to our thought and action (and one which children acquire at a very young age) had so little theoretical unity that the most parsimonious description of its nature that we can give involves five or six complicated conditions. And even setting aside the centrality of ‘knowledge’ to our thought and language, it is plausible that, other things equal, more parsimonious philosophical theories are more likely to be true than more complicated philosophical theories, just as scientists tend to presume that more parsimonious scientific theories are more likely to be true than more complicated scientific theories (see, e.g., Swinburne 2001: ch. 4).} \]
For these reasons, it is plausible that Infallibilism has a higher prior probability than these rival theories. But, for simplicity’s sake, let us be generous to the Fallibilist and assign them all equal priors. This makes the first factor in the above equation drop out.

The only remaining question, then, is how the Bayes’ factor for $E^+$ balances off against the Bayes’ factor for $E^-$. The Bayes’ factor for $E^+$ is hard to estimate because it is difficult to determine the degree of dependence between $S(K\to E)$, $S($Modality$)$, $S($Closure$)$, $S($Action$)$, and $S($Value$)$. But let us suppose that there is some error theory with a non-negligible probability that could explain these data, and that while it starts off quite improbable, by the time we get to $S($Action$)$ it has become so probable, given TF, that TF predicts $S($Action$)$ and $S($Value$)$ almost as highly as does Inf, so that our Bayes’ factors for these two evidences drop out for practical purposes. This gives us

$$\frac{P(\text{Inf} \mid E^+ & E^-)}{P(\text{TF} \mid E^+ & E^-)} \approx \frac{P(E^+ \mid \text{Inf})}{P(E^+ \mid \text{TF})} \times \frac{P(E^- \mid E^+ & \text{Inf})}{P(E^- \mid E^+ & \text{TF})}$$

$$\approx \frac{P(S(K \to E) \mid \text{Inf})}{P(S(K \to E) \mid \text{TF})} \times \frac{P(S($Modality$) \mid S(K \to E) & \text{Inf})}{P(S($Modality$) \mid S(K \to E) & \text{TF})}$$

$$\times \frac{P(S($Closure$) \mid S($Modality$, K \to E) & \text{Inf})}{P(S($Closure$) \mid S($Modality$, K \to E) & \text{TF})} \times \frac{P(S($Gettier$) \mid \text{Inf})}{P(S($Gettier$) \mid \text{TF})}$$

$$\times \frac{P(\text{Appeal} \mid \text{Inf})}{P(\text{Appeal} \mid \text{TF})}$$

$$\times \left[ P\left(1 & (2) \mid \text{Inf} & E^+\right) \times \frac{P(S(K) \mid \text{Inf} & (1) & (2) & E^+)}{P(S(K) \mid \text{TF} & E^+)} \right]$$

For the sake of illustration, let us artificially try to assign precise numbers to our remaining factors. Starting with our last two, which are cumulatively the Bayes’ factor.
for $E^*$, I suggested in section 7.1 that error theories (1) and (2) are each individually as plausible as not, and that they make $S(K)$ about as likely as TF. It would follow from this that the Bayes’ factor for $E^*$ is at least approximately $1/4$.

Let us further suppose that $S(K\rightarrow E)$ starts off 12 times more probable than not on Inf than on TF, but that, as we take the previous evidences into account, and error theories which predict our various intuitions become more likely, $S$(Modality) ends up only 6 times more likely on Inf than on TF, and $S$(Closure) 3 times more likely. Let us assume further that $S$(Gettier) is 10 times more likely on Inf than TF and that Appeal is 16 times more likely.\(^{22}\) Then we have

$$\frac{P(E^+ \mid \text{Inf})}{P(E^+ \mid \text{TF})} = \frac{12}{1} \times \frac{6}{1} \times \frac{3}{1} \times \frac{10}{1} \times \frac{16}{1} = 34,560$$

