

**THE NONEPISTEMIC PSYCHOLOGICAL REQUIREMENTS FOR
KNOWLEDGE**

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The Nonepistemic Psychological Requirements for Knowledge

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The undersigned, appointed by the Dean of the Graduate School, have examined the dissertation entitled

**THE NONEPISTEMIC PSYCHOLOGICAL REQUIREMENTS FOR
KNOWLEDGE**

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A candidate for the degree of Doctor of Philosophy

And hereby certify that in their opinion it is worthy of acceptance.

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for my parents

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TABLE OF CONTENTS

Acknowledgements.....	ii
Abstract.....	iv
Chapter 1: Knowledge and Degrees of Belief.....	1
Chapter 2: Knowledge and Confidence.....	15
Chapter 3: Knowledge and Doubt.....	43
Chapter 4: Knowledge and Certainty.....	78
Conclusion:	96
Bibliography	98
Vita	102

ABSTRACT

A question tracing back to Plato's *Meno* asks, "What is knowledge?" Very plausibly, a person knows a proposition only if he believes it and it is true. However, true belief is not sufficient for knowledge. A person who believes that *the smiling man next to me is a murderer* because of his schizophrenia does not *know* that the man is a murderer, even if his belief happens to be true. Hence, many epistemologists think that knowledge requires a justified or rational, true belief, one that was not acquired by luck or accident. Understanding this *epistemic* (or normative) requirement for knowledge has been a focus of contemporary epistemology.

Unfortunately, there has been a neglect of the important question of whether there are any further nonepistemic, psychological requirements for knowledge beyond simple belief. The purpose of this dissertation is to explore this question. I examine whether degrees of belief, confidence, the absence of doubt, and certainty are necessary for knowledge. In the following, I will give an outline of the proceeding chapters.

Some philosophers think that *beliefs come in degrees*. You don't only believe or not believe a proposition; rather, you believe a proposition to some degree. If this view is correct, then we must ask what degree of belief is required for knowledge. In Chapter 1, I argue that beliefs do not come in degrees. Hence, there is no point in asking what degree of belief is required for knowledge.

I do believe, however, that *confidence* comes in degrees; you can be more or less confident in a proposition. So, what degree of confidence is required for knowledge? In Chapter 2, I introduce and defend *beliefism*, the view that being confident that *p* is equivalent to believing that *p is likely* and the degree of confidence that *p* is directly proportional to the degree of likelihood that *p* is believed to have. Mirroring the 'knowledge-first' approach in recent epistemology, which takes concepts such as evidence and warranted assertion to be explained in terms of knowledge, beliefism engenders a 'belief-first' approach, according to which confidence and action are explained in terms of belief. I also show that it follows from beliefism that confidence is not required for knowledge.

In Chapter 3, I argue that *knowledge precludes doubt* (KPD). This is distinct from the view that knowledge requires belief. A person can believe something but still have some doubt. Sally might believe, with a little doubt, that it will rain tomorrow. However, she cannot *know*, with a little doubt, that it will rain tomorrow. I present an account of doubt that distinguishes KPD from the theses that *knowledge requires indubitability*, that *knowledge requires certainty*, and that *knowledge requires a maximum degree of confidence*. I also defend KPD against several objections.

It sounds odd, even inconsistent, to say, "Holmes knows that the maid committed the crime, but he still isn't certain that she did it." This is evidence that knowledge requires *certainty*. In Chapter 4, however, I argue that knowledge does not require certainty. I

also introduce a common and important type of knowledge – *evaluated knowledge* – and argue that certainty is necessary for evaluated knowledge but not for unevaluated knowledge. I show how this provides an explanation for why the above quote seems inconsistent. I also defend an analysis of certainty.

In conclusion, the only nonepistemic, psychological requirement for knowledge other than belief is the absence of doubt. However, certainty is required for evaluated knowledge.

Chapter 1: Knowledge and Degrees of Belief

1.0 Introduction

Some epistemologists focus on belief, rational (or justified) belief, and knowledge. They think that one either believes or does not believe, and belief is required for knowledge. Others focus on degrees of belief and rational degrees of belief. They think that you don't only believe or not believe a proposition; rather, you believe a proposition *to some degree*. Now, it is rarely asked how degrees of belief relate to knowledge. That is the question I will explore in this chapter.

I argue that beliefs do not come in degrees, i.e., it is false that

Thesis₁: Some beliefs come in degrees.

In §1.1, I show that Thesis₁ is both prevalent and also based on the following groundless assumption:

Thesis₂: Tokens of confidence are identical to tokens of belief.

In §1.2, I present the argument against Thesis₁. This argument is novel because although many epistemologists have expressed skepticism about beliefs coming in degrees, no one has formulated an explicit argument that they do not. In §1.3–§1.5, I respond to three objections to my argument. It follows from my argument that it is pointless to ask how degrees of belief relate to knowledge because beliefs do not come in degrees.

1.1 A Groundless Assumption

Many epistemologists talk about beliefs coming in degrees. Furthermore, they will often open up a discussion about degrees of belief by talking about how it is intuitive to attribute degrees of confidence. In the introduction to a recent volume of collected papers called *Degrees of Belief*, Franz Huber (2009) opens with the following remarks:

Degrees of belief are familiar to all of us. Our confidence in the truth of some propositions is higher than our confidence in the truth of other propositions. We are pretty confident that our computers will boot when we push their power button, but we are much more confident that the sun will rise tomorrow... The higher an agent's degree of belief for a particular proposition, the higher her confidence in the truth of that proposition... The purpose of this book is to provide a comprehensive overview and assessment of the currently prevailing theories of degrees of belief (1).

Keith Frankish (2009) writes:

There is a duality in our everyday view of belief. On the one hand, we sometimes speak of credence as a matter of degree. We talk of having some level of *confidence* in a claim (that a certain course of action is safe, for example, or that a desired event will occur) and explain our actions by reference to these degrees of confidence... On the other hand, we also speak of belief as an unqualified, or flat-out, state ('plain belief' as it is sometimes called), which is either categorically present or categorically absent (75).

Jeremy Fantl and Matthew McGrath (2009) write,

We are more confident of the truth of some propositions than others. You are presumably more confident that the next British prime minister will be a Conservative than a Liberal Democrat... We should allow, then, that there is such a thing as graded belief—roughly being more or less confident of the truth of a proposition. But there also seems to be such a thing as *outright* believing, which is binary (128)

Scott Sturgeon (2008) writes that

belief can seem course-grained. It can look like a three-part affair: either given to a claim, given to its negation, or withheld... belief can seem fine-grained. It can look as if one invests levels of confidence rather than all-or-nothing belief. In this sense of belief one does not simply believe, disbelieve or suspend judgement. One believes to a certain degree, invests confidence which can vary across quite a range (140).

David Christensen (2004) writes that

belief is an attitude that one can either take, or fail to take, with respect to a given claim... Nevertheless, the binary model does not provide the only plausible way of conceiving of belief. It is clear, after all, that we have much more confidence in some things we believe than in others. Sometimes our level of confidence in the truth of a given claim decreases gradually—say, as slight bits of counterevidence trickle in... This suggests that underlying our binary way of talking about belief is an epistemic phenomenon that admits of degrees. (13–14)

First, note that in these passages, Huber, et.al. are making claims about *belief*; they are not talking about something that is merely belief-*like* that shares some of belief's properties; they are talking about belief itself. Second, they are all trying to *illustrate* how beliefs come in degrees. Third, they seem to think that by illustrating how confidence comes in degrees, it *thereby follows* that they have shown how some beliefs come in degrees. I can't make sense of this illustration of Thesis₁ – that some beliefs come in degrees – without the assumption of Thesis₂ – that tokens of confidence are identical to tokens of belief. But no reason is given for Thesis₂; as I said, it is a groundless assumption.¹

The above quotes might bring about the following confusion. Although some of the above philosophers seem to accept Thesis₁, other remarks in their papers indicate that they also affirm (or are sympathetic to) the 'binary model' (Christensen) or a 'course-grained' view (Sturgeon) or the existence of 'outright' belief (Fantl and McGrath) or just 'plain belief' (Frankish). (For ease of discussion, I will simply refer to the 'binary model'.) It seems that according to the binary model, beliefs do not come in degrees. So, how can these philosophers accept both Thesis₁ and the binary model?

There is no contradiction. I explicitly formulated Thesis₁ to say that *some* beliefs come in degrees; perhaps the binary model only applies to another type of belief that does not come in degrees. Furthermore, perhaps one type of belief supervenes on or is reducible to the other. Or maybe they are unrelated. It is not my concern to explore the relationship between these two types of belief; that project is for those who actually think

¹ For more examples, see (Harman 1986:22), (Foley 1992: 111), and (Erikkson and Hajek 2007: 209).

that some beliefs come in degrees. (If I was to be given a label, I could be called an *eliminativist* about beliefs that come in degrees.)

Some may try to minimize the prevalence of Thesis₁. They will say that the above philosophers are *technically defining* ‘degrees of belief’ to just mean what is expressed by ‘degrees of confidence’. They do not actually think that beliefs come in degrees. This is perhaps a more charitable interpretation of Huber, et.al. (Of course, this technical definition does not automatically make Thesis₂ true since Thesis₂ employs ‘belief’ in its ordinary sense, not in a technically defined sense.)

However, there is no indication that Huber, et.al. are employing a technical definition; as I emphasized earlier, their remarks indicate that they are talking about ordinary belief. Furthermore, if *degrees of confidence* is all they mean by ‘degrees of belief’, then it is confusing why they don’t just use ‘degrees of confidence’, an expression that is already used in ordinary English. There is no justification for using a technical definition. So, it would be uncharitable to take the above quoted philosophers to be doing something that they have no justification to do. (Indeed, if they do not think that beliefs come in degrees, then they have reason *not* to use such a technically defined expression; its use might mislead others into thinking that they think that beliefs come in degrees!)

Some philosophers – decision theorists and Bayesians perhaps – might technically define ‘degrees of belief’ in a different way. Richard Jeffrey (1970) writes of his willingness to “use ‘degree-of-belief’... as a technical term” (161) and seems to care very little for the entity picked out by ‘belief’ in ordinary English. This is seen in the following, well-known, evocative passage,

nor am I disturbed by the fact that our ordinary notion of *belief* is only vestigially present in the notion of degree of belief. I am inclined to think Ramsey sucked the marrow out of the ordinary notion, and used it to nourish a more adequate view. (171-172)

Jeffrey is referring to Frank Ramsey (1931), who made popular the idea that degrees of belief can be defined by way of a person's dispositional betting behavior (or by something similar to betting behavior).² Now, perhaps 'degrees of belief', as Jeffrey technically defines it, is more adequate for his (and other Bayesians') theoretical purposes than the ordinary notion. The point I wish to emphasize is that so long as Jeffrey and his followers are using 'belief' in a technically defined sense and are not making claims about beliefs, they are making no commitments about Thesis₁; hence, their work is irrelevant to my discussion. (Similarly, if someone wrote a paper in which she technically defined 'God' to mean *Ralph Nader*, wrote, "I will argue that God does not exist," and then presented an argument that Nader does not exist (using 'God' whenever she meant *Ralph Nader*), the philosopher of religion would find such work to be of little relevance to discussions about atheism.)

Still, despite the fact that Jeffrey and his followers do not accept Thesis₁, my long list of quotes shows that many philosophers do accept it. To end this section, I will give my view as to *why* so many philosophers assume Thesis₂. They probably hold to the following,

Thesis₃: There is something X that has many belief-*like* qualities (e.g., it is a guide to action and theorizing) and that comes in degrees.

² Of course, such definitions came before Ramsey. See Lina Eriksson and Alan Hajek (2007) for a helpful history and discussion. One should also be sure to distinguish between those who are *technically defining* 'degrees of belief', and those who are trying to find a *substantive analysis* of degrees of belief.

Many think that *confidence* is a very good candidate for X. I agree. But many will also think that because X has many *belief-like* qualities, tokens of X just *are* tokens of belief. This will then lead them to think both that some beliefs come in degrees and also that tokens of confidence are identical to tokens of belief. In other words, these thoughts motivate Thesis₁ and Thesis₂. In the following sections, I will argue that these theses are false; it will follow that tokens of X should not be identified with tokens of belief.

1.2 Argument that beliefs do *not* come in degrees

In this section, I will first discuss two ways by which someone might try to defend Thesis₁. Then I will give my argument against it.

Consider the following:

- 1) “Bill believes that Santa exists,”
- 2) “Bill neither believes that Santa exists, nor does he believe that he doesn’t exist,”
- 3) “Bill believes that there is no Santa.”

By replacing ‘believes’ with ‘has the belief’, sentences synonymous with (1)–(3) are formed. We can see that belief can be attributed by both a noun and a verb but not by an adjective. This is unlike confidence, which can be attributed by both a noun and an adjective but not by a verb.

Here is one way to argue for Thesis₁. Plausibly, heat, height, and confidence come in degrees. This is evident because you can add ‘very’ to their ascriptions, as in

- 4) “The building is very hot and very tall.”
- 5) “I am very confident that she is the one.”

Can this method show that beliefs come in degrees? No. (4) and (5) require ascribing heat, height, and confidence adjectivally, and beliefs cannot be ascribed this way.

Therefore, this method does not support Thesis₁. (Some might retort that you can ascribe ‘very firm belief’ or ‘very strong belief’ to people; I will discuss this point in §1.4.)

Here is a second way to support Thesis₁. Both belief and confidence can be ascribed by way of a noun, and nounal confidence ascriptions can show that confidence comes in degrees. Consider,

6) “I have much confidence that she is the one.”

7) “I have little confidence that she is the one.”

These sentences make perfect sense. Since belief, like confidence, can be ascribed nounally, it might be thought that this method will also show that beliefs come in degrees. But consider that

8) “I have much belief that she is the one.”

9) “I have little belief that she is the one.”

are nonsensical. So, this method also fails.

On the contrary, the fact that (8) and (9) are nonsensical makes it seem plausible that Thesis₁ is false. Consider the following simple argument: if beliefs come in degrees, then (8) and (9) make sense; (8) and (9) do not make sense; therefore, Thesis₁ is false. However, the first premise can be disputed. Why think that if beliefs come in degrees, (8) and (9) must make sense? This is not obvious.

A tighter argument can be given. Consider the distinction between mass nouns and count nouns.³ Dean Zimmerman (1995) describes,

There are familiar syntactic criteria for the distinction: count nouns admit of pluralization, can occur with numerals, take ‘a’ and ‘every’ in the singular and ‘few’ and ‘many’ in the plural; while mass nouns take singular verbs, cannot occur with numerals, take determiners like ‘much’ and ‘little’ rather than ‘few’ and ‘many’ and so on (53).

³ The following argument was greatly helped by correspondence and discussion with Mark Steen.

Examples of count nouns are ‘deer’, ‘tree’, ‘toy’, ‘gift’, and ‘snowflake’. Examples of mass nouns are ‘stamina’, ‘energy’, ‘strength’, and ‘lava’. Note that paradigm propositional attitudes that come in degrees are all denoted by mass nouns: ‘confidence’, ‘doubt’, ‘hope’, ‘fear’, ‘desire’. We can properly say, “I have much doubt that she is the one,” “I have much fear that she is the one,” and “I have little hope that she is the one,” in addition to (6) and (7). Objects denoted by count nouns typically do not come in degrees.

However, it is not right to say that all nouns are either a mass noun or a count noun *simpliciter*, but rather, that their *occurrences* are either one or the other. I can have little hope that she is the one, but I can also have *a* hope that she is the one. In the previous sentence, ‘hope’ occurred as both a mass noun and also as a count noun. ‘Belief’ can also occur as either a mass noun or a count noun. Although it typically occurs as a count noun, in the following sentence,

10) “There is more religious belief this century than in the previous one,”

‘belief’ is used as a mass noun.

Here, now, is my argument:

- i) If a propositional attitude X comes in degrees, then higher or lower degrees of X can be properly attributed to a person by an occurrence of a mass noun.
- ii) Higher or lower degrees of belief cannot be properly ascribed to a person by an occurrence of a mass noun.
- iii) Therefore, beliefs do not come in degrees.