If we combine this with our previous probability assignments, we get

$$\frac{P(\text{Inf} \mid E^+&\neg E^-)}{P(\text{TF} \mid E^+&\neg E^-)} \approx \frac{P(E^+ \mid \text{Inf})}{P(E^+ \mid \text{TF})} \times \frac{P(E^- \mid E^+&\text{Inf})}{P(E^- \mid E^+&\text{TF})} = \frac{34,560}{1} \times \frac{1}{4} = \frac{8,640}{1}$$

Infallibilism, then, ends up 8,640 times more likely than traditional Fallibilism. This is because cumulative evidences can be extremely powerful, especially when they are independent but even when they are partially dependent, as we have assumed our evidences for Infallibilism are.\(^{23}\)

\(^{22}\) In section 7.2 above I estimated the probability of Appeal given TF as $1/16$ on the assumption that, for any version of Fallibilism, there are four conditions that the Fallibilist must explain away the appeal of, the appeal of each of these conditions is probabilistically independent of the appeal of the others, and their individual probabilities conditional on Fallibilism are $1/2$.

\(^{23}\) Numerous authors have remarked upon the confirmatory power of independent evidences. For one recent discussion, see McGrew’s (2003) probabilistic analysis of the theoretical virtue of consilience.
The cumulative Bayes’ factor for $E^+$ will be similar if we substitute IR or Cont for TF, for the four evidences that IR and Cont more easily explain ($S$(Action), $S$(Inquiry), $S$(Value), and $S$(Unique)) have already dropped out of our above calculation, and the Bayes’ factors for the other evidences will remain the same, assuming that the other intuitions in $E^+$ are no more likely given IR and Cont than given TF. The Bayes’ factor for $E^-$, however, should be slightly more favorable for IR and Cont, if they predict $S$(K) more strongly than does TF; for example, if they predict it twice as strongly, then the Bayes’ factor for $E^-$ will be $(1/4)(1/2) = 1/8$, giving us the result that Infallibilism is 4,320 times more likely than either of these versions of Fallibilism.

The point of these calculations is not to show that Infallibilism really is precisely this much more probable than these forms of Fallibilism, when all the evidence is in. Rather, it is to show how difficult it is to avoid the conclusion that the evidence for Infallibilism substantially outweighs the evidence against it. Perhaps I am wrong in suggesting that error theories (1) and (2) are, initially, each as probable as not, and that they predict $S$(K) just about as well as does traditional Fallibilism. But even if I am wrong about these things, it is not credible to suggest that these error theories are so implausible, and explain $S$(K) so much worse than do our different versions of Fallibilism, that $S$(K) alone counterbalances the remaining five evidences for Infallibilism. For example, suppose that my judgments about how much more and less likely $E^+$ and $E^-$ are on Infallibilism and traditional Fallibilism are each off by an order of magnitude, so that $E^+$ is only 3,456 times more likely on Infallibilism than traditional Fallibilism and $E^-$ is 40 times more likely on traditional Fallibilism than Infallibilism – a generous concession to the Fallibilist about the explanatory poverty of (1) and (2), in
light of my arguments in chapter 6. Even so, we would still get the result that
Infallibilism is about 86 times more likely than traditional Fallibilism, and about 43 times
more likely than Contextualism and Interest-Relativism.  

I have not yet discussed the posterior odds of Infallibilism to Quasi-Infallibilism.
Quasi-Infallibilism is more complex than Infallibilism in that it pulls apart certainty from
probability 1, and so multiplies our concepts. As such, its prior probability should be less
than Infallibilism’s. I argued in chapter 5 that its consequences are as skeptical as robust
Infallibilism’s, so that \( E^- \) will be no easier for Quasi-Infallibilism to explain than
Infallibilism. I also noted in section 5.5 that, while Quasi-Infallibilism can explain most
of the evidences in \( E^+ \) as well as Infallibilism, it pulls apart some of the central proposed
conditions on knowledge, and for this reason it will have a harder time explaining Appeal
than Infallibilism. It appears then, that all of the factors in

\[
\frac{P(\text{Inf} \mid E^+ \& E^-)}{P(\text{QI} \mid E^+ \& E^-)} = \frac{P(\text{Inf})}{P(\text{QI})} \times \frac{P(E^+ \mid \text{Inf})}{P(E^+ \mid \text{QI})} \times \frac{P(E^- \mid E^+ \& \text{Inf})}{P(E^- \mid E^+ \& \text{QI})}
\]

will be greater than or equal to 1, so that Infallibilism will end up more probable than
Quasi-Infallibilism as well.

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24 To be clear, I am not claiming to have fairly divided up the probability space among traditional
Fallibilism, Interest-Relativism, and Contextualism. This is because of the various arguments that have
been advanced for and against these theories, I have only considered the ones that bear on Infallibilism, and
not the ones relevant to discriminating between these different forms of Fallibilism, assuming that
Infallibilism is false. The important claim for my purposes is not that Interest-Relativism and
Contextualism are twice as probable as traditional Fallibilism on all the evidence, say, but just that
Infallibilism is much more likely than any of these theories.
7.4 The Case for Infallibilism

In the first three sections of this chapter, I have argued that the evidences in favor of Infallibilism strongly outweigh the evidences against it. This is so even if we allow the Fallibilist critic that error theories (1) and (2) are initially unlikely on Infallibilism and that they do not explain S(K) as well as do Fallibilist theories of knowledge. Even if we allow this, if we also acknowledge that the further evidences summarized in E− do not add any additional weight (or very little) to the case against Infallibilism, it is very difficult to avoid the conclusion that the disconfirmation of Infallibilism by the evidences against it considered in chapter 6 is outweighed by the positive evidences for Infallibilism canvassed in chapters 3-4. For, while these latter evidences are not completely independent of each other, relative to Fallibilism, there are no obvious unifying error theories which would allow the Fallibilist to explain away all of these evidences at once. As a result, their cumulative evidential force is extremely strong.

As I have said, the precise numerical values that I suggested for these degrees of confirmation are not important. The important take-away from my calculation is just that even if we make generous concessions to the Fallibilist about the plausibility and effectiveness of the Infallibilist error theories advanced in chapter 6, Infallibilism still ends up much more probable than Fallibilism on the total evidence.

This case for Infallibilism is still defeasible, of course, both because there may be other evidences we have not considered and because there may be reasons to reconsider the probability judgments that I have made. The most promising way for the Fallibilist to argue that I have overestimated the posterior probability of Infallibilism on the evidence is to propose error theories for our intuitions in the eight propositions about knowledge advanced in chapter 4. My calculations above took account of the possibility of such
error theories, but if the Fallibilist can come up with one or two actual error theories which are both plausible and succeed in explaining away several of the above intuitions at once, he may be able to argue that the Bayes’ factor for $E^+$ is much lower than I have suggested. I know of no attempts by Fallibilists to construct such error theories, but we should not dismiss the possibility \textit{a priori}.

We should also not dismiss \textit{a priori} the possibility of further evidences that could disconfirm Fallibilism. But I think that such evidences are unlikely to be forthcoming. Considerations having to do with our intuitions about general characteristics of knowledge will most likely \textit{confirm} Infallibilism, since, as I argued at length in chapter 4, Infallibilism fits more naturally with our general conception of knowledge in so many respects. And considerations having to do with our intuitions about particular cases, or our ordinary language in particular contexts, while they may tend to disconfirm Infallibilism on their own, will very likely be explicable by (1) and (2) in the same way that the evidences considered in chapter 6 were. As such, while the evidences evaluated in this dissertation may not be comprehensive, they are likely representative in a way that makes it unlikely that further evidences will change our conclusion that Infallibilism is strongly confirmed over Fallibilism.