Consider (i). One can talk of much hope, little confidence, much desire, and so on. For *any* paradigm propositional attitude that comes in degrees, higher or lower degrees of that attitude can be attributed to a person by way of an occurrence of a mass noun. This is

inductive evidence for (i). Consider (ii). One cannot ascribe higher or lower degrees of belief to a person with ‘belief’. (10) does ascribe belief by way of a mass noun, but this only ascribes a number of single beliefs to a *population*, not a degree of belief to a single individual. Whenever belief is ascribed to a single person by way of a noun, it is by the occurrence of a count noun and not a mass noun. That is why (8) and (9) do not make sense. From (i) and (ii), it follows that beliefs do not come in degrees. Combine the falsity of Thesis₁ with the plausible view that confidence comes in degrees, and we thereby have reason to deny Thesis₂.

1.3 First Objection

Some may object that I should not make conclusions about metaphysics from observations about what’s proper to say in ordinary English. Now, although this objection may correctly apply in certain cases, it cannot be right generally. I rightly concluded that heat, height, and confidence come in degrees from the fact that ascriptions (4) and (5) make sense. If it *had* made sense to say (8) and (9), I think that it would have been proper to conclude that beliefs come in degrees. Similarly, we can conclude that trees do not come in degrees on the basis of the sentence “there is much tree over there” not making sense. So, the mere fact that my argument appeals to what is proper to say in ordinary English is not a problem with it.

Note also that the offending premise should be (i), where I make the connection between metaphysics (the antecedent) and proper English (the consequent). ((ii) is only about proper English and makes no direct claim about metaphysics.) I defended (i) *inductively*, appealing to what we know about how we can properly ascribe paradigm propositional attitudes that come in degrees; I take this to be support for (i). So, even if

there is a general problem with appeals to what is proper to say in ordinary English, my specific argument is not a *mere* appeal but an inductive argument.

Lastly, a more direct argument can ignore ordinary language and appeal directly to considered propositions. If beliefs do come in degrees, then (8) (or a sentence like (8)) expresses the proposition that *I have much belief that she is the one*. When considering this proposition, it seems that I cannot have a lot of belief that she is the one. The proposition, insofar as I can grasp it by way of (8), seems false. Furthermore, upon reflection, we can then see that belief is just not the sort of thing that comes in degrees. Therefore, Thesis₁ is false.⁴

1.4 Second Objection

Daniel Hunter writes,

Belief is sometimes taken to be an all-or-nothing affair. One either believes something or one doesn't... At other times, however, we wish to think of belief as a matter of degree, not as an all-or-nothing matter. We recognize that there are some things we believe more strongly than others. For example, I believe that $2 + 2 = 4$ and I also believe that Neanderthals buried their dead, but I believe the former proposition much more firmly than the latter (Hunter 1996: 75).

I will take the sort of examples that Hunter uses and also add some of my own:

- 11) "Adam firmly believes that Santa exists."
- 12) "Adam very firmly believes that Santa exists."
- 13) "Adam believes that Santa exists more firmly than Esther does."
- 14) "Adam believes, with some doubt, that it will snow tomorrow."
- 15) "Adam believes with certainty that it will snow tomorrow."
- 16) "Adam believes that it will snow tomorrow but isn't certain about it."⁵

⁴ Thanks to Kenny Boyce for the objection, for discussion, and for help formulating the direct argument.

⁵ 'Certainty' and 'certain' in (15) and (16) refer to *psychological certainty*, a state that entails the instantiation of no epistemic properties (e.g., rationality or justification) to the believer. Sometimes,

(Note that ‘firmly’ in (11)–(13) could have been replaced with ‘strongly’. Since they are synonymous, I will use them interchangeably. Note also that ‘firmly believes’ could have been replaced with ‘has the firm belief’, ‘very firmly believes’ could have been replaced with ‘has the very firm belief’, and so on.) Call these sentences ‘modified-belief ascriptions’. The suggestion on the table is that the naturalness of these modified-belief ascriptions shows that Thesis₁ is true. It also blocks the above argument by questioning (i). Perhaps some propositional attitudes, such as belief, come in degrees and are not denoted by mass nouns but by expressions such as (11)–(16).

The suggestion fails. Although a *property* of an object might come in degrees, the object itself might not. A deer has mass, and mass comes in degrees; a tree has height, and height comes in degrees. But the deer and tree themselves do not come in degrees. Similarly, the firmness with which a belief is held might come in degrees, but it does not follow that the belief does. So, (11)–(16) give us no reason to think that beliefs come in degrees.

But then what are (11)–(16) ascribing? What is it for a belief to be held with firmness? Plausibly,

17) *S*’s belief that *p* is held with firmness if and only if *S* believes that *p* and *S* has some sufficiently high degree of confidence that *p*.

The degree of firmness with which *S*’s belief that *p* is held is directly proportional to *S*’s degree of confidence that *p*. The more firmly that *S* believes that *p*, the more confident that *S* is that *p*. This relationship can be expressed with the following biconditional:

‘certainty’ refers to *epistemic certainty*, a state that entails a great deal of rationality or justification to the believer. See Chapter 4 for more.

18) S believes that p more firmly than T believes that p if and only if S believes that p , T believes that p , and S is more confident that p than T is.

The following biconditionals show how the presence or absence of certainty with which S believes that p is related to confidence:

19) S believes with certainty that p iff S believes that p and is completely confident that p .

20) S believes that p but is not certain that p iff S believes that p but is not completely confident that p .

How do we express the doubt in (14)? The following biconditional seems correct:

21) S believes, with some doubt, that p iff S believes that p but has a degree of confidence less than complete confidence that p .⁶

To sum up, modified-belief ascriptions really just ascribe some degree of confidence and a *non-degreed* belief to a subject. There is no good reason to think that they ascribe a degree of belief.

1.5 Third Objection

(8) and (9) supported the argument against Thesis₁, and (11)–(16) turned out to only be ascriptions of non-degreed belief and some degree of confidence. But there are other examples. Scott Sturgeon (2008) writes,

After all, predicates of the form ‘believes that P’ look to be *gradable*. We can append modifiers to belief predicates without difficulty—John believes that P more than Jane does. And we can conjoin the negation of suchlike without conflict—John believes that P but not fully. These linguistic facts indicate that predicates of the form ‘believes that P’ are gradable... (142)

If Sturgeon thinks it is natural to say,

22) “John believes that P more than Jane does”

⁶ More will be said about confidence, doubt, and certainty in later chapters.

23) “John believes that P but not fully,”

then he is probably okay with sentences such as

24) “John has more belief that P than Jane does,”

since (24) is the same as (22) except that it takes the nounal form of ‘belief’. These remarks call into question premise (ii) – that degrees of belief cannot be properly ascribed to a person by an occurrence of a mass noun – since (24) uses ‘belief’ as a mass noun.

For another example, a recent blog post on Oprah.com was entitled,

25) “How much ‘belief’ is enough to be ‘saved’?”⁷

Someone who is fine with these sentences might even be fine with (8) and (9).

First, I will simply report that (22)–(25) still seem nonsensical to me. Although it may be a linguistic fact that some people talk this way, it doesn’t seem that they *properly* talk this way. If I said, “John believes that *Matt is the murderer* more than Jane does,” the police would probably get the idea, but it should sound odd to them. Their reaction would probably be the same if I said, “John believes that *Matt is the murderer* but not fully.”

Second, in all cases in which ‘belief’ is purportedly used as a mass noun to ascribe degrees of belief to a person, it is really some other property, like firmness, that comes in degrees. The *intended* meanings of (22)–(25) are more naturally expressed by the following modified-belief ascriptions: “John believes that P more *firmly* than Jane does,” “John believes that P but *isn’t certain* about it,” and “How *strongly* must one believe in order to be saved?” Given what I noted in the previous section, these sentences could be further translated into the following ascriptions: “John believes that P, Jane believes that P, and John is more confident that P than Jane is,” “John believes that P, but

⁷ See <http://www.oprah.com/community/thread/85064>.

he is not completely confident that P,” and “With how much confidence must one believe in order to be saved?” Upon examination, then, there is no good reason to think that degrees of belief are being ascribed by these sentences. Premise (ii) remains defended.

I conclude that we have ample reason to think that Thesis₁ is false and no good reason to think it is true. Beliefs do not come in degrees. It follows that it is not a worthwhile project to explore how degrees of belief relate to knowledge.

Chapter 2: Knowledge and Confidence

2.0 Introduction

Belief is required for knowledge. Furthermore, there is no need to ask what degree of belief is required for knowledge because beliefs do not come in degrees. However, I did admit in Chapter 1 that *confidence* comes in degrees. The overall goal of this chapter, therefore, is to answer the question, “Is confidence, or some sufficiently high degree of confidence, necessary for knowledge?” To answer this question, I will spend the bulk of my time answering the questions, “What is confidence?” and “How is confidence related to belief?”

In §2.1, I examine some confidence ascriptions to learn some basic facts about confidence. In §2.2, I present a prominent view about the relationship between belief and confidence that conflicts with mine. In §2.3, I introduce and explain *beliefism*, according to which being confident that p is equivalent to believing that p is *likely* and one’s degree of confidence that p is directly proportional to the degree of likelihood that p is believed to have. In §2.4, I defend beliefism and argue that it is more plausible than the view presented in §2.2. I also show how beliefism provides a solution to what Mark Kaplan has called the Bayesian Challenge by taking a ‘belief-first’ approach, according to which confidence and action are explained in terms of belief in probabilities. This mirrors the ‘knowledge-first’ approach in recent epistemology, which takes concepts such as evidence, rational action, and warranted assertion to be explained in terms of knowledge.

2.1 Confidence Ascriptions

Confidence ascriptions come in many forms. We might attribute confidence adverbially by saying, “Benji strode confidently across the stage,” or adjectively, by saying, “Benji is

a confident person,” or nounally, by saying, “Benji has a lot of confidence.” I will focus on those that ascribe a *propositional attitude* to a person, e.g.,

- 1) “The commander is confident that the enemy will attack.”
- 2) “The commander has confidence that the enemy will attack.”

(1) ascribes confidence by way of an adjective and (2) by way of a noun.

Confidence is naturally ascribed to the commander by (1) and (2) even if he is not currently thinking that the enemy will attack. He might be asleep or focusing on his next bite, but it would still be true to say both (1) and (2). Confidence, therefore, can be either *occurrent* or *dispositional*. *S* has occurrent confidence that *p* if and only if *S*’s confidence that *p* is conscious. *S* has dispositional confidence that *p* if and only if *S*’s confidence that *p* is not occurrent.⁸ Dispositional confidence that *p* should not be confused with the disposition to be confident that *p*. The former requires *actual* confidence; the latter does not. *S* may have never considered *p* and so not be actually confident that *p*, but she would be confident that *p* if she just considered *p*. In this case, *S* would have a disposition to be confident that *p* but would not be dispositionally confident that *p*.⁹

Being confident that *p* can be distinguished from *feeling* confident that *p*. The latter entails an experiential state, a sort of feeling. And, plausibly, experiences are *essentially occurrent*; they *cannot* be dispositional. On the other hand, one can be confident dispositionally. Therefore, being confident is not identical to feeling confident. While he dreamlessly sleeps, the commander is confident that the enemy will attack; he does not feel confident, however, because he doesn’t feel *anything* when he sleeps. So,

⁸ Here, I am following Thomas Senor’s (1993, 461–462) definition of occurrent and dispositional belief: “A belief is occurrent at *t* iff it is conscious at *t*... *S*’s belief that *P* is dispositional at *t* iff at *t*, *S* believes that *P* and *P* is not occurrent.”

⁹ This distinction, as applied to beliefs, is explored by Paul Moser (1989, 15–19) and Robert Audi (1994).

we can infer from our reflections on (1) and (2) both that confidence can be dispositional and also that being confident that p is distinct from feeling confident that p .

But how are being *occurrently* confident that p and feeling confident that p related? Aren't these the same? I take one's feeling confident that p to be constituted by those feelings that one normally undergoes when one is occurrently confident that p . After an exciting pep talk, the coach asks, "Do you feel confident that we're going to win?! Are we going to show them what we're made of?!?" "Yes!!!" In such a case, a feeling of confidence is experienced by the team; there are feelings of boldness and readiness. However, one could be occurrently confident in a proposition without these sorts of feelings. As you read this sentence, you are confident that you are alive. You became occurrently confident that you were alive when you read the previous sentence, but there was probably little or no discernible feeling of confidence at all. It is also not likely that, at that moment, you felt confident that you were alive. This is especially clear if you read the sentence quickly and were focused on the ambient noise in the environment and the hunger in your stomach. So, occurrent confidence does not entail feeling confidence.

Furthermore, feeling confidence does not entail occurrent confidence. *Possibly*, one of the above team members could momentarily get caught up in the team spirit and share all the same feelings as his teammates (i.e., he might be phenomenologically identical to them for a short period of time), but he might dispositionally believe that they don't have the slightest chance of winning. It doesn't seem that such a person is confident that they will win even if he feels confident that they will. So, being occurrently confident that p neither entails, nor is entailed by, feeling confident that p . (I

will admit, however, that I am more confident in the former thought experiment than in the latter.)

Confidence comes in degrees. Consider:

- 3) "I have complete confidence that she is the one,"
- 4) "I have much confidence that she is the one,"
- 5) "I have a moderate degree of confidence that she is the one,"
- 6) "I have little confidence that she is the one,"
- 7) "I have very little confidence that she is the one."
- 8) "I have no confidence whatsoever that she is the one."

Degrees of confidence are naturally ascribed with nounal confidence ascriptions. Is it the same with adjectival confidence ascriptions? It is natural to say,

- 9) "I am completely confident that she is the one,"
- 10) "I am very confident that she is the one,"
- 11) "I am somewhat confident that she is the one."
- 12) "I am not at all confident that she is the one."

Furthermore, (3)–(5) and (9)–(11) are, respectively, synonymous; so also are (8) and (12).

However, I cannot think of natural adjectival confidence ascriptions that express the low degrees of confidence ascribed by (6) and (7).¹⁰

How do the following relate?

- 13) "I am confident that she is the one."
- 14) "I have confidence that she is the one."

¹⁰ Perhaps their meaning could, approximately, be expressed with, "I am confident that she is not the one" and "I am very confident that she is not the one."

Although they may seem synonymous, they are not. (13) ascribes a relatively high degree of confidence that is in between what is attributed by (4) and (5) or (10) and (11). (13) and (7), for example, are inconsistent. On the other hand, (14) ascribes just *some* degree of confidence; it is therefore compatible with all of (3)–(11) except for (8). Now, assertions of (14) might *conversationally implicate* that one has a high degree of confidence, probably the same degree attributed by (13); it will thereby seem incompatible with (6) and (7). However, this implication can be cancelled. One can say, “I have confidence that she is the one, although, I have to admit that it’s only a small degree of confidence.” Such an utterance, though odd, does not seem *inconsistent*. On the other hand, saying, “I am confident that she is the one, although, I have to admit that I have only a small degree of confidence that she is the one,” seems inconsistent. Consider ‘talent’. While discussing yo-yo skills, if I say, “Jay has talent; unfortunately, it’s only a small degree of talent,” I have not said anything inconsistent. If I say, “Jay is talented; unfortunately, he only has a small degree of talent,” it seems that I am saying something inconsistent.

2.2 The Alternative View: Orthodoxy₁

Consider the following:

Orthodoxy₁: *S* believes that *p* only if *S* has some degree of confidence that *p*.

Orthodoxy₁ has much intuitive appeal, and, of all the views discussed so far, it is the most prevalent. I do not know of anyone in the literature who has disputed it, and I know of very few who *would* dispute it if asked. However, my view about the nature of confidence conflicts with Orthodoxy₁. I will therefore have to take on the heavy burden of arguing that Orthodoxy₁ is false.

Orthodoxy₁ is entailed by another view,

Threshold View: Belief just is a certain high degree of confidence,

which is helpfully described by Mark Kaplan (1996) with the following analogy:

Consider how we think about millionaires. We hold that either you are a millionaire or you aren't, it is not a matter of degree. Yet we recognize that being a millionaire is a state of wealth, and wealth does admit of degree. We count you as a millionaire just in case you are sufficiently wealthy. It is natural to suppose the belief bears a similar relation to confidence. Although either you believe a hypothesis or you do not, belief is a state of confidence which admits of degree. We count you as believing *P* just in case you are sufficiently confident in the truth of *P*. (91)¹¹

Hence, just as having a certain degree of wealth constitutes being a millionaire, so does having a certain degree of confidence constitute having a belief.¹²

Orthodoxy₁ is entailed by, but does not entail, the Threshold View. One could hold that belief requires some degree of confidence but deny that having a certain degree of confidence is what it is to have a belief.¹³ Since the Threshold View obviously entails Orthodoxy₁, the reasons I give for rejecting Orthodoxy₁ will also be reasons for rejecting the Threshold View. That will be another interesting implication of my argument.

2.3 Beliefism

2.3.1 Beliefism Presented and Explained

I have described beliefism as the view that being confident that *p* is equivalent to believing that *p* is *likely* and one's degree of confidence that *p* is directly proportional to the degree of likelihood that *p* is believed to have. I call the view 'beliefism' because of

¹¹ Kaplan himself does not hold his view; this is just his description of it.

¹² A view very much like the threshold view is what Richard Foley (1992, p. 111) calls the *Lockean Thesis*, the view that "it is epistemically rational for us to believe a proposition just in case it is epistemically rational for us to have sufficiently high degree of confidence in it, sufficiently high to make our attitude towards it one of belief." Foley thinks this follows from what I am calling the threshold view. He would describe the threshold view with these words, "To say that we believe a proposition is just to say that we are sufficiently confident of its truth for our attitude to be one of belief."

¹³ For example, see Maher (1983), Kaplan (1996), and Frankish (2009).

the central role that belief plays in determining confidence. Beliefism can be more precisely stated as the following set of biconditionals:

15) S is completely confident that p iff either S believes that it's impossible that $\sim p$ or S believes that the possibility (or likelihood) that $\sim p$ is insignificant.

16) S is very confident that p iff S believes that p is very likely.

17) S is confident that p iff S believes that p is likely.

18) S is somewhat confident that p iff S believes that p is about as likely as its denial.

19) S has little confidence that p iff S believes that p is very unlikely.

20) S has no confidence whatsoever that p iff (S has no belief about the likelihood that p or S believes that it's impossible that p or S believes that the possibility (or likelihood) that $\sim p$ is insignificant).¹⁴

The biconditionals require much explaining. First, I have said previously how the left-hand sides of (15), (16), and (17) can be translated into nounal confidence attributions. Second, let all beliefs of the sort we find in the right-hand side of the biconditionals be called 'likelihood-beliefs'. (To avoid confusion, I will explicitly note that the modal beliefs in (15) and (20) count as likelihood-beliefs. Indeed, I take the belief that p is possible to be equivalent to the belief that p has some probability.) Third, the first disjunct of the right-hand side of (20) makes clear that a way to have no confidence that p is to have formed no belief about the likelihood of p . Just as a pine tree and a chimney have no confidence that p , so also do they have no belief about the likelihood of p .

¹⁴ Versions of beliefism are suggested in (Christensen 2004:18-20) and (Frankish 2005:19, 2009:76-78) but not defended rigorously. A main difference is that Christensen and Frankish do not take the relevant likelihood to be *epistemic* likelihood, as I explain in the following. This automatically nullifies some of their objections. More will be discussed below.

I take ‘probable’ and ‘likely’ to be synonymous. I am further concerned with epistemic probability and epistemic possibility. Now, the expressions ‘epistemic possibility’ and ‘epistemic probability’ are used in different ways in epistemology. I will distinguish my use of them by using examples. Fred, an ordinary adult, considers the proposition that $567 \times 123 = 69741$. For him, although it’s possible that this proposition is true, it is very unlikely. He is perfectly warranted in saying, “It’s possible $567 \times 123 = 69741$, but it’s very unlikely.” However, after he carefully performs the calculations both by hand and with a calculator, it is very likely. This example should help fix the concepts of epistemic possibility and probability that I am concerned with. Note that many decision theorists and epistemic logicians use ‘epistemic probability’ in such a way that necessary truths such as $567 \times 123 = 69741$ always have the highest possible degree of likelihood. (Its likelihood, on frequency or propensity interpretations of probability, is 1.) But surely there is a clear sense of ‘possible’ and ‘unlikely’ according to which Fred is warranted in saying what he says. So, I am using the expressions ‘epistemic probability’ and ‘epistemic possibility’ differently from how they use them.¹⁵

Here is another example. Watson has never considered the possibility that the butler is the murderer. More specifically, he has never entertained the proposition that *the butler might have done it*. In fact, if he would just consider his evidence, he would recognize that *it is likely that the butler did it*, but all of his attention is focused on the maid. Note that some Bayesians might use ‘epistemic probability’ in such a way that the epistemic probability of a proposition is identical to a person’s degree of belief or

¹⁵ This point is based on Plantinga’s (1993b: 150–151) objection to theories of *logical probability* serving as theories of what he calls epistemic conditional probability.

confidence in it. (This is sometimes called ‘subjective probability’.) In my example, however, the proposition that *the butler did it* is a possibility, indeed, likely, even though Watson has never formed an attitude toward that proposition. So, I am using these expressions differently from how they use them.

It is notoriously difficult to provide a successful analysis of epistemic possibility and probability. Very roughly, a proposition p is probable for me if and only if p is supported by my evidence (or by what I know); a proposition p is possible for me if and only if p is not ruled out by my evidence (or by what I know).¹⁶ Here, I want to emphasize that I am presenting these roughshod analyses mainly in order to give the reader a grasp of the concepts I am concerned with.¹⁷ I also ask the reader to rely mainly on this independent grasp and not too heavily on the analyses when assessing examples involving epistemic probability and possibility. Although relying on an imperfect analysis might be helpful, it could lead to errors.¹⁸

In this chapter, I am not concerned so much with epistemic possibility and probability themselves, but with a kind of belief about them, what I call *likelihood-beliefs*. A likelihood-belief is a belief that evaluates the likelihood or possibility of a proposition. Here are some examples. After a careful calculation, Fred comes to believe that *it is likely that $567 \times 123 = 69741$* ; he also believes that *it is unlikely that*

¹⁶ A more specific account of epistemic possibility is discussed in chapter 3. In these rough approximations, I relativized the notion of probability and possibility to a specific individual. Even this point is controversial; they might be relative to a group. Again, I am only trying to give the reader a grasp of what I am concerned about.

¹⁷ Regarding epistemic probability, Plantinga (1993b) provides a survey and critique of a number of theories in chapter 8. In chapter 9, he defends his own view. (Specifically, Plantinga analyzes that relation which holds between a proposition and the evidence which makes it probable.) Regarding epistemic possibility, Michael Huemer (2007) defends a theory that I find promising.

¹⁸ For example, an imperfect but helpful analysis of knowledge is the justified, true belief theory. However, when assessing the presence or absence of knowledge in various scenarios, it is often better to directly examine one’s intuitions about whether knowledge is present instead of about whether justified, true belief is present. Otherwise, Gettier counterexamples would be impossible.

567x123#69741. (Notice that these beliefs *could* be false; like Watson, we might wrongly assess what is possible or likely.) I am wondering where Sally is, and I say, “She’s probably at the mall,” thereby expressing my belief that *it’s likely that she is at the mall*. When someone suggests that she is at the North Pole, I say, “There’s no way she’s at the North Pole!” thereby expressing my belief that *it is impossible that she’s at the North Pole*. Likelihood-beliefs are relatively common and easy to come by. They do not require a sophisticated intellectual ability; a relatively young child could believe that Sally is probably at the mall and couldn’t be at the North Pole.¹⁹

Who can’t form likelihood-beliefs? A sufficiently undeveloped child will not be able to form such beliefs. Some animals surely cannot form such beliefs. Peter Carruthers (2008) has argued that bees form very simple beliefs about the locations of their beehive and nectar. Even if he is right about this, they probably do not form likelihood-beliefs such as the belief that *nectar might be over there* or *the hive is probably that way*. For more intelligent animals, things may be different. Consider dogs. Very plausibly, my dog Fido can form some beliefs; they will have contents such as that *there is some food*, and that *there is a threat*. And perhaps, when slowly approaching another dog, he also believes that *this dog might be a threat*. However, it is hard to know whether one is anthropomorphizing in such cases.

Having explained the likelihood-beliefs, I will now explain (15) in more detail. The second disjunct, ‘*S* believes that the possibility (or likelihood) that $\sim p$ is insignificant’, is needed to block off potential counterexamples according to which a

¹⁹ Many think that epistemic possibility ascriptions are context sensitive. This may make some people think that the Biconditionals imply that ‘is confident’ is context sensitive. But this does not follow. Although ‘*p* is likely’ might be context sensitive, it does not follow ‘*S* believes that *p* is likely’ is context sensitive.

person is completely confident that p but also believes that there are insignificant (or crazy or ridiculous) possibilities according to which p is false. Your son's basketball team is losing 9 to 100 with only 5 minutes left. You turn to your spouse and say, "I'm completely confident that we're going to lose." Your spouse points out that if a group of aliens shot a ray gun that made your son's team make every shot and the other team lose the drive to win, then your son's team might win. Your spouse says, "You believe in the *possibility* of aliens and the *possibility* of such a ray gun, right? And there's a *possibility* that they'd do this, right? So, there's a possibility that they'll win! Doesn't that make you less confident that they'll lose?" Incredulous, you say, "Well, that's *possible*, but no, that possibility's *so* crazy that it doesn't make me lose any confidence in their losing." It seems that if a possibility is taken to be sufficiently ridiculous (or insignificant), then you could believe in the possibility that you are wrong without your degree of confidence lessening.²⁰

But what is it to believe that a possibility is insignificant? It is to take the possibility seriously. This answer is not very informative, so I think it is best to focus on the examples. In the previous example, you did not believe that there was a significant possibility that your son's team would win. If the score were 85 to 100, that possibility would be significant. Also, to believe that the possibility that p is significant is not to believe that the probability that p is high. We take seriously the possibility that our

²⁰ Some may object that, in my example, you don't really believe that it's epistemically possible that the team will win. I am sympathetic with this objection; if it is right, then I'd just have to revise the Biconditionals and delete the relevant disjuncts in (42) and (47). I would like this, because it would make my view simpler. However, since I do find it convincing, I will not revise accordingly. (The same point would apply to those who think that you lose complete confidence during the dialogue.)

lottery tickets will win, which is why we do not discard them. However, we believe that the probability of their winning is very low.²¹

Consider the following objection to (15). Suppose S believes it's impossible that $\sim p$ and also believes that it's impossible that it's not impossible that $\sim p$; T only believes that it's impossible that $\sim p$. According to (15), S and T are both completely confident that p . The odd result is *either* that they are both equally confident that p (when it seems that S should be more confident), *or* that S is more confident that p than T is (when they are both completely confident that p). In response, I am willing to accept the first disjunct. The fact that S believes it is impossible that $\sim p$ is impossible does not make his degree of confidence higher than T 's.²²

But suppose U believes it's impossible that $\sim p$ and also believes that it's possible that it's not impossible that $\sim p$. Shouldn't U 's confidence be lower than T 's? Given what I said in the previous paragraph, I should say that they are both completely confident and they have the same degree of confidence. This is counterintuitive. In response, I'll first say that such a case is hard for me to grasp; when I try to fill in the details of such a possible case for any ordinary human, it seems that the person really just believes it's possible that $\sim p$. I can imagine someone *saying*, "I believe that $\sim p$ is impossible, but it's possible that it's not impossible," but then I think that person's cognitive state is really just one of believing that $\sim p$ is possible. Now, surely there are bizarre, metaphysically possible persons that do meet the description I made of U . In

²¹ The distinction between possibilities and significant possibilities is similar to the one Peter van Inwagen (2004: 66) makes between possibilities and "very real possibilities." Jeremy Fantl and Matthew McGrath (2009) provide an account of what it is for a possibility to be significant. They write, "Perhaps the chance that not- p is significant just in case it is high enough to make it improper to *put p to work* as a basis not only for belief, but... for action as well" (22). They spend much of their book exploring what it is '*to put p to work*', and I do not have the space here to explore the success of their account. In chapter 3, I will say that one believes that the possibility that $\sim p$ is significant if and only if one has some doubt that p .

²² Thanks to Peter Markie for this objection. A related objection will be discussed in Chapter 4.

those cases, I will accept that U and T are both completely confident that p (and equally confident that p) but then say that we should not be very confident about our intuitions about such bizarre cases.

2.3.2 Beliefism's Implications

I will now explore some implications of beliefism. First, given beliefism, it is natural to take the precision of our degrees of confidence to vary with the precision of the content of our likelihood-beliefs. If Grace believes that p is *very likely*, she may not have a belief with a content that indicates a numerically precise probability, just as I may not have a belief with a content that indicates a numerically precise height when I believe that *Mike is very tall*. Similarly, if Grace is very confident that p , she may not have a numerically precise degree of confidence that p . Her confidence, in Scott Sturgeon's (2008: 158) terminology, is *fuzzy*: she has a range of degrees of confidence with vague boundaries. Suppose Grace simply believes that p is *possible* but forms no specific belief about how probable p is; in this case, we can conclude that Grace has *some* degree of confidence that p , and the range of confidence she has toward p would be very wide.

Is a person's degree of confidence ever *precise*? I think so. When I flip a coin, the likelihood that I believe that the coin will fall heads can be represented by the number 0.5.²³ Then my degree of confidence can also be represented by 0.5, and it is also precise. So, the precision of our degrees of confidence and the precision of the degree of probability that a proposition is believed to have, on beliefism, vary together.

²³ One might say that this is just my belief in its *objective* probability. Suppose that's right. Following Miller's (1966) principle (also called the 'principal principle' and developed by David Lewis (1981)) we can see that a person's epistemic probability can follow directly from his known objective probabilities; furthermore, I could form a belief about the epistemic probability of the coin's falling heads according to this principle. So, I could quickly form belief in an epistemic probability once I know the objective probability.

Furthermore, we can *assign* a number (or an interval between two numbers) between 0 and 1 to represent the degree that we believe a proposition is likely to be true, even when that degree is fuzzy. Then we could use that same number (or interval) to represent the degree that we are confident that a proposition is true. We could further plug those numbers into formulas in the probability calculus to help us infer how confident we should be in other propositions.²⁴ I might believe that p is likely and so assign the degree of probability that p to be 0.75. I believe that q is very likely and so assign the degree of probability that p to be 0.90. A standard formula in probability theory is $P(p\&q)=P(p)\times P(q)$, when p and q are probabilistically independent. Supposing I know that they are mutually exclusive, I can then conclude that $P(p\&q)=0.675$. Correspondingly, my degree of confidence toward $p\&q$ can be represented by 0.675; it will be moderately high. So, beliefism allows for us to use the probability calculus.

Given beliefism, a natural way to *measure* our degrees of confidence is by way of introspection. Now, Frank Ramsey (1931: 169) is well known for defending skepticism about our ability to introspect our degrees of *belief* by way of an ‘intensity of feeling’, or ‘a belief-feeling or feeling of conviction’. He reasons that “the beliefs which we hold most strongly are often accompanied by practically no feeling at all; no one feels strongly about things he takes for granted.” Ramsey’s skepticism about this way of measuring degrees of belief could easily apply to degrees of confidence. For the reason Ramsey gives, an intensity of feeling does not accurately measure how confident one is in a proposition.

²⁴ This assumes, of course, that applications of the probability calculus are a correct way to determine how probable propositions are or how confident we should be.

Fortunately, there are other ways to measure degrees of confidence by introspection. First, we do have generally reliable introspective access to the *contents* of our beliefs; from this, via the biconditionals, we could infer our degrees of confidence. A person could introspect that she believes that *p* is *very likely*, and then infer that she is very confident that *p*. Second, we might just directly introspect and note our degree of confidence in a proposition. I can introspect and *just know* that I am very confident that *I am hungry right now*; I need not introspect this by way of an intensity of feeling. So, we can use introspection in ways that bypass Ramsey's objection.

There are other methods of measurement. As I illustrated above, we often know how likely we believe a proposition to be by what we *say*. When Fred says, "Sally is probably at the mall," I can infer that he has a moderately high degree of confidence that she is at the mall. Another method of measurement is betting behavior. Perhaps my degree of confidence that *p* can be approximately measured by the amount I would bet on *p* if I were offered a bet. (More specifically, if I will pay *n* dollars for a bet that will give me *m* dollars if *p* is true and 0 dollars if *p* is false, then my degree of confidence that *p* can be approximately measured by how close to 0 or 1 that *n/m* is.)