In closing, I would like to summarize the overall case for Infallibilism made in this dissertation in informal, non-probabilistic terms. As I see it, the relevant considerations are as follows. On the one hand, Infallibilism is a very simple theory that lets us accept \textit{all} major theories of knowledge, solves the Gettier problem, and explains why knowledge seems to us to be qualitatively different from non-knowledge and uniquely valuable. Infallibilism also explains why knowledge seems to us to play the
roles of providing evidence, making anything contrary to what is known epistemically impossible, rationalizing action, ending inquiry, and being closed under consciously recognized entailment. Fallibilist theories, which are typically much more complex and gerrymandered, do none of these things, or at least not easily. On the other hand, Fallibilists get to say that we have a lot of knowledge. While it may be initially intuitive that we have more knowledge than Infallibilism allows for, if, at the end of the day, we must choose whether to accept the theory that says that we have a lot of knowledge, or the theory that has so many other advantages and does so much theoretical work, we ought to go with the latter.

Fallibilists might object that there are other problematic implications of Infallibilism other than that we do not know very much, such as that many of our assertions are unwarranted. However, the best error theories for why we so often wrongly ascribe knowledge or take knowledge to be present when it is not present also predict that we would frequently make unwarranted assertions. As such, this objection does not give us any additional reason to reject Infallibilism. Similar remarks go for other prima facie problematic implications of Infallibilism.

At the same time, some of the evidences for Infallibilism summarized above are not evidentially independent either. For example, an explanation of why it wrongly seems to us that knowledge is uniquely valuable would also explain why it wrongly seems to us that knowledge is qualitatively different from non-knowledge, and an explanation of why it wrongly seems to us that knowledge lets us rationally act would also explain why it wrongly seems to us that knowledge lets us end inquiry.
In light of this, and ignoring the partial dependencies that remain between the other evidences, we can summarize the considerations for and against Infallibilism in the Table 7.1.

TABLE 7.1
SUMMARIZED COMPARISON OF THEORIES OF KNOWLEDGE

<table>
<thead>
<tr>
<th></th>
<th>Infallibilism</th>
<th>Quasi-Infallibilism</th>
<th>Traditional Fallibilist Theories</th>
<th>Contextualism and Interest-Relativism</th>
</tr>
</thead>
<tbody>
<tr>
<td>All major theories of knowledge correct</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Knowledge uniquely valuable (&amp; qualitatively different)</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>No Gettier problem</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Knowledge is evidence</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Knowledge that P makes ~P epistemically impossible</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Knowledge lets us act (&amp; end inquiry)</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Knowledge is closed under recognized entailment</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>We know a lot (&amp; can warrantedly assert a lot, etc.)</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Infallibilism, then, has seven at least partly independent advantages, and only one clear independent disadvantage. It is not credible that this one disadvantage of Infallibilism is enough to outweigh all of its advantages, compared to the other theories.

Against this, some Fallibilist philosophers maintain that skepticism about knowledge in ordinary cases is so implausible that one should never accept a theory of
knowledge that has skeptical implications. In allegedly “Moorean” fashion, they assert that the premises of a skeptical argument are never more certain than the ordinary knowledge claims they seek to undermine (Lewis 1996: 549, Pryor 2000: 518). But even if this is true for particular arguments, many arguments together can have a cumulative force not enjoyed by each particular argument, and the disjunction of all of their premises may indeed be more plausible than the ordinary knowledge claims Mooreans cling to.