Of course, it is widely acknowledged that betting methods are far from perfect. First, its counterfactual nature leaves it vulnerable to counterexamples. As Richard Foley (1993: 150) has pointed out, my current degree of confidence that *I am not being offered a bet right now* is quite high, but I would bet almost nothing on this proposition if I were offered a bet. There are also propositions a person has never considered before. Kristina has never entertained the proposition that *I am not a duck*; hence, she does not have confidence that *I am not a duck*. However, she would bet high odds on this proposition if

offered a bet. Second, Foley (1993:151–153) argues in detail that the betting behavior test gives an illusion of precision in our degrees of confidence. I might only bet a precise amount on p just because I must bet *some* amount and not because that amount reflects a precise degree of confidence that p .²⁵

None of the methods I've offered for measuring degrees of confidence is perfect. Sometimes we're wrong about the contents of our beliefs. Sometimes, we cannot just directly see how confident we are in a proposition. Sometimes we say things that don't reflect what we really believe. However, these tests are still, for the most part, reliable and helpful. Furthermore, imperfect methods of measuring degrees of confidence does not impugn beliefism any more than imperfect methods of determining when someone *knows* impugns an analysis of knowledge. So, there is no problem here.

2.4 Defending Beliefism

2.4.1 The Right-to-Left Conditionals

I will now defend the biconditionals, starting with the right-to-left direction. As I read them, the conjunction of each antecedent with the denial of each consequent seems inconsistent. However, consider the following possible counterexample. Tamar Gendler (2009) tells of the 'Skywalk', a large glass walkway that is thousands of feet above the floor of the Grand Canyon. It extends dozens of feet from the canyon's rim and is made of five layers of glass. The tourists on the Skywalk believe that it is very likely that they are safe. Yet, here is Gendler's description of what happens physiologically to people on the walkway:

When she steps onto the glass platform... input to her visual system suggests that she is striding off the edge of a cliff. This visual input activates a set of affective

²⁵ Lina Eriksson and Alan Hajek (2007) present powerful critiques of some of the most prominent betting behavior tests and analyses of degrees of belief. Their points would apply here.

response patterns (feelings of anxiety) and motor routines (muscle contractions associated with hesitation and retreat), and the visual-vestibular mismatch produces feelings of dizziness and discomfort, leading to additional activation of motor routines associated with hesitation and withdrawal. (640)

These people believe that it is very likely that the Skywalk is safe to walk on, but their physiological and emotional states are evidence that they have little confidence that it is safe to walk on.²⁶

In response, I will point out that the intuitions can go both ways. Any one of those people, before walking on to the Skywalk, would truthfully say, “I am confident that the Skywalk is safe to walk on.” While walking on the Skywalk, they might begin to exhibit the feelings that Gendler mentions. But if you were to ask, “Are you still confident that the Skywalk is safe to walk on?” It would seem true for one of them to say, “I *feel* scared and anxious, but I am still confident that the Skywalk is safe to walk on.” This certainly does not seem *false* to say. At best, then, it is not clear what our intuitions should be about this example; they seem to go both ways. Furthermore, suppose that the Skywalk began to shake, and a crack suddenly formed in the glass beneath them. They would form the belief that *it is not likely that this Skywalk is safe to walk on*. And now, it would also be clearly true for one of them to say, “I *was* confident that it is safe to walk on, but *now*, I am not confident that it is safe!” This is in accord with beliefism.

Furthermore, there is a way to resolve this tension in our intuitions. Returning to an earlier distinction, I can say that although the people in the original case don’t *feel* confident that they are safe, they *are* confident that they are safe. In other words, they do

²⁶ Thanks to Peter Markie for bringing this sort of example to my attention. Thanks to Christopher Gadsden and Philip Swenson for helpful conversation about how to respond. Gendler uses this example for a different purpose.

not have the feelings of confidence that ordinarily accompany occurrent confidence. This distinction explains our intuitions about both the lack of confidence and the presence of confidence. Insofar as we are inclined to attribute a lack of confidence, we are thinking about the lack of the feelings of confidence; insofar as we are inclined to attribute the presence of confidence, we are thinking about their being confident. To sum up, this is not a clear counterexample; furthermore, the distinction between being and feeling confident both explains why we have the mixed intuitions we do and also shows why it is not a counterexample.

2.4.2 The Left-to-Right Conditionals

The left-to-right conditionals will be more controversial. However, I think they are *prima facie* plausible. Like the right-to-left conditionals, when I consider the conjunction of the truth of each antecedent and the denial of the corresponding consequent, the resulting conjunction seems impossible. They have *prima facie* plausibility.

However,

(Orthodoxy₁): If *S* believes that *p*, then *S* has some degree of confidence that *p* also has much *prima facie* plausibility. And a little reflection will show that Orthodoxy₁ and beliefism are in conflict. First, it is false that *S* believes that *p* only if *S* has a likelihood-belief that *p*.²⁷ Therefore, there is some possible case in which a person *S* believes some proposition *p* but has no likelihood-belief that *p*. In such a case, Orthodoxy₁ entails that *S* has some degree of confidence that *p*. Beliefism entails that it

²⁷ Proof: suppose the above conditional is true. Then, if someone has a belief, then that person has a likelihood-belief about that belief, a likelihood belief about that likelihood belief, and so on *ad infinitum*. So, if someone has one belief, then that person has an infinite number of beliefs. But obviously, we have beliefs and do not have an infinite number of beliefs. So, the above conditional is false.

is not the case that *S* has some degree of confidence that *p*. Therefore, the two views are in conflict.

How should we decide between Orthodoxy₁ and beliefism? One way is to examine our intuitions about whether confidence is or is not present in cases where *S* believes that *p* and has or does not have a likelihood-belief that *p*. We can then see whether the intuitive data better support Orthodoxy₁ or beliefism.

A potential obstacle might interfere with acquiring good intuitive data about the absence of confidence. Suppose we examine a case involving Fred, a person who has never entertained the proposition that *it is snowing in Seoul*. Fred does not even know there is such a city as Seoul. We then consider the following ascriptions:

21) “Fred is not confident that *it is snowing in Seoul*,”

22) “Fred does not have confidence that *it is snowing in Seoul*.”

(21) and (22) ascribe an absence of confidence to Fred; they are true because Fred has never entertained the relevant proposition. However, when I focus on the sentences, they do not seem clearly true. Some might even have the inclination to say they are false. Why? (21) and (22) conversationally implicate that Fred has entertained the proposition that *it is snowing in Seoul*. Specifically, they implicate that Fred has *some* degree of confidence that *it is snowing in Seoul*, a degree of confidence less than someone who is confident.²⁸ The Gricean rule at work here is the maxim of *relevance*; asserting these sentences is typically irrelevant if *S* has never entertained *p*. So, a potential problem for

²⁸ Similarly, saying, “*S* is not completely confident that *p*” implicates that *S* has a degree of confidence that *p* which is lower than complete confidence, and “*S* is not very confident that *p*” implicates that *S* has a degree of confidence that *p* which is lower than someone who is very confident. These sentences could be true even if *S* has never entertained *p*.

our case examination is that our intuitions could be about the implications, rather than the actual propositions, expressed by the sentences.

We can instead examine our intuitions about the following sentences:

23) “It is not the case that Fred is confident that *it is snowing in Seoul*,”

24) “It is not the case that Fred has confidence that *it is snowing in Seoul*.”

These sentences seem true to me; they also do not have the implication that Fred has entertained the proposition that *it is snowing in Seoul*. I think this is so because the “It is not the case that” clause pushes me to focus on the literal meaning of the sentence. So, when testing for the absence of confidence, we ought to test our intuitions about sentences such as “It is not the case that *S* is confident that *p*” or “It is not the case that *S* has confidence that *p*” instead of sentences like (21) and (22).²⁹

Two more obstacles remain. First, Orthodoxy₁ is such a prevalent assumption that it will be tempting for people to consider any case where *S* has a belief that *p*, reason by way of *modus ponens* with Orthodoxy₁, and then conclude that *S* has some degree of confidence that *p*. Since Orthodoxy₁ is what is being called into question, however, I ask that the reader make special effort to examine her *pre-theoretic* intuitions about whether confidence is present in such cases without assuming Orthodoxy₁'s truth. Second, as I said earlier, likelihood-beliefs are very common. It may be easy for readers to attribute likelihood-beliefs in my cases even when I stipulate there are none. Hence, although I

²⁹ Here, I am trying to be careful to follow Keith DeRose's (2002: 192) advice to check the negations. DeRose thinks that our intuition that some sentence *not-S* is true is more likely to be accurate than our intuition that *S* is false. Checking the negations will block all sorts of evils resulting from Gricean implicatures that could interfere with gaining accurate intuitions. Jason Stanley (2005: 123) has called DeRose's view into question, although DeRose (2009: 53) has pointed out that Stanley does not present an argument for his claim. (Interestingly, in the present case, checking the negation of positive confidence claims, as with (21) and (22), also result in misleading Gricean implicatures, so we needed to turn to (23) and (24).)

will try to formulate my cases in such a way as to make it clear that no likelihood-belief is present, I also ask readers to resist any temptation to attribute a likelihood-belief.

Here, now, is my first case:

Doggy: Doggy is a simple-minded dog. He sees a bone, walks toward it, picks it up with his jaw, and gnaws on it. During this process, he knew (and so believed) that *there is a bone over there*, that *the bone is in front of me*, that *the other side is better to chew on*. Doggy did not form any likelihood-beliefs.

Is it intuitive that, during this process, Doggy had *confidence* that *the bone is in front of me*? I do not have the intuition that Doggy had confidence; in fact, it seems to me that it's not the case that Doggy had confidence that *the bone is in front of me*.

The next case is comprised of three subcases:

Squirrel₁: As Julie₁ walks toward her mailbox, she forms simple, unreflective, perceptual beliefs about her surroundings. She forms beliefs about the breeze on her cheek, the approximate distance to the mailbox, and the chattering squirrel to her left. She thereby forms beliefs with contents such as that *this is a nice breeze*, that *the mailbox is not far away*, and that *there is a squirrel*. She forms no likelihood-beliefs.

Squirrel₂: Julie₂ undergoes the same actions, perceives the same objects, and forms the same beliefs as Julie₁. However, Julie₂ has recently learned that although she is pretty good at distinguishing squirrels from chipmunks, she is not perfect. In addition to believing that *there is a squirrel*, she also forms the belief that *it is very likely that there is a squirrel, but there is a small chance that it is not*.

Squirrel₃: Julie₃ undergoes the same actions, perceives the same objects, and forms the same beliefs as Julie₁. Unlike Julie₂, Julie₃ knows that she can perfectly distinguish squirrels from chipmunks. She mutters to herself, "That's definitely a squirrel," expressing her additional belief that *it's impossible that there's not a squirrel*.

My intuitions are that it is not the case that Julie₁ has confidence that there is a squirrel, Julie₂ is very (but not completely) confident that there is a squirrel, and Julie₃ is completely confident that there is a squirrel.

My final case can also be split into three subcases. However, although the Julie case consisted of three alternate scenarios, the following is one long scenario split up into three different times.

Tree₁: Esther is walking in a forest. She appreciates trees and has all sorts of beliefs: that *that's a big tree stump*, that *the temperature is fair*, that *that's a nice evergreen*, and that *the path is veering to the right*. Her belief that *that's a nice evergreen* is formed at t_1 .

Tree₂: After walking for a few minutes, she suddenly recalls that a friend who is familiar with this forest said that evergreens do not grow in this forest. At t_2 , she comes to believe that *it's very unlikely that there was an evergreen*.

Tree₃: She jogs back to the evergreen, pulls out her *Expert's Guide to Evergreens*, and confirms that it is, after all, an evergreen. She says, "This is surely an evergreen; my friend was wrong." At t_3 , she believes that *it's impossible that this is not an evergreen*.³⁰

My intuitions are that it's not the case that Esther has confidence that *that's a nice evergreen* at t_1 , she has little confidence that *there was an evergreen* at t_2 , and she has complete confidence that *this is an evergreen* at t_3 .

In the following, I will address three different audiences. First, I will address those who share my intuitions. Doggy, Squirrel₁, and Tree₁ are all counterexamples to Orthodoxy₁ because they are instances of belief without confidence. Moreover, the intuition that confidence is present in Squirrel₂, Squirrel₃, Tree₂, and Tree₃ all provide confirmation to beliefism. Since I have found many who share my intuitions, I expect that many readers will find beliefism more plausible than Orthodoxy₁.

Second, I will address those who share my intuitions about Squirrel₂, Squirrel₃, Tree₂, and Tree₃ but not about Doggy, Squirrel₁, and Tree₁. Specifically, although this group does not have the intuition that Doggy, Julie₁, and Esther (at t_1) have confidence, neither do they have the intuition that it's not the case that they have confidence. They have no intuition either way. I will make two points. First, the lack of intuition is

³⁰ Thanks to Xiaofei Liu for a version of this very helpful case, which I then modified.

explained by neither Orthodoxy₁ nor by beliefism; this counts equally against both of them; on the bright side, neither is there a clear counterexample to either of them. Second, there is the clear intuition of the presence of confidence in Squirrel₂, Squirrel₃, Tree₂, and Tree₃. The change *from* the lack of intuition that there is confidence (in Squirrel₁ and Tree₁) *to* the presence of intuition that there is confidence (in Squirrel₂, Squirrel₃, Tree₂, and Tree₃) is explained by beliefism and unexplained by Orthodoxy₁. This provides support in favor of beliefism and against Orthodoxy₁. Furthermore, since likelihood-beliefs generate the intuition that confidence is present in Squirrel₂, Squirrel₃, Tree₂, and Tree₃, this is evidence that confidence was not present in Squirrel₁ and Tree₁. So, even if there is initially a lack of intuition that confidence is not present in Doggy, Squirrel₁, and Tree₁, there is still reason to affirm beliefism over Orthodoxy₁.

Third, there are those who have the intuition that Doggy, Julie₁, and Esther (at t_1) *have* confidence. To these people, I have little to say. I will simply admit that I am unable to convince everyone that Orthodoxy₁ is false, especially since it is such an entrenched view in philosophy. However, the failure to convince everyone does not imply that these are not good cases. Intuitions about Laurence Bonjour's (1980) clairvoyance case or Stewart Cohen's (1984) new evil demon case are not universally shared; many externalists report intuitions contrary to Bonjour's and Cohen's; this does not mean that they are not good cases. (Of course, I am not saying that my cases are as good as Bonjour and Cohen's; time will tell how good they are.)

I will now take on an objection. Keith Frankish (2009) writes,

Now it is true that we do sometimes form flat-out beliefs about probabilities... but it is implausible to identify our degrees of confidence... with such beliefs. For we attribute degrees of confidence... to individuals who lack the conceptual sophistication required for forming beliefs of this kind. We speak of children and

animals having more or less confidence in something... even though they do not possess the concepts of probability... (77)

I take Frankish's points about beliefs about probabilities to include beliefs about possibilities. (As I said above, I take the belief that *p is possible* to be equivalent to the belief that *p has some probability*.) This will make his points relevant to beliefism.

As I said above, the possession of likelihood-beliefs does not require a sophisticated intellectual ability; a relatively young child could believe that Sally is probably at the mall and couldn't be at the North Pole.³¹ Frankish could press that a *sufficiently* undeveloped child is unable to form likelihood-beliefs. Does this provide a problem for beliefism? I will say that when we examine specific instances of a belief that *p* unaccompanied by a likelihood-belief that *p*, it is not obvious that such children have *confidence* that *p*. In fact, the cases turn out to be like Doggy, and my intuition in such cases is that they don't have confidence.

Frankish also brings up animals. As I said earlier, it is not obvious that animals cannot form likelihood-beliefs. My dog Fido, when slowly approaching another dog, might believe that *there might be a threat*. In such a case, Fido might have some degree of confidence that there is a threat. Now, if we specify that the animal is *not* forming likelihood-beliefs, like Doggy, it seems that the animal does not have confidence. Let us consider an even clearer case of an animal not having a likelihood-belief. As I mentioned above, Peter Carruthers (2008) has argued that bees are guided by very simple belief and desire combinations. Perhaps they do have beliefs such as that *the nectar is over there* or *the hive is that way*. It seems not to be the case that they have confidence that *the nectar*

³¹ Frankish probably thinks that children cannot have beliefs about probabilities because, when he considers probabilities, he does not consider epistemic probabilities (as I understand them) but more difficult statistical probabilities.

is over there or that *the hive is that way*, even if they believe them. Notice that while cognitive scientists tend to ascribe simple beliefs and desires (and even knowledge) to simple animals, they will not ascribe *confidence* to them. So, there is no problem for beliefism here.