Compare: I am at a trial for my best friend, who has been accused of murdering his wife. I am almost certain that he did not kill her: I have known him most of my life and this is simply not something he would do. This is a “Moorean fact” for me. When a witness comes forward to testify that she saw him do it, I am rational in judging that it is more likely that she is lying or confused than that my friend really killed his wife. And

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25 Moore would not clearly have endorsed this move, given that, as I noted in section 5.1.3, Moore was an anti-skeptical Infallibilist, not a Fallibilist. He did not think it more obvious that we had knowledge than that Infallibilism was true; he (apparently) thought both of these claims obvious. It is also worth noting that, in a reply to Malcolm (1964), Moore (1964: 668-69) suggests that while a claim like “Here is one hand” gives us a “proof” that there are material things, a claim like “I know for certain that there are chairs in this room” only gives us a “good argument” that we have knowledge of material things. Moore acknowledges that it is suggestive that many more philosophers have endorsed skepticism about our knowledge of material things than have endorsed skepticism about the existence of material things themselves. (I am indebted to Grice [1989b] for these references.) At the risk of reading too much into this distinction, it would seem to suggest that Moore does not take the “Moorean” style of argument for the conclusion that we know that there are material things to be impossible to defeat. So even if Moore (1959c: 222) was right when he said that the premises of Russell’s skeptical argument were less certain than the claim that he knows that he has hands, that does not mean that this will be true for the premises of all other arguments (such as those given in chapter 5 for the premise that infallible knowledge cannot be extended by ampliative inference). Nor does it mean that the claim that one knows that one has hands will be more certain than the disjunction of the premises of these arguments, as I go on to argue.

I should also say, for what it is worth, that I think that Moore is completely right to treat the claim that material things exist as much more pretheoretically certain than the claim that we know that material things exist. While the evidences for Infallibilism in this dissertation are more than sufficient to make me think that the claim that I know that I have hands is probably false – at least, when I assume that Infallibilism really does imply that this claim is false – it would take evidences much stronger than the ones I have presented in this dissertation to make me think that the claim that I have hands is probably false.
perhaps I am rational in making similar judgments about the credibility of any individual piece of evidence, if that is the only evidence presented. But when four more witnesses come forward, the murder weapon is found to have my friend’s fingerprints on it, he is demonstrated to have motive, means, and opportunity, and he confesses to the murder, the cumulative force of all these evidences should lead me to abandon my faith in my friend. It is not more plausible that all these witnesses are lying or mistaken, that my friend’s fingerprints got on the weapon some other way, and that he was pressured into confessing to protect someone else, and so on, than that I was mistaken about what my friend is capable of.

Likewise, it is not more plausible that most major proposed conditions on knowledge are mistaken, that the Gettier problem is irresolvable or only resolvable by ad hoc methods, that the unique value of knowledge (and its qualitative difference from non-knowledge) is inexplicable, and that knowledge is not evidence, a basis for epistemic modals, a basis of action (and inquiry-closure), or closed under consciously recognized entailment than it is that I do not know that I will travel to Paris next year, nor even than that I do not know that I have hands. At a certain point the evidence, or the arguments, must overturn common sense.

Accepting that we have less knowledge than contemporary epistemologists have tended to suppose does not mean that we must accept complete skepticism. I argued in chapter 5 that Infallibilists can still hold that we know some a priori facts and facts about our mental lives, and possibly also facts about the external world that we have perceived or learned through testimony. As for other propositions, we may not be able to know them to be true, but this does not imply that they are not highly probable on what we do
know. It is compatible with everything I have argued in this dissertation that many of our ordinary beliefs about unobserved parts of the world are highly probable on what we know, and that it is thus reasonable for us to be highly confident that they are true.

With that said, Infallibilism about knowledge does have implications for how we should think about other central epistemological questions, in particular, the rationality of belief and credence. In the conclusion to this dissertation I will consider how we might move forward in addressing these questions, in light of Infallibilism.
CHAPTER 8
THE FRUITS OF INFALLIBILISM

In this dissertation I have defended an Infallibilist theory of knowledge, according to which knowledge is a mental state consisting in clear perception of facts. A proposition is certain for us when and only when we clearly perceive it to be true. Since knowledge just is this clear perception, we know all and only those propositions which are certain for us. After introducing this thesis in chapter 2, I advanced nine arguments in its favor in chapters 3-4, addressed arguments against it in chapters 5-6, and weighed these arguments against each other in chapter 7. While this cumulative case is not conclusive, it is quite strong, so that this theory emerges as the most plausible theory of knowledge in light of all the evidence.

A recurring theme of my case for Infallibilism is that Infallibilism allows for knowledge to play a much more central role in epistemology than do Fallibilist theories. For example, while Fallibilists must deny that knowledge is evidence, Infallibilists can affirm this thesis. In the conclusion to this dissertation I want to consider what the most natural way to think about the rationality of belief and credence is, if the theory of knowledge I have argued for is correct. This conclusion is not intended as a substantial defense of these ways of thinking about these problems, for an adequate defense of this sort would require another book. Rather, it is intended to indicate the kind of broader
approach to epistemology which the theory I have developed here makes *prima facie* plausible, and to suggest issues worth investigating in the future.

First, let us consider the question of *rational belief*. Many of the arguments in chapter 4 that knowledge requires certainty work equally well to support a similar infallibilist thesis about rational belief, along the lines of the following:

(Rational Belief) For any proposition P, S ought to fully believe P if and only if S knows that P.\(^1\)

First, the claim that one’s epistemic situation *vis-à-vis* P when one is in a position to rationally believe P is qualitatively different from one’s situation when one is not quite in a position to rationally believe P is easily explicable given the above thesis, but apparently inexplicable if one ought to fully believe P if and only if P is, say, .9 probable or greater. Second, the claim that if you can rationally believe that P, then you can rationally act as if P is more easily explicable given that rational belief requires certainty than otherwise. Third, a closure principle for rational belief is plausible given the above but not plausible otherwise. Such a principle might say, for example, that if you consider a valid deductive argument, you can come to rationally believe the conclusion provided that you can rationally believe the premises.\(^2\)

\(^1\) Philosophers often take Rational Belief to be a non-starter (at least, assuming, as I am here, that knowledge requires certainty). For example, after considering problems with a different theory about the relation of rational belief and rational credence, Staffel (2016: 1733n7) says, “Of course, we could have a theory that only allows for rational belief if the agent has a rational credence of 1. But this view is not a serious contender in the first place.” But as I note below, once we have accepted Infallibilism about knowledge, it is not clear that there is any good reason to reject an analogous claim about rational belief. In particular, the error theories for why we would wrongly take ourselves to have more knowledge than we do should also make it likely that we would wrongly take ourselves to have more rational beliefs than we do.

\(^2\) While my focus here is on the rationality of belief, structurally similar considerations make plausible an analogous descriptive claim about the metaphysics of belief – that S believes that P iff S has credence 1 that P. See Clarke 2013 and Greco 2015.
The first and second of the above arguments that rational belief requires certainty only work against threshold views of rational belief, according to which a belief is rational iff it exceeds some probabilistic threshold. Interest-Relativist views of belief, according to which it is rational for S to believe P only if it is rational for S to act on P, can answer both of these arguments. These theories of belief build into the nature of rational belief that one be able to rationally act on the proposition believed, and in so doing they explain why one’s epistemic situation vis-à-vis a proposition one can rationally believe differs importantly from one’s situation vis-à-vis a proposition one only comes close to being able to rationally believe.

Interest-Relativists about belief still cannot allow for (multi-premise) closure. To my mind, this is a significant cost, because closure remains highly intuitive for rational belief. Moreover, most of the standard objections to rational belief requiring certainty can be answered effectively by the error theories endorsed in chapter 6. In particular, if it often wrongly seems to us that propositions are certain when they are not, it is not surprising that we would wrongly take ourselves to be rational in believing many propositions which we are not rational in believing given that rational belief requires certainty. As such, it is not clear that we gain much by rejecting the claim that belief requires certainty, once we have accepted Infallibilism about knowledge.