2.4.3 A Belief-First Approach to the Bayesian Challenge

I will end §2.4 by showing how beliefism provides a response to what Mark Kaplan has called the *Bayesian Challenge*. This will in turn illustrate how beliefism lends to a belief-first approach regarding action.

Recall that according to the Threshold View, having the belief that p is just having a certain high degree of confidence that p . It seems to follow that all human action could be explained by confidence; appeal to belief is superfluous. Kaplan (1996) describes the challenge,

Making the case that talk of investing confidence leaves out something important – something we have in mind when we talk of belief – is going to require honest toil. One has to say what that something *is*, what talk of belief is talk *about*, what difference it makes to the conduct of our lives *what* we believe. To make the case that talk of investing confidence in hypotheses alone won't do, one has to say exactly how an account of rational human activity will be the poorer if it has no recourse to talk of belief. In short, one has to meet *the Bayesian Challenge*. (100).

The Bayesian Challenge seems to be four different challenges. It asks us to say i) what a belief is, ii) what talk of belief is about, iii) how belief makes a difference to our conduct, and iv) how an account of rational human activity is poorer without talk of belief. Regarding (i) and (ii), we can give examples. 'Belief' denotes a relation that holds between Alvin Goldman and the proposition that *reliabilism is true* but not between that proposition and Richard Feldman. It also holds between Alvin Plantinga and the proposition that *God exists* but not between that proposition and Daniel Dennett. So far,

what I have said about belief is uninteresting and may not be what Kaplan was after; I certainly do not have an analysis of belief, and I do not know if Kaplan thinks that one is required. I can, however, give examples of belief.

Kaplan is probably more concerned with (iii) and (iv). What areas of conduct and rational activity are explained by belief and not by confidence? Beliefism provides an answer. Doggy's walking toward the bone is explained, in part, by his belief that *there is a bone over there*. Julie₁'s walking toward her mailbox is explained, in part, by her belief that *that is my mailbox*. Confidence does not explain the conduct of Doggy and Julie₁; belief does. Furthermore, Julie₁'s belief that *this is a nice breeze* partly explains the presence of her belief that *I am glad that I didn't wear an extra layer today*. Her belief in the former proposition, not confidence toward it, explains her belief in the latter proposition; hence, an aspect of rational activity is explained by belief and not confidence. So, beliefism provides an elegant response to the Bayesian Challenge.

Beliefism reveals two ways in which belief is more fundamental to explaining action than confidence. First, as I said in the previous paragraph, degrees of confidence cannot explain the actions of Doggy and Julie₁; belief can. Second, any action that is explained by confidence is also explained by belief. My very small degree of confidence that *my lottery ticket will win* explains why I won't throw it away but so does my belief that *there's a small chance that my ticket will win*. My high degree of confidence that *Fred will be on time* explains why I will make sure to be there on time, but so does my belief that *Fred will very likely be on time*. So, this is what I take a belief-first approach to action to be: 1) there are some actions that are explained by belief that are not

explained by confidence and 2) there is no action that is explained by confidence that is not equally well explained by belief.³²

2.5 Conclusion

I will conclude this chapter by answering the question, “Is confidence, or some sufficiently high degree of confidence, necessary for knowledge?” Let us first discuss the view that knowledge requires a relatively *high* degree of confidence. It is endorsed by a couple of epistemologists: Laurence Bonjour (1985: 4) requires for knowledge that a person “confidently believe” and Michael Huemer (2007: 133) requires “especially strong or confident belief.” However, Bonjour and Huemer’s views are too strong. Julie₁ knew that there was a squirrel but did not have an “especially strong or confident belief.” It also seems that it’s not the case that she “confidently believed” it. ‘Confidence’ is not the right word to describe Julie₁ as she briefly glanced at the squirrel and came to know that there was a squirrel. So, insofar as these views require a relatively high degree of confidence for knowledge, they are incorrect.

But doesn’t knowledge entail *some* degree of confidence? Consider,

(Orthodoxy₂): If *S* knows that *p*, then *S* has some degree of confidence that *p*.

³² Most discussions about the relationship between belief and confidence revolve heavily around the lottery and preface paradoxes. I will not spend time discussing them because I find their present solutions in the literature to be convincing. I will be more specific. Insofar as these paradoxes are threatening, they require a conjunctive closure principle. Joining Henry Kyburg (1961), Richard Foley (1992) (1993), and others, I see no serious problem with rejecting this closure principle. David Kaplan (1996: 96–97) has argued that this rejection leads to the loss of both the *reductio* argument and any arguments at all. However, Scott Sturgeon (2008:151–154) has, in my mind, shown that Kaplan’s argument is not successful. Furthermore, I have seen no objection to Daniel Hunter’s (1996) argument that the closure principle only has a high degree of truth but is not flat-out true. So, I have nothing to add to these responses. (To block off a potential misunderstanding, although most who reject the closure principle *also* accept a version of the Threshold view, I do not accept the Threshold view for the reasons already given. Of course, this does not mean I cannot join them in rejecting the closure principle.)

Orthodoxy₂ is just as prevalent as Orthodoxy₁. In fact, Orthodoxy₂ inherits much of its plausibility from the conjunction of Orthodoxy₁ and the view that knowledge entails belief.

But I have argued that Orthodoxy₁ is false. And the same case against Orthodoxy₁ counts against Orthodoxy₂. Doggy knows that *there is a bone over there*, but it is not the case that he has confidence that *there is a bone over there*. Julie₁ knows that *there's a squirrel*, but it is not the case that she has confidence that *there's a squirrel*.³³ I conclude, therefore, that Orthodoxy₂ is false and that knowledge does not require confidence.

³³ The rejection of Orthodoxy₂ also commits me to the possible truth of sentences such as “Julie knows that *p*, but she is not confident that *p*.” And the same remarks I made about “Julie believes that *p*, but she is not confident that *p*” apply here.

Chapter 3: Knowledge and Doubt

3.0 Introduction

In Chapter 1, we learned that there is no need to ask what degree of belief is required for knowledge. In Chapter 2, we learned that confidence is not required for knowledge. Is there any nonepistemic, psychological requirement for knowledge other than belief? The dominant view among contemporary epistemologists answers, “no.” As I noted in the Preface, knowledge is often seen as true belief plus a complex epistemic (or normative) condition, or, more specifically, as true belief plus a justification and a nonaccidentality condition. Discussion normally focuses on the epistemic condition, and the existence of a nonepistemic, psychological requirement beyond belief is rarely considered.³⁴

In this chapter, I argue that *knowledge precludes doubt*. In other words,

Knowledge Precludes Doubt (KPD): S knows that p only if it's not the case that S has some doubt that p.

If belief precluded doubt, then KPD would follow from the belief condition on knowledge. Plausibly, however, belief that *p* is compatible with at least a little bit of doubt that *p*. So, KPD specifies a nonepistemic, psychological condition on knowledge beyond the belief condition: the absence of doubt.³⁵

The outline of Chapter 3 is as follows. In §3.1, I make KPD clear by presenting an account of doubt. In §3.2, I present three reasons to accept KPD. In §3.3, I respond to

³⁴ A few theorists deny that mere belief is sufficient for this condition for knowledge. However, their views have not caught on and will be discussed in the conclusion of the paper.

³⁵ To put this in the terminology of Alvin Plantinga's (1993a, 3) definition of 'warrant' as whatever precisely it is that makes the difference between knowledge and mere true belief, warrant requires the absence of doubt. Furthermore, although 'epistemic' is sometimes used to denote those conditions that contribute to a belief's warrant, I am using 'epistemic' to denote only those *normative* conditions that contribute to a belief's warrant. Most epistemologists will take those conditions to be a justification condition and an anti-Gettier condition.

five objections to KPD. In the conclusion, I discuss the implications of KPD for various issues in epistemology. One significant implication will be that most contemporary theories of knowledge are false.

3.1.0 Doubt and KPD

There has been little literature aimed explicitly at exploring the nature of doubt. My aim in §3.1 is to provide enough exploration of it to permit a clear understanding of KPD. In §3.1.1, I examine some paradigm doubt ascriptions with an eye toward exploring the relationship between doubt and belief. In §3.1.2, I explore the relationship between doubt and other belief-like states. In §3.1.3, I present necessary and sufficient conditions for doubt, clarify KPD, and discuss how it is related to similar theses.

3.1.1 Doubt and Belief

The word ‘doubt’ can be used as both a verb and a noun. I will explore *verbal* doubt ascriptions first:

- 1) “Fred doubts that Sally will arrive on time.”

In considering (1), we see that doubt is a mental state; specifically, it is a propositional attitude. If (1) is true, then Fred stands in a doubting relation to the proposition that *Sally will arrive on time*. Furthermore, doubt, like belief, is a nonepistemic, psychological state; (1) does not entail the instantiation of any epistemic properties. Fred’s doubt could be formed in an epistemically blameworthy way, it could be irrationally formed, or it could be justified; but doubting alone entails none of these properties.

It is interesting to ask whether (1), an unqualified ascription of doubt, entails or merely conversationally implies that Fred does not *believe* that Sally will arrive on time. I do not think it is the latter. Conversational implicatures can be cancelled, but it seems

inconsistent to assert (1) and then say, “But that’s not to say that Fred doesn’t believe that Sally will arrive on time. He does believe that Sally will arrive on time. And he doubts that she will.” So, unqualified verbal doubt ascriptions entail the absence of belief.

Consider some other verbal doubt ascriptions:

2) “Jenny highly doubts that Sally will arrive on time”,

3) “Jenny doubts that *Sally will arrive on time* more than Fred does.”

(2) and (3) show that doubt comes in *degrees*. Although Fred merely doubts that Sally will arrive on time, Jenny *highly* doubts it, and she doubts it more than Fred does. One might think that since doubting comes in degrees, someone could doubt a proposition to a low enough degree that the person also believes the proposition. But consider that

4) “Fred lowly doubts that Sally will arrive on time”

does not make sense in ordinary English. When using ‘doubt’ as a verb, we do not often use it to ascribe only a low degree of doubt. But I am not sure that this is always the case. Consider,

5) “Fred doubts, a little bit, that Sally will arrive on time.”

(5) might not entail the absence of belief. After asserting (5), one could say, “But he does believe that she will arrive on time.” I am not sure whether such assertions are inconsistent or not. Fortunately, nothing of substance hangs on this point. Here is what I will say more conclusively: unqualified verbal doubt ascriptions entail the absence of belief; qualified verbal doubt ascriptions are not likely to be compatible with belief, although examples like (5) show that there might be exceptions.³⁶

³⁶ To be clear, by ‘unqualified verbal doubt ascriptions,’ I am speaking only of ascriptions of the form ‘S doubts that p.’ In addition to cases like (5), we sometimes might say, “I doubt my beliefs all the time!” These verbal doubt ascriptions clearly do not entail the absence of belief. To focus my discussion, I am only considering doubt ascriptions that make the object of doubt a proposition and not a belief.

Nounal doubt ascriptions are different. Consider the following examples:

- 6) “Fred has a tiny bit of doubt that Sally will arrive on time.”
- 7) “Fred has some doubt that Sally will arrive on time.”
- 8) “Fred has a very high degree of doubt that Sally will arrive on time.”

When ‘doubt’ is used as a noun, it is natural to ascribe both low and high degrees of doubt. Furthermore, as mentioned in the introduction, it is plausible that belief is compatible with a low degree of doubt. There is nothing inconsistent about statements such as

- 9) “Fred believes that it will rain tomorrow, although he has a little bit of doubt that it will rain tomorrow.”

This, of course, is not to say that belief is compatible with *any* degree of doubt. One cannot sensibly say,

- 10) “Fred believes that it will rain, and he has a high degree of doubt that it will rain.”

The degree of doubt sufficient for the absence of belief is probably vague. What is important to note in this discussion is that belief is compatible with *some* degree of doubt.

To sum up, we learn the following lessons from (1)–(10): doubt is a propositional attitude; unqualified verbal doubt ascriptions entail the absence of belief; doubt comes in degrees; it is awkward to use verbal doubt ascriptions to ascribe small degrees of doubt; it is natural to use qualified nounal doubt ascriptions to ascribe any degree of doubt; a small degree of doubt is compatible with belief; and a high enough degree of doubt entails the absence of belief.

In the following two paragraphs, I will explore how doubts, like beliefs, can be occurrent and dispositional. An *occurrent belief* is a belief that one holds consciously.

My belief that $2+2=4$ is currently occurrent; but I continue to believe this when the belief is not brought to mind, even when I am asleep. During those times, the belief is *dispositional*.³⁷ This same distinction applies to doubts. A theist might consider some argument from evil and begin to have some doubt that God exists. While considering the argument, her doubt is occurrent. However, throughout the day or when asleep, she might continue to have the doubt only in the back of her mind, i.e., dispositionally.

A rough way to test whether someone has a dispositional doubt is to just ask. You could ask the theist, “Do you have any doubt that God exists?” If she answers, “I do have some doubt about that,” then she probably did have some dispositional doubt (although the doubt became occurrent when you asked her). Of course, this is just a rough test. A theist who initially had no doubt about her theism might come to have a newly formed doubt when questioned. We should distinguish between *dispositional doubts* and *dispositions to doubt*. A dispositional doubt is a doubt one actually has, but which is not conscious; a disposition to doubt is just an inclination to doubt in certain circumstances. The theist in my second example had a disposition to doubt, but no dispositional doubt; she didn’t have any doubt at all before she was asked and reconsidered her belief.³⁸

3.1.2 Doubt and Two Other Belief-Like States

In 3.1.2, I will explore the relationship between doubt and two other belief-related psychological states. First, as we discussed in detail in Chapter 2, humans exhibit *degrees of confidence* toward propositions. How do doubt and confidence relate? In

³⁷ Here, as in my discussion of confidence in Chapter 2, I am following Thomas Senor (1993, 461–462): “A belief is occurrent at t iff it is conscious at t . . . S’s belief that P is dispositional at t iff at t , S believes that P and P is not occurrent.”

³⁸ This distinction, as applied to beliefs, is explored by Paul Moser (1989, 15–19) and Robert Audi (1994).

answering this question, I will not at first presuppose the truth of beliefism but appeal to our intuitions about confidence. Afterward, I will relate the discussion in Chapter 2 to this discussion.

Degrees of confidence can relate to belief and doubt in the following way. Suppose *S* has a very high degree of confidence that *p*, believes that *p*, and has no doubt that *p*. As *S*'s degree of doubt increases, *S*'s degree of confidence toward *p* decreases; it will probably be vague when *S* stops believing that *p*. If *S*'s doubt that *p* has reached its maximum, then *S* has very little or no confidence that *p*.

I'll make explicit that I do not think that belief without doubt that *p* is identical to the *highest* degree of confidence. First, note that animals believe without doubt all the time. When my dog sees a full doggy dish in front of her, she comes to believe that *there is food*. It seems false that she also harbors some doubt that *there is food*. She just believes it. It also seems false that my dog currently has the highest possible degree of confidence that *there is food*.

Second, what is true of my dog is true of humans. Most of our ordinary, mundane beliefs are formed without accompanying doubts. While walking to my car, I am unreflectively forming belief in propositions such as *I am walking to my car, the door is locked, I'd better get out my keys*, and so on. All of these beliefs are formed without accompanying doubts; I simply form the beliefs and that's that. But it seems false that I have the highest possible degree of confidence toward these propositions. It seems *possible* that I could gain more confidence in these propositions if I accumulated more evidence for them.

Third, suppose I am an undergraduate who unreflectively believes, without any doubt, that I exist. I then read Descartes for the first time and come to see that my belief about my existence is protected from the manipulations of an evil demon in a way that my perceptual beliefs are not. I see my teacher boldly write on the board, “I think; therefore, I am,” and I am deeply impressed by this argument. It seems that after this philosophical reflection, I have a higher degree of confidence toward the proposition that *I exist* than what I had initially. So, belief without doubt is not the highest degree of confidence.