In addition, Infallibilism about knowledge makes infallibilism about rational belief directly plausible because of conceptual connections between knowledge, belief, and assertion. For it is plausible that belief aims at knowledge (Unger 1975: ch. 5,
Williamson 2000: 47; cf. also Dutant 2015: 132n71), so that a belief that P is fully rational only if P is known, and hence, if Infallibilism is true, only if certain. This suggestion is made even more plausible when we consider the relation of belief and assertion. It is natural to think of belief as the inward analogue of assertion (Williamson 2000: 238). For example, when one sincerely asserts that P, one expresses a full belief that P. If belief is the inward analogue of assertion in this way, then if warranted assertion requires knowledge, it is plausible that rational belief likewise requires knowledge.

Second, let us consider the question of rational confidence. If I am right that both knowledge and rational full belief require certainty, and if certainty is comparatively rare, then if we wish to examine what kind of attitude we can rationally have towards most propositions about the world, it is incumbent upon us to examine rational degrees of confidence, or degrees of belief. The most natural view of rational confidence is as a function of epistemic probability, in the following sense:

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3 Suppose that this is right. Then our beliefs are intrinsically teleological: they represent us as knowing, and in this sense are correct only if we do know. It will then be true that, assuming S believes that P, S knows that P iff S’s cognitive faculties are “properly functioning” in the sense that S’s belief conforms to its intrinsic teleology (i.e., successfully aims at knowledge). So while there is no talk of a design plan here, this view of the teleology of belief may allow us to reconcile Infallibilism with the central intuition of proper functionalism, the only major theory of knowledge left out of the main argument in chapter 3 (see note 20 in that chapter).

4 This analogy raises the intriguing question of whether a belief in an unknown proposition could be pragmatically proper, although constitutively improper, when one comes close enough to knowing for current doxastic purposes, in the same way that an assertion of an unknown proposition can be pragmatically proper, although constitutively improper, when one comes close enough to knowing for current conversational purposes. (See section 6.2.1.) I cannot address this possibility here, but it is worth pursuing. (My thanks to Robert Audi here.)

5 I suggest below that the upshot of this is that, if we want to determine what we can rationally be confident of, we should be devoting attention to figuring out both the scope of our knowledge and what propositions are made probable by what we know. Even if one thought that Interest-Relativism about rational belief is true, so that we can rationally believe many propositions, this upshot would plausibly still follow. For the most natural form of Interest-Relativism is one on which there is a variable probabilistic threshold for rational belief. If we spell out this probabilistic threshold in terms of probability on one’s knowledge, as suggested below, then the scope of knowledge and probability remain central to the question of what we ought to believe. (Compare Fumerton 2010.)
(Rational Credence) For any proposition P, S ought to believe P to degree \( n \) if
and only if the probability of P conditional on S’s
knowledge is \( n \).\(^6\)

Rational Credence is made plausible by the thought that S’s credence in P should match
the epistemic probability of P for S, and by the suggestion in section 4.1.4 that the most
natural analysis of the epistemic probability of P for S is the probability of P conditional
on S’s evidence. If our evidence consists of all and only what we know, then it follows
that the epistemic probability of P for S is the probability of P conditional on S’s
knowledge. Thus, the degree to which S should believe that P is equal to the probability
of P conditional on S’s knowledge.\(^7\)

While the above considerations are extremely brief, they should suffice to show
why Infallibilism about knowledge makes plausible the above theses about rational belief
and rational credence. These accounts do need some chisholming. For example, we
should not hold S to be epistemically irrational merely for failing to consider some
proposition P, and so having no credence or belief in it at all: so perhaps we should make
these principles range only over propositions which S has considered. We may want to be
more permissive about credences still, and allow for S to have interval-valued credences

\(^6\) Compare Williamson 2000: 220, Climenhaga forthcoming-a: section IV.

\(^7\) Many philosophers writing about epistemic probability take it to be reducible to rational
credence. This would make Rational Credence circular. However, just as I think that contemporary
epistemology has gone astray in thinking of justified belief as explanatorily prior to knowledge, I think that
it has likewise gone astray in thinking of rational credence as explanatorily prior to probability. In both
cases the latter, more “objective” property is what grounds the former. (I defend this claim about the
relation between probability and credence in my unpublished manuscript, “(Epistemic) Probability is
Degree of Support, not Degree of (Rational) Belief.”) While I cannot substantiate this suspicion here, I
suspect that a historical and psychological examination of the concepts of probability and credence would
suggest that this is the natural way of thinking about the relation of these properties, just as such
examinations suggest that this is the natural way to think about the relation of knowledge and belief. For
example, while the mathematical concept of probability goes back at least to the sixteenth century, the
mathematical concept of degree of belief does not appear to exist prior to the work of Ramsey in the
twentieth century. (Qualitative concepts of both probability and confidence go back much further.)
in some propositions, provided that the epistemic probability of those propositions is within these intervals.\(^8\)

With the need for such revisions acknowledged, as long as the above accounts of rational belief and rational degree of belief are at least approximately correct, we end up with an epistemology we might call *knowledge-first foundationalism*. The propositions which we know play a foundational role in our epistemology, serving as the basis against which any other propositions we believe should be evaluated, and the foundation from which we can rationally draw both full and partial inferences. According to knowledge-first foundationalism, at least to a first approximation, we ought to be confident in a proposition to the extent that it is made probable by what we know, and we ought to believe a proposition outright just in case it is certain given what we know.

If knowledge-first foundationalism is right, then determining how confident we ought to be in various propositions involves answering two questions:

1. What do we know?
2. How do we determine the probability of a proposition conditional on a body of knowledge?

I have gone some way towards answering (1) in this dissertation, especially in chapter 5, where I set out some bounds on what we can know, given that Infallibilism is true. However, there is more work to be done here, and future research on, for example, the advantages and disadvantages of internalist and externalist Infallibilism could help us answer (1) more precisely.

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\(^8\) Even so revised, no one will perfectly measure up to the high standards of Rational Credence and Rational Belief. But we can do a better or worse job of approximating them. For example, even if we regularly believe things which are not certain for us, we may only be mildly irrational if we only believe propositions which come very close to being certain for us.
An important question going forward – one which I think has received insufficient systematic investigation – is (2). If the degree to which I should be confident that the dinosaurs were killed by a meteor is determined by the probability of this proposition conditional on everything I know, then in order to figure out how confident I should be in this proposition, I need to figure out its probability on my knowledge. While we have some idea of how to do this (witness the process by which I estimated the posterior probability of Infallibilism in chapter 7, for example), the mathematical rules of probability do not themselves tell us how those rules should be employed (when we should employ one theorem rather than another, for example), nor do they tell us what values to assign to the probabilities that we plug into our equations.

Unless a much stronger form of skepticism than that which I have defended in this dissertation is true, then, although there are only a few propositions we know to be true, there are many more that we can nevertheless rationally be highly confident in. Once we have acknowledged that there is little that we know, and little that we can rationally believe outright, a natural next task for epistemology is figuring out which propositions we can rationally be confident in, determining what our degree of confidence in them should be, and helping settle disputes about how confident we should be in more controversial propositions, such as disputed scientific and philosophical theories. To do these things, we need to come up with some method for determining, in general, how much a body of knowledge evidentially supports a proposition. This is an important future project for epistemology.  

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9 I take some first steps in this project in my unpublished manuscript, “The Structure of Epistemic Probabilities.” This is a very big project, however, and much work remains to be done.


Climenhaga, Nevin (forthcoming-b). “Intuitions are Used as Evidence in Philosophy,” *Mind*.

Climenhaga, Nevin (unpublished-a). “(Epistemic) Probability is Degree of Support, not Degree of (Rational) Belief.”


Hawthorne, John and Maria Lasonen-Aarnio (2009). “Knowledge and Objective Chance,” in *Williamson on Knowledge*.