Now, it is interesting to ask why this is so. I argued in Chapter 2 that likelihood-beliefs determine one’s degree of confidence. According to beliefism, there is no confidence present in the first two examples. The reason it seems possible that confidence could be increased in those examples is because likelihood-beliefs could be formed. In the third example, I start with no likelihood-belief, and then I come to see that that belief is strongly supported by the evidence and thereby gain a likelihood-belief. Then there is an increase in confidence. Now, one does not need *this* explanation of the evidence, one that appeals to beliefism. So, I’ll stick with the point that I am more confident in: there are good, intuitive reasons to think that belief without doubt is not the highest degree of confidence. (I will further discuss the relationship between degrees of confidence, belief, and doubt in §3.3.1.3).

The second belief-like state I’ll discuss is *certainty*. Many epistemologists think that there are two distinct concepts we express with the word ‘certain’: *psychological certainty* and *epistemic certainty*. *S* is epistemically certain that *p* only if *S* exemplifies the highest (or a very high) positive epistemic status with respect to *p*. *S* is

psychologically certain that p if and only if S is completely confident that p (i.e., has the highest degree of confidence that p). Unlike epistemic certainty, psychological certainty entails no epistemic properties; as the name suggests, it is a purely psychological state. Since I am concerned with how belief and doubt relate to psychological certainty, I will use ‘certainty’ only to express psychological certainty for the rest of this chapter.

Plausibly, certainty entails belief without doubt. To say, “ S is certain that p ” and then after that say, “but S doesn’t believe that p ” or “but S has some doubt that p ” seems contradictory. On the other hand, it is a substantive question whether belief without doubt is sufficient for certainty. However, if we understand certainty as the highest degree of confidence, then, as I argued earlier, belief without doubt is not sufficient for certainty. So, although certainty entails belief without doubt, belief without doubt does not entail certainty. I will say more about the relationship between doubt and certainty in 3.3.1.2. An in depth discussion of certainty will have to wait until Chapter 4.

3.1.3 KPD, Related Theses, and an Account of Doubt

I will admit that I do not have a successful *analysis* of doubt. However, a failure in this regard does not give anyone reason to doubt the truth of KPD. Many epistemologists have no analysis of ‘truth’ or ‘belief’ at their disposal, but this gives us no reason to doubt that knowledge requires truth and belief. Just as we commonly rely on ordinary senses of ‘truth’ and ‘belief’ without providing successful analyses of these concepts, it is permissible for me to rely on the ordinary sense of ‘doubt’ without providing a successful analysis of it. Having made this point, however, I do hope to present an *account* of doubt, wherein I define an ‘account’ of X to be informative, necessary, and sufficient

conditions for X . My account will not amount to an analysis because it will contain circularity; however, it will provide illumination into the nature of doubt.

In the remainder of this section, I will do two things. I will present the aforementioned account of doubt, and I will explore theses similar to KPD so that we can understand it with greater clarity. In doing the latter, the former will also be accomplished.

To recall, KPD states that S knows that p only if it's not the case that S has some doubt that p . Now, consider the following similar thesis:

*KPD**: S knows that p only if it's not the case that S doubts that p .

*KPD** is relatively uninteresting, for I pointed out in the previous sections that unqualified verbal doubt ascriptions entail the absence of belief. Since knowledge entails belief, the truth of *KPD** immediately follows. More interestingly, KPD employs 'doubt' as a noun, and nounal doubt ascriptions do not entail the absence of belief. So, unlike *KPD**, KPD does not follow from the belief condition on knowledge.

The next thesis employs the notion of *epistemic possibility*, which was discussed in Chapter 2. Here, I will highlight the point that propositions are possible *relative to knowers*. It might still be an open possibility *for Fred* that Sally still loves him, but *for Jenny*, in whom Sally has secretly confided, this is not a possibility. It is an open possibility for Peter that $26 \times 23 = 598$, but this is not possible for Jan, who has just performed the calculation. Consider the following analysis of epistemic possibility:

(Possibility) q is possible for S if and only if S 's knowledge does not, in a manner that is obvious to S , entail $\sim q$.

This analysis, though imperfect, is the working definition of ‘possibility’ I will appeal to in this chapter.³⁹ I believe that it is best, however, to appeal to our intuitive sense of when propositions are possible or not.

Now, consider the following thesis:

Epistemic Possibility Thesis (EPT): *S* knows that *p* only if it’s not the case that $\sim p$ is possible for *S*.

EPT is equivalent to KPD if and only if the following account of doubt is true:

Doubt₁: *S* has some doubt that *p* if and only if $\sim p$ is possible for *S*.

Applying Possibility, Doubt₁ is equivalent to the following biconditional: *S* has some doubt that *p* if and only if *S*’s knowledge does not, in a manner that is obvious to *S*, entail *p*.

Unfortunately, the right-to-left conditional is false. Consider the proposition that *it is raining in Seoul*. Both this proposition and its negation are possible for Smith. Or, following Possibility, what Smith knows does not, in a manner that is obvious to him, entail either the proposition or its denial. Furthermore, Smith has never even considered the two propositions. In such a case, Smith has not formed any doubt about either of them; this is because he has not even formed a propositional attitude toward them. He might not even know that there is such a city as Seoul. How, then, could he have doubt about it? He probably *would* have some doubt if he were to consider the propositions, but he has not *actually* considered them. So, the proposition that it is raining in Seoul is

³⁹ It is derived from DeRose (1991), Hawthorne (2004, p. 26, n. 65), and Stanley (2005a, 128). A superior, but more complicated, analysis of epistemic possibility is given by Michael Huemer (2007). One issue I do not discuss here is the contextual nature of epistemic possibility ascriptions. These issues, though important, will not affect the main points I want to make about epistemic possibility and its relationship to knowledge and doubt. See also the following footnote.

possible for Smith, even though he has formed no doubt about that proposition's negation. Therefore, Doubt₁ is false.

The third thesis I will consider deals only with cases in which the subject *believes* that $\sim p$ is possible. Consider,

No Believed Possibility Thesis (NBPT): S knows that p only if it's not the case that S believes that $\sim p$ is possible.

NBPT is equivalent to KPD if and only if the following biconditional is true:

Doubt₂: *S has some doubt that p if and only if S believes that $\sim p$ is possible.*

(Note that this states the presence of a likelihood-belief as a necessary condition for doubt.) Let us examine whether Doubt₂ is true.

Note some plausible features of Doubt₂. First, it avoids the counterexample I used against Doubt₁. Second, since it strongly suggests that doubt is equivalent to belief with a certain content, it explains how doubt, like belief, can be both occurrent and dispositional. Third, Doubt₂ might explain why only more-complex animals have doubt. Very simple insects, which might plausibly be said to be guided by belief-desire combinations, would not have doubts because they do not form belief in possibilities. To be clear, and as I said about likelihood-beliefs in Chapter 2, one does not need a *very* complex mind in order to have doubt or belief in possibilities. For example, *S* need not be able to *say* that $\sim p$ "is epistemically possible" in order to have doubt or to have belief in an epistemic possibility. More likely, *S* would say something like, "oh, I might be wrong about that," or "I could be wrong"; these sentences would express *S*'s belief that it is epistemically possible that $\sim p$. Insofar as small children can have such beliefs, I think

that they can have doubt. And to the extent to which I find it plausible that animals could have such beliefs, I find it plausible that they can have doubt as well.⁴⁰

As I reflect on the biconditional expressed by Doubt₂, I find that it predicts the right intuitions in most cases. However, consider the following sort of putative counterexample to the right-to-left conditional. Suppose that all of the professional mathematicians in the world have recently come to agree that theorem T, a theorem you haven't seen the proof for, is true. You turn to your spouse and say, "There's no doubt about it. T is true." Your spouse points out that if a group of aliens injected a virus in these mathematicians that made them form only false beliefs about T, then T is false. Your spouse says, "You believe in the *possibility* of aliens and the *possibility* of an odd virus, right? And there's a *possibility* that they'd do this to the mathematicians, right? So, there's a possibility that T is false. Doesn't that make you have some doubt that T is true?" Incredulous, you say, "Well, that's *possible*, but no, that possibility's *so* crazy that it doesn't make me have even a bit of doubt about T." It seems that if a possibility is taken to be sufficiently ridiculous, then you could believe in the possibility that you are wrong without forming a corresponding doubt. If this counterexample is successful, then Doubt₂ is false and NBPT is not equivalent to KPD.

I am not sure if the above counterexample is successful; I have some inclination to think that, in that example, you don't *really* believe that $\sim T$ is possible.⁴¹ Someone who finds Doubt₂ very plausible could make this response. However, I think that the

⁴⁰ Many think that truth of epistemic possibility ascriptions are context sensitive. This may make some people think that Doubt₂ implies that 'doubt' is context sensitive. But this does not follow. Although "*p* is possible" might be context sensitive, it does not follow "*S* believes that *p* is possible" is context sensitive.

⁴¹ This sort of tension is also illustrated by Fantl and McGrath (2009b: 1-3), although they are concerned with possibility claims, and not mere belief in possibility claims.

counterexample is successful. So, borrowing from the discussion of complete confidence in Chapter 2, consider the following:

*NBPT**: *S* knows that *p* only if it's not the case that *S* believes that there is a significant possibility that $\sim p$,

and the corresponding account of doubt,

Doubt₃: *S* has some doubt that *p* if and only if *S* believes that there is a significant possibility that $\sim p$.

Doubt₃ blocks the counterexample given in the previous paragraph. It also seems to have all the advantages of Doubt₂.

In Chapter 2, I admitted to not having a clear account of what it is to believe that there is a significant possibility that $\sim p$. And like before, I think it is best to give examples. In the previous example, you do not believe that the possibility of aliens injecting the mathematicians is significant. However, Fred does believe that the possibility that Sally doesn't love him is significant. Now, I am most inclined to think that our determination of whether someone believes that a possibility is significant is determined by whether we think the person has doubt. It seems that we can only understand the right side insofar as we already understand what doubt is. Hence, I admit that Doubt₃ contains a hidden circularity, and that is why I do not call it an analysis. However, I do think it counts as an account, which I defined earlier as informative, necessary, and sufficient conditions.⁴²

I will summarize the discussion of Doubt₂ and Doubt₃. If the counterexample to Doubt₂ fails, then we should accept Doubt₂ as a successful analysis and take NBPT to be

⁴² I also mentioned in Chapter 2 (on p. 26) that one might break this circularity by appealing to Fantl and McGrath's (2009a)(2009b, 20-23) account of what it is for a possibility to be significant. I will not explore this option here.

equivalent to KPD. Since I am convinced that the counterexample is successful, however, I accept Doubt₃ as a true account of doubt and take the NBPT* to be equivalent to KPD.

One final thesis remains for discussion. John Hawthorne (2004, 159) has recently defended the view that “If S thinks that *p*, but a certain counterpossibility is salient to S, then S does not know that *p*.” It will be easier to discuss a revised version of the contrapositive of this claim:

Salience Thesis: S knows that *p* only if it’s not the case that a counterpossibility to *p* is salient to S.

The salience thesis is identical to KPD if the following biconditional is true:

Doubt₄: S has some doubt that *p* if and only if a counterpossibility to *p* is salient to S.

However, the meaning of *salience* is not obvious. According to some understandings of ‘salience’, Doubt₄ is identical to either Doubt₂ or Doubt₃. Insofar as this is the case, Hawthorne’s view can easily be incorporated into my discussion.

Yet, salience seems to be the sort of thing that is *essentially occurrent*, meaning, it is impossible for something to be both salient to you and also to be nonoccurrent. Consider how Hawthorne describes salience: “It is plausible that salient counterpossibility of error is a certain kind of intellectual seeming” (p. 168). Intellectual seemings, it seems, are mental states that are essentially occurrent. But, as I showed in §3.1.1, doubt is the sort of thing that *can* be nonoccurrent. As a result, I think that Doubt₄ is false, and I regard the salience thesis to be distinct from KPD.⁴³

⁴³ My points in this paragraph also suggest a criticism of the view that the Salience Thesis provides an explanation for why one’s belief does not count as knowledge in lottery cases. The explanation would be

3.2.0 Arguing for KPD

I will present three main lines of evidence for KPD. First, I will present linguistic evidence. Second, I will present evidence that results from the earlier account of doubt. Third, I will present evidence from cases. These three lines of evidence provide a strong cumulative case for KPD.

3.2.1 The Linguistic Evidence

By linguistic evidence, I mean our intuitions about what sentences seem true, false, or inconsistent. Suppose someone makes one of the following statements:

11) “Fred knows that Sally loves him, but he has some doubt that she does.”

12) “Fred knows that Sally loves him, but he has a little bit of doubt that she does.”

Or suppose an author wrote one of the following:

13) “Harry now knew the truth, that it was Voldemort who killed his parents; but he still had some doubt that Voldemort killed his parents.”

14) “As soon as Holmes saw the rusty dagger, he knew that the butler did it; but he still had some doubt that it was the butler.”

15) “Little Timmy, one thing I know is that Pa will be home for Christmas; although I have a little bit of doubt that he’ll be home for Christmas.”

These sentences seem inconsistent. The reason why, I think, is that they *are* inconsistent.

Their individual conjuncts entail the denial of the other conjunct. One could infer, “If

Fred has some doubt that Sally loves him, then he doesn’t know that Sally loves him.”

that one’s belief that *my ticket will lose the lottery* does not count as knowledge because the possibility of winning is *salient*. This explanation is very limited. For as soon as this belief becomes nonoccurrent and the salience disappears, there is no longer an explanation for why that belief does not count as knowledge because the possibility of error is no longer salient.

Little Timmy should say, “If you have some doubt, then you don’t know that he’ll be here!”⁴⁴

However, I do not think that this linguistic data proves KPD because there is so much controversy about what we can properly conclude from these sorts of linguistic intuitions. Consider the debate about *concessive knowledge attributions*, statements of the form, “*S* knows that *p*, but it’s possible that *q*,” where *q* obviously entails $\sim p$.⁴⁵ The seeming inconsistency of these statements has been used to advance a variety of views, and some of them do not conclude that the conjuncts of this sentence are actually inconsistent. It is beyond the scope of this chapter to settle that debate. And since similar issues are likely to plague any attempt to conclude KPD from the seeming inconsistencies of (11)–(15), I will not argue by that route.

Instead, I will argue in the following way. If KPD is true, then we would *expect* statements like (11)–(15) to seem inconsistent. They *do* seem inconsistent! Therefore, we have some evidential support for KPD. To be clear, I am not trying to make a deductively valid argument here; otherwise, I would be guilty of affirming the consequent. Rather, I am making the more-limited but plausible claim that the seeming inconsistency of (11)–(15) provides some degree of *evidence* for KPD.

3.2.2 Evidence from the Account of Doubt

In §3.1.3, I provided the two following accounts of doubt:

Doubt₂: *S* has some doubt that *p* if and only if *S* believes that $\sim p$ is possible.

⁴⁴ The fact that one may make an inference from one conjunct to the denial of the other conjunct sets these utterances apart from seemingly inconsistent Moorean sentences such as, “It is raining, but I don’t know that it is,” where, as Keith DeRose (1991, 597) puts it, “it seems crazy to infer that it is not raining from the fact that I don’t know that it is raining.” See pp. 596–599 for a defense of the view that this is a distinguishing marker of genuinely inconsistent sentences from sentences that merely seem inconsistent.

⁴⁵ For some of the literature, see Stanley (2005a), Trent Dougherty and Patrick Rysiew (2009) and Matthew McGrath and Jeremy Fantl (2009a)(2009b). See Dodd (forthcoming) for a helpful survey of the literature and the many complexities surrounding these ascriptions.

Doubt₃: *S* has some doubt that *p* if and only if *S* believes that there is a significant possibility that $\sim p$.

I said that on these accounts, KPD is equivalent to:

NBPT: *S* knows that *p* only if it's not the case that *S* believes that $\sim p$ is possible.

*NBPT**: *S* knows that *p* only if it's not the case that *S* believes that there is a significant possibility that $\sim p$.

To recount, I preferred Doubt₃ because Doubt₂ had a potential counterexample involving a belief in a ridiculous possibility. I said that Doubt₂ is plausible if we take that purported belief to not be a genuine belief.

From these considerations, we can now develop an argument for KPD. Either Doubt₂ or Doubt₃ is true. Suppose Doubt₃ is true. Now consider *NBPT**. It seems implausible that a person knows something when he believes that there is a significant possibility that he's wrong. So, *NBPT** is plausible, and since Doubt₃ and *NBPT** entail KPD, KPD follows from the second disjunct. Suppose Doubt₂ is true. We said that Doubt₂ is plausible when we take belief in possibilities not to exclude belief in ridiculous possibilities. But now, *NBPT* seems plausible. For it seems implausible that a person knows something when he believes that there's a possibility that he's wrong (*and* this excludes belief in crazy possibilities). Doubt₂ and the *NBPT* entail KPD, so KPD follows from the first disjunct. Therefore, we have good reason to accept KPD.

3.2.3 Evidence from Cases

The *evidence from cases* examines our intuitions about cases of knowledge and doubt. According to this method, if all the possible cases that we can consider are in accord with KPD, then we have strong support for KPD. If there are clear counterexamples, then the opposite is true.

In examining these cases, I believe that it is easy to let our pre-established theories of knowledge affect our intuitions. This theory might be the traditional view that knowledge is, approximately, ungettiered, justified, true belief.⁴⁶ It will be easy to examine any ungettiered, justified, true belief that is held with doubt and quickly think, “Well, this meets my conditions for knowledge, so here’s a case of knowledge with some doubt. Counterexample!” To more fully appreciate the effect that a doubt might have on our intuitions about whether a belief counts as knowledge, I ask that you, the reader, put yourself into the place of the believer. Suppose that *you* have the doubt in the situation that I describe and imagine the scenario from the *first-person* perspective. Then consider your intuitions from that perspective. (The third-person perspective of these cases will be discussed shortly.)

So, consider a politician whom you favor and whom you believe has never engaged in embezzlement. However, you do not know everything about her private life. Although you believe that she has lived with integrity, you believe it is possible that she has not; you have a tiny bit of doubt about her integrity. Would you say that you know that she has never embezzled? Your intuition is probably that you do not know. Suppose you have a lottery ticket in your hand. You believe you will lose, but that tiny chance of winning causes you to have a little bit of doubt that you will lose. Your intuition is probably that you do not know that you will lose. Examples like these could be multiplied. These cases support KPD.⁴⁷

⁴⁶ Some externalists might prefer “ungettiered, reliably formed, true belief.” This won’t make a difference to my point.

⁴⁷ As I’ll point out in the conclusion of this paper, I am not saying that doubt is the full explanation of why there is no knowledge present in the lottery case. I am just saying that our intuitions about these cases are in *accord* with KPD.

Some might attempt to explain these intuitions by other means. When we examine our doubt from the first-person perspective, we are ignorant of whether the *truth* condition for knowledge is met. So it is our ignorance of whether the truth condition is met, not the presence of doubt itself, that makes us hesitant to ascribe knowledge to ourselves in these cases. In response, although this would explain why we *do not* have the intuition that we know, it does not explain why we *do* have the intuition that we don't know. Consider the following analogy. You tell me only that there is a person in the next room. I will not have the intuition that the person is or is not a bachelor because I do not know whether the maleness condition for bachelorhood is met. But if you tell me that the person is female, then it will immediately seem true to me that she is not a bachelor because a necessary condition for bachelorhood is not met. Similarly, if all that was at issue was ignorance of the truth condition, then we would only have the absence of intuition that we know. But the intuition that we don't know is best explained by a necessary condition for knowledge not being met.⁴⁸

Someone might object that, in these cases, we have doubt because we have *reason* to doubt. And the presence of the reason to doubt makes us fail an *evidential* condition on knowledge. We need only to stipulate that the evidential condition *is* met in these cases of belief with doubt. Then there would be the intuition that we know in these cases, and we would thereby have counterexamples to KPD.

However, no clear counterexamples arise when we flesh out the cases. Suppose that, in the lottery case, someone told you that he saw a television report and found out

⁴⁸ Another objection is that my appeal to the first-person perspective only justifies the following: "If *S* has doubt that *p*, then *S* will have the intuition that he doesn't know that *p* when he considers whether he knows." But then we should ask *why* *S* would have the intuition that he doesn't know. The answer, I think, is because he has doubt.

that your ticket lost. We ordinarily think that such testimony is enough evidence for you to know that your ticket lost. However, let us specify the case so that, even after you hear the television report, you retain the same degree of doubt. There is no increase in your degree of confidence, and you take the possibility that you are wrong just as seriously as before you heard the television report. In such a situation, would you consider yourself to know that your ticket lost? Very likely, you will not have the clear intuition that you know. So, there is no counterexample. Furthermore, you will probably have the intuition that you don't know. This sort of case, therefore, ultimately supports KPD. Similar remarks and intuitions apply in the politician case. Hearing a report of a detailed investigation of every aspect of the politician's fiscal affairs would ordinarily be enough evidence to know that she has not embezzled. However, if my degree of confidence does not increase in the slightest upon hearing this report, and if I have just as much doubt that she embezzled even after hearing the report, then I would consider myself not to know.⁴⁹

Someone might press that it seems that the person does know when we consider the cases from the third-person perspective. The objector could insist that these intuitions are not theory-driven, contrary to what I wrote earlier. Furthermore, we could appropriately say to a person in these cases, "C'mon, you heard the report. You know that the politician's clean now," or "She knows that her ticket lost since she saw the drawing on television. She should throw it away," even if we were aware of their doubt.

⁴⁹ A further reply to my response states that knowledge is absent in these revised cases because doubt *should not* be present. Doubt should not be present because the evidence doesn't call for it (so the evidential condition on knowledge is not met after all because the overall level of confidence doesn't *fit* the evidence), or because the relevant doubt-forming cognitive faculties are not properly functioning, or because of something else. I am sympathetic to this reply, but then I am at a loss for reformulating a convincing counterexample to KPD where an evidential (or proper function) condition is met. Perhaps a properly-formulated evidential (or proper function) condition on knowledge *entails* the absence of doubt. Then it will be impossible to formulate a convincing counterexample where both the evidential (or proper function) condition is met, and also doubt is present. I am not sure. But at this point in the dialectic, I leave it up to opponents of KPD to think of the counterexample; I've done the best I can.

Should we follow the third-person intuitions and ordinary language evidence, or the first-person intuitive evidence? It depends on whether the latter overestimates the knowledge-destroying effects of doubt or the former underestimates it. I am not able to settle this matter now. However, I think these pieces of evidence *at least* cancel each other out. Although we cannot say that these cases are in accord with KPD, we also cannot say that they are clear counterexamples to it. Since all other cases are in accord with KPD, it seems that the cases, as a whole, provide evidential support for it.⁵⁰

To conclude, I believe I have presented three lines of evidence in §3.2 that provide a strong, cumulative case for KPD.

3.3 Objections to KPD

3.3.1 KPD Makes Knowledge Too Hard to Gain

The objections to KPD fall under two general categories: KPD makes knowledge either too hard to gain or too easy to lose. In §3.3.1, I will examine three versions of the first objection. In §3.3.2, I will examine two versions of the second objection.

3.3.1.1 Indubitability

The first objection is that KPD claims that knowledge requires *indubitability*. Many have taken as a lesson from Descartes that indubitability is not required for knowledge because virtually all of our beliefs are dubitable, even those that are clear cases of knowledge. Therefore, KPD is false.

⁵⁰ It is worth mentioning Colin Radford's (1966, 2–3) famous case in which a person answers a quiz question correctly by saying, "Elizabeth died in 1603." One could apply this to KPD by pointing out that even though the person has much doubt that Elizabeth died in 1603, we would still say that she knows the answer. However, recall that the original purpose of this example was to attack the view that knowledge entails belief; we would ascribe knowledge of the answer to her even if she didn't *believe* that Elizabeth died in 1603. Proponents of the view that knowledge entails belief must therefore ultimately say that the person doesn't actually know that Elizabeth died in 1603. There are different strategies for defending this claim, and it is plausible that whatever strategy these proponents use to defend their position is available to the defender of KPD. I myself take Keith Lehrer's (1974, 55–58) strategy.

The objection is a straw man. KPD does not claim that indubitability is required for knowledge. Rather, it claims that a belief is a case of knowledge only if it is not doubted. It does not claim that the belief must not be doubtable. Actual doubt is different from possible doubt. So, this objection is irrelevant to KPD.

3.3.1.2 Certainty

Like the first objection, the second objection also claims that KPD is too strong of a requirement for knowledge. It can be stated as follows:

- 1) If KPD is true, then certainty is required for knowledge.
- 2) Certainty is not required for knowledge.
- 3) So, KPD is false.

Many will hold (1) because they think that belief without doubt is sufficient for (psychological) certainty. This possibility was discussed before and holds some precedent in the literature.⁵¹ Many will hold (2) for one of the following two reasons. First, they might think that there are precious few beliefs that we hold with certainty, though there is much we know about the world. Hence, certainty is too strong of a requirement for knowledge. Second, they might think of certainty as requiring some sort of extra, special feeling.⁵² But many clear cases of knowledge do not have any such feelings. So, certainty is too strong of a requirement for knowledge.

In response, belief without doubt is either sufficient for certainty or it is not. Suppose it is not. If belief without doubt is not sufficient for certainty, then it does not follow from KPD that certainty is required for knowledge. So, (1) is false. Suppose belief without doubt *is* sufficient for certainty. Then the justification for (2) is

⁵¹ For some endorsements, see Unger (1975, 63) and Klein (1981, 150). See Chapter 4 for more discussion.

⁵² For example, Alston (1989, 258) writes, “Being certain of something may be construed as a matter of feeling assurance, feeling confident that one is correct...”. See Chapter 4 for more discussion.

undermined. As I argued in §3.1.2, many of our ordinary, mundane beliefs are formed without accompanying doubts. While walking to my car, I am forming belief in propositions such as *I am walking to my car, the door is locked, I'd better get out my keys*, and so on, all without doubt. Furthermore, many of these beliefs are not accompanied by any special feeling. Hence, the support for (2) is undermined.

I think that some philosophers are tempted by this objection because they underestimate just how many of our beliefs are held without doubt. This underestimation might result from the fact that many of us were brought to have some doubt that *the external world exists* in our introductory philosophy courses. From there, it was easy to infer that everyone has some doubt about each of their specific external world beliefs.

This is a bad inference for at least three reasons. First, our forming a doubt about whether the external world exists does not imply that we have formed specific doubts about *each* of our external world beliefs. My having some doubt that *the external world exists* during my philosophy class does not entail that I have some doubt, when I step onto the street a few hours later, that *there's a truck careening toward me*.⁵³ Second, our having some doubt about the external world does not imply that everybody else does. Third, for most, doubt that *the external world exists* faded away as time went on, perhaps right after class. Or perhaps the doubt continued to exist dispositionally but gradually faded away as the weeks passed. So, I see no good justification for (2).⁵⁴

Though my discussion of this specific objection is finished, I believe that it will help readers to see how my points relate to Peter Unger's (1975) well known argument

⁵³ Furthermore, my *believing* that all my external world beliefs have some doubt does not entail that they all do. For example, I might believe that all my external beliefs have some doubt, and still have no doubt when I form the belief that *there's a truck careening toward me*.

⁵⁴ More will be said about the relationship between doubt and skepticism in §3.3.2.1.

for skepticism. The core of Unger's argument is as follows: 1) there are almost no propositions about which we are (psychologically) certain; 2) knowledge requires certainty; 3) therefore, there are almost no propositions which are known (87–88). Unger defines certainty in the following way: ““He is certain that p ’ means, within the bounds of nuance, ‘*In his mind*, it is not at all doubtful that p ’, or ‘*In his mind*, there is no doubt at all but that p ’” (64). Although others have attacked (2), it is easy to see from our discussion that we can attack (1). If we suppose the truth of Unger's definition and understand certainty to be just the absence of doubt (or belief without doubt), then we have reason to think that (1) is false. For as we have seen, there are many propositions which, in our minds, we do not have any doubt about.

3.3.1.3 Maximum Degree of Confidence

Here is the third objection:

- 4) If KPD is true, then knowledge requires a maximum degree of confidence.
- 5) A maximum degree of confidence is not required for knowledge.
- 6) So, KPD is false.

(Like before, I will not presuppose the truth of beliefism in this discussion.) Premise (4) is true only if belief without doubt is the highest degree of confidence. But recall my three reasons in §3.1.3 for thinking this to be false. First, my dog's beliefs without doubt are not held with the highest degree of confidence. Second, most of our ordinary beliefs about the external world are without doubt, and they are not held with the highest degree of confidence. Third, I believed without doubt that *I exist* before I studied Descartes, and my degree of confidence toward this proposition increased afterward. This scenario is

impossible if belief without doubt is the highest degree of confidence. So we have good reasons to reject (4).

At this point, I will consider a possible response to my argument. Suppose I think, as many Bayesians do, that degrees of confidence are best measured by a numerical system, with the highest degree of confidence assigned 1, the lowest assigned 0, and degrees of confidence in between assigned numbers between 0 and 1.⁵⁵ Furthermore, suppose we should measure degrees of confidence by way of betting behavior. If I will pay n dollars for a bet that will give me m dollars if p is true and 0 dollars if p is false, then my degree of confidence that p is n/m . For example, suppose I would pay \$3 for a bet awarding \$10 if *it is raining in Seoul* is true and \$0 if it is false. Then my degree of confidence that *it is raining in Seoul* is 0.3. Now suppose I would pay \$10 for a bet worth \$10 if *I exist* is true and \$0 if *I exist* is false. Then my degree of confidence that *I exist* is 1. Returning to the argument, if betting behavior shows that all beliefs without doubt are equivalent to a degree of confidence 1, then this will provide support for (4).

Consideration of my previous arguments will show that this approach fails. First, it is silly to ask how much my dog would bet on the proposition that *there is food*. However, I will grant that we can circumvent this problem by tinkering with the betting behavior test so that it could examine dogs' degrees of confidence. Still, any plausible test for measuring degrees of confidence must have the result that my dog does not have the highest possible degree of confidence that *there is food*. Since she believes this proposition without doubt, we still have good reason to reject (4). Second, when I was about one hundred feet from my car, I believed that *there is my car* without any

⁵⁵ For a very clear introduction to Bayesianism, see Hacking (2001).

accompanying doubt. If I had been offered a bet, however, I would not pay \$10 for a bet worth \$10 if *there is my car* is true and \$0 if *there is my car* is false.⁵⁶ Perhaps I would bet these odds on the proposition that *I exist*, but I would not on *there is my car*. This also counts against (4). Third, though I would probably pay \$10 for a bet worth \$10 for my belief that *I exist*, both before and after I studied Descartes, I would take the fact that my betting behavior cannot distinguish these differing degrees of confidence to show a problem with this method of measuring degrees of confidence. It would not lead me to think that there was support for (4).

I'll end discussion of this objection with two points. First, I take myself only to have shown that *one way* of trying to defend (4), appealing to betting behavior, fails at the get-go. Perhaps this crude way of measuring degrees of confidence can be improved.⁵⁷ However, I do not think an improved method would ultimately support (4). Since my intuitions about these cases are so clear, I think that the formulation of any good method for measuring degrees of confidence will respect these intuitions. Hence, I do not think that refining the method will end up supporting (4).

Second, I understand that my examples challenge a common way of thinking. Many are likely to think that a person has a degree of confidence less than 1 if and only if she has some degree of doubt. But I understand my cases to be *counterexamples* to this

⁵⁶ Someone might object that my unwillingness to bet these odds if I were offered the bet shows that I do, in fact, have some doubt. I disagree; at most, this objection shows that I *would* have some doubt if I were offered the bet. Another objection might be that I, in fact, had a *dispositional* doubt. But note that dispositional beliefs and doubts are such that we can ordinarily tell when we have them, at least with a little reflection. In ordinary cases where I believe that *there is my car*, I would not deem myself, upon reflection, to have any doubt about the matter.

⁵⁷ See Ramsey (1931) for a classic statement of a refined betting behavior test, and also Foley (1993, 146-154) and Kaplan (1996) for even more refinements. As I say above, however, I do not think these refinements will help in a defense of (4). I will also note, as I noted in Chapter 2, that the objections to the various betting behavior tests discussed by Foley (1993) and Eriksson and Hajek (2007) have convinced me that no betting behavior test will be able to accurately measure degrees of confidence.

biconditional. It is clear to me that a vast number of beliefs, both animal and human, are formed without doubt, and they are not held with the highest degree of confidence. I conclude that this third objection fails.

3.3.2.0 Knowledge is Too Easy to Lose

I now turn to the second set of objections to KPD. These objections state that KPD makes knowledge too easy to lose. For this type of objection to succeed, KPD must entail that knowledge is easy to lose in an *objectionable* way. Of course, knowledge is easy to lose in unobjectionable ways. Consider the venerable thesis that knowledge entails belief. If I know that p and then get bumped in the head so that I no longer believe that p , it follows from the thesis that knowledge entails belief that I no longer know that p . However, this thesis does not make knowledge easy to lose in an objectionable way because it is intuitive that knowledge is lost when the thesis determines it so. It makes sense that I would no longer know that p . Let us now consider whether KPD makes knowledge too easy to lose in an objectionable way.

3.3.2.1 Consideration of Skeptical Scenarios

Someone might charge that all it takes to make a person have doubt that he has hands is to make him consider a skeptical scenario, say, that he is a brain in a vat. So, according to KPD, it takes only consideration of a skeptical scenario to make it so that a person doesn't *know* that he has hands. This is objectionable because it seems that such a person would still know that he has hands.

I have three points in response. First, there might be a false assumption that contributes to the seeming plausibility of this objection. The assumption is that if S is *considering* the truth of p , then S has some doubt that p . This conditional is false. Just

now, I looked at my pen. I considered my reasons for and against the pen's existence. I concluded that yes, there is a pen. During that process, I did not form a doubt that there is a pen. Similarly, a person's considering whether he has hands does not entail that he has doubt about having hands.

Second, in light of the discussion in §3.1.3, it is plausible that consideration of the possibility that q (where q obviously entails $\sim p$) will cause doubt that p only if q is taken seriously. Recall my example of the possibility that all the mathematicians in the world have been influenced by aliens to have a wrong view about theory T. I pointed out that even *belief* in this possibility is compatible with the absence of doubt in T, so long as this possibility is not taken to be a significant one. Now note that for many people (especially philosophers), considering skeptical scenarios is humdrum. In the midst of a conversation about skepticism, few will be moved to have any doubt about whether they have hands. They will not take the possibility that they are brains in vats seriously. To be clear, I am not making any claims about whether these people *should* take these skeptical scenarios more seriously; I am only saying that they don't. And it is plausible that they do not have doubt either. So, my first two points show that, in many cases of our consideration of skeptical scenarios, we are not actually brought to have any doubt.

Third, it is intuitive that once a person does gain some doubt that he has hands, he no longer knows it. The block of people to whom this happens normally consists of some mentally ill patients and those who just heard about skeptical scenarios for the first time (say, those who just watched the Matrix or who were just caught up in a riveting lecture in an introductory philosophy course). These people are brought to have doubt that they have hands because of their consideration of skeptical scenarios. But in such cases, it

seems to me that they no longer know they have hands. This result is in accord with most students' having the intuition that they do not know that they have hands when they are first brought to doubt that they have hands in their philosophy class.

To block a potential objection, I will note that this third point does not have catastrophic, skeptical results. Momentary doubt that *I have hands* does not entail that I form doubt toward other propositions. I will not have a doubt that *there's a truck careening toward me* an hour later. Going even further, it is plausible that I would still *know* that a truck's coming toward me. Furthermore, as I said above, I don't think that such knowledge is lost forever. After a person forgets about her philosophical discussion, the dispositional doubt will probably just disappear. Even Hume could not retain his doubt beyond his study; so it is plausible that we cannot either. And as soon as the doubt disappears, we can regain knowledge. Lastly, if a person *does* retain that doubt, perhaps dispositionally, then it seems to me that he continues not to know. None of these results seem counterintuitive to me.⁵⁸

3.3.2.2 Anxiety

Another objector might charge that KPD entails that knowledge can be lost merely by the presence of anxiety. This is because anxiety about the truth of *p* entails some doubt that *p*. But knowledge is not the sort of thing that can be lost because of mere anxiety.⁵⁹

In response, it is false that anxiety entails doubt. As noted in Chapter 2, Tamar Gendler (2009) has recently given the following example. Four thousand feet above the floor of the Grand Canyon, there is a large glass walkway called the 'Skywalk'. It

⁵⁸ Another objection states that if KPD is true, then statements of the form "if *p* is true, then I knew *p* before I began to have doubt that *p*" are true in situations where I meet all the conditions for knowledge except those which entail the absence of doubt. I admit that this is a consequence of KPD, but I do not find such statements in these situations to be false. This objection is motivated by Hawthorne (2004, 166).

⁵⁹ This objection is motivated by Hawthorne (2004, 166).

extends seventy feet from the canyon's rim and is made of five layers of glass. Gendler says that while tourists on the Skywalk believe, without doubt, that they are safe, they also entertain another mental state, what she calls *alief*, which indicates that they are not safe. She writes,

How should we describe the cognitive state of those who manage to stride to the Skywalk's center? Surely they *believe* that the walkway will hold: no one would willingly step onto a mile-high platform if they had even a scintilla of doubt concerning its stability. But alongside that belief there is something else going on. Although the venturesome souls wholeheartedly *believe* that the walkway is completely safe, they also *alieve* something very different. The alief has roughly the following content: "Really high up, long long way down. Not a safe place to be! Get off!" (635)

Gendler later gives a psychological description of what happens on the walkway:

When she steps onto the glass platform... input to her visual system suggests that she is striding off the edge of a cliff. This visual input activates a set of affective response patterns (feelings of anxiety) and motor routines (muscle contractions associated with hesitation and retreat), and the visual-vestibular mismatch produces feelings of dizziness and discomfort, leading to additional activation of motor routines associated with hesitation and withdrawal." (640)

One does not need to accept Gendler's view that there really are *aliefs* in order to understand the moral I wish to draw from this example. It is possible to believe that *p* without doubt, despite having anxiety about the truth of *p*.

I believe that this is the most convincing counterexample; here are two others. Gendler cites studies where subjects were averse to eating fudge that was molded into the shape of dog poop (636). Although the subjects surely believed without doubt that the fudge was not dog poop, there was apparently some anxiety about the truth of the proposition. She also cites a case where subjects *saw* sugar poured into two bottles, one to which *they themselves* applied the label 'sugar' and the other 'cyanide' (648). When subjects were asked to eat the sugar, they displayed more reluctance to eat the sugar from

the bottle with the cyanide label. Even though they believed without doubt that the sugar in the cyanide-labeled bottle was not harmful, they certainly had anxiety about it. So, anxiety is an affective state whose existence is compatible with belief without doubt.

If a person on the Skywalk came to have some doubt about her safety, then it is intuitive that she does not know that it is safe. If Fred is so anxious that he comes to have some doubt that Sally loves him, then it seems that he doesn't know that Sally loves him. This objection, therefore, fails to show that KPD makes knowledge too easy to lose.

3.4 Conclusion

I have provided an exploration of the notion of doubt, defended three lines of evidence in favor of KPD, and responded to five objections. I will now briefly explore the relevance of KPD to some other debates in contemporary epistemology.

I begin by discussing three issues to which KPD might initially seem very relevant but is not. This irrelevance might detract from its interest; on the other hand, its neutrality on these issues will be an advantage in that a wider number of epistemologists may find it easier to accept. First, consider the following lottery puzzle. I do not know that my ticket will lose even though I have extremely strong evidence that it will. However, I can know that my favorite basketball team lost the game last night merely by reading a newspaper. Yet, this evidence seems weaker than the evidence that my ticket will lose. A hard question asks why I know in the first case, but not in the second.⁶⁰ KPD provides an answer: in the first case, I have doubt, and in the second case, I do not.

Unfortunately, this response has little depth. We can revise the first case so that I am dogmatic that I will lose; I successfully suppress all doubt. Still, I do not know that my ticket will lose. KPD does not explain why I do not know in this revised case and I

⁶⁰ For a more detailed discussion of this problem, see (DeRose 1996).

do know in the original basketball game case. So, KPD does not provide a very deep answer to this sort of lottery puzzle.

Second, the argument is limited with respect to debates about pragmatic encroachment in epistemology. Recently, some philosophers have argued that differing practical stakes for a believer can be directly relevant to whether or not he knows.⁶¹ Consider Jeremy Fantl and Matthew McGrath's (2002, 67–68) train cases. In Case 1, Jeremy believes that his train will stop in Foxboro on the basis of casual conversation with the guy he happens to be standing next to. It doesn't matter to him at all whether the train will stop in Foxboro. Given that the belief is true, it is intuitive to many that he knows that the train will stop in Foxboro. In Case 2, Matt's career depends on the train's stopping in Foxboro. He overhears a conversation like that in Case 1. Even if Matt comes to believe that what the guy's saying is true, it's intuitive that he doesn't know that the train will stop in Foxboro. It seems plausible to conclude that differing practical stakes can make a direct difference to whether a person knows.⁶²

KPD seems to provide an explanation for why it is intuitive that Jeremy knows and Matt does not without appealing to differing practical stakes. Jeremy is likely to have no doubt because of his low stakes; Matt is likely to have some doubt because of his high stakes. This explains the intuition that Jeremy knows and Matt does not. However, as in the lottery case, this response lacks depth. We can revise Case 2 so that Matt is stubborn and resists forming any doubt, even in the face of high stakes. He might believe

⁶¹ See Fantl and McGrath (2002; 2007; 2009a; 2009b), Hawthorne (2004), and Stanley (2005b).

⁶² It is worth noting that in their (2002) paper, Fantl and McGrath do not conclude this merely on the basis of these train cases. They provide separate arguments for their conclusion. However, since much of the pragmatic encroachment literature revolves around intuitions about cases such as these, discussion of these cases should give us a good idea about whether KPD will be relevant to other arguments about pragmatic encroachment.

without doubt that the train will stop in Foxboro; however, intuitively, he still does not know. A person's stubbornness will not gain him knowledge. So, KPD cannot explain this modified case. Since much of the discussion revolves around cases such as these, we see that KPD will be limited in advancing this debate.

Third, KPD has almost no application to the debate between *contextualists* and *invariantists*. Contextualists say that sentences of the form '*S* knows that *p*' express different propositions from context to context, even when we keep the values of '*S*' and '*p*' fixed. Invariantists deny this claim. We can use the aforementioned train cases to illustrate both the content of and also the support for contextualism.⁶³ Suppose that Peter, like Jeremy, has little at stake regarding whether the train stops in Foxboro. Peter overhears the conversation and remarks to himself, "Jeremy knows that the train will stop in Foxboro." Peter's claim seems true. Matt, who is out of earshot of Peter, says, "Jeremy doesn't know that the train will stop in Foxboro." Oddly, Matt's claim also seems true. KPD does not explain why Matt's statement seems true because Jeremy has no doubt. KPD says little or nothing about such cases. So, it is very likely that KPD will have little or no relevance to debates about contextualism.

I will now explain one way in which KPD is *very* relevant. KPD entails that most contemporary theories of knowledge are false. Standard analyses of knowledge will typically include a belief (or acceptance) condition, a truth condition, and an epistemic condition. These theories do not include a condition that precludes doubt. Note that in Robert Shope's (1983) comprehensive discussion of the scores of extant theories of knowledge at the time, only A.J. Ayer's theory clearly excluded the presence of doubt.

⁶³ Indeed, if DeRose (2005; 2009, ch. 2) is correct, then these sorts of cases provide the *best* support for contextualism. I also find DeRose's Thelma and Louise case (2009, 4–5) to be powerful.

This same point is true of Shope's more recent (2002) discussion. Since the analyses of these theories of knowledge do not exclude doubt, KPD entails that they are all false.

The only epistemologists I am aware of who would agree with KPD are A.J. Ayer, Peter Unger, Peter Klein, and Keith DeRose. Ayer (1956, 11) writes, "It is indeed true that one is not reasonably said to know a fact unless one is completely sure of it," and Unger (1975, 83) argues that "knowing requires being certain: as a matter of logical necessity, a man knows something only if he is certain of the thing." Since these philosophers think that being completely sure and being certain entail the absence of doubt, they would both probably accept KPD. Klein (1981, 150) includes condition K2 in his theory of knowledge, which states, "S is certain that p on the basis of some proposition, e," which he elaborates to mean that "S has no doubts whatsoever that p." Keith DeRose (2009, 186) writes, "*S is certain that p*, I think, is a better candidate than is the ever-popular *S believes that p* for expressing the attitude requirement for *S knows that p*." Since certainty very plausibly precludes doubt, DeRose would likely endorse KPD. Perhaps there are some epistemologists I have missed, but I doubt that there are many of them. Although these epistemologists would affirm KPD, I will argue in Chapter 4 that their views are false as well; certainty is not necessary for knowledge.

A few other epistemologists *might* affirm KPD. Alvin Plantinga (1993b, 8–9) includes a strength of belief requirement in his theory of knowledge, but he doesn't say what degree of strength is required for knowledge. Similarly, Laurence Bonjour (1985, 4) requires that the person "confidently believe" and Michael Huemer (2007, 133) requires "especially strong or confident belief." Depending on how these conditions are specified, the views might be compatible with KPD. I have argued in Chapter 2,

however, that confidence is not necessary for knowledge; hence, we have reason reject BonJour and Huemer's views as well.

In conclusion, although KPD is compatible with a few theories of knowledge, it entails the falsity of most of them. So, KPD is very relevant to contemporary epistemology.

Chapter 4: Knowledge and Certainty

4.0 Introduction

I pointed out in Chapter 3 that epistemologists often distinguish between two types of certainty: psychological certainty and epistemic certainty. *S* is epistemically certain that *p* only if *S* exemplifies the highest (or a very high) positive epistemic status with respect to *p*.⁶⁴ *S* is psychologically certain that *p* if and only if *S* has complete confidence that *p*. (I understand *S* to have complete confidence if and only if *S* has the highest degree of confidence.) Unlike epistemic certainty, psychological certainty entails no epistemic properties. I could be unjustified or irrational in being (psychologically) certain that *p*.

Since I am only concerned with psychological certainty, ‘certainty’ and its cognates should be understood in this chapter to express psychological certainty.⁶⁵ I also take ‘sure’ to be a synonym for ‘certain’. So, any ascription of ‘*S* is sure that *p*’ can be replaced by ‘*S* is certain that *p*’. Note also that when we say, ‘*S* is fairly certain that *p*’, ‘*S* is somewhat certain that *p*’, and ‘*S* is pretty sure that *p*’, we are not ascribing complete confidence to *S*; instead, we are just ascribing a moderately high degree of confidence, the same amount which is ascribed by ‘*S* is fairly confident that *p*’, ‘*S* is somewhat confident that *p*’, and ‘*S* is pretty confident that *p*’. So, when we say flat-out that ‘*S* is certain that *p*’, we are saying that ‘*S* is completely confident that *p*’.⁶⁶

⁶⁴ I leave open what epistemic good that ‘positive epistemic status’ refers to. I also add the ‘or very high’ because there may be no highest positive epistemic status; perhaps for any amount of evidence you have, you could have more. I also say ‘only if’ but not ‘if’ because more may be required for epistemic certainty.

⁶⁵ Jason Stanley (2008: pp. 34-35) has recently noted that statements in the form of “*S* is certain that *p*” ascribe psychological certainty and those in the form of “it is certain that *p*” ascribe epistemic certainty. I will stick to the former type of statement

⁶⁶ Stanley seems to agree with the general definition of psychological certainty as ‘the highest degree of confidence’ (p. 33). He also thinks that ‘certain’ is context-dependent. This has the odd result that whether a person has the highest degree of confidence is context-dependent. Furthermore, he also says that the degree of confidence required in order to be truly described as ‘certain’ is context-dependent; you need

Most contemporary epistemologists think that certainty is not necessary for knowledge. Later in this chapter, I will give a good reason for this denial. On the other hand, ascriptions like

- a) “I know for certain that p ,”
- b) “ S knows for certain that p ,”

are very natural, and ascriptions like

- c) “I know that p , but I’m not certain that p ,”
- d) “ S knows that p , but S isn’t certain that p ,”

seem inconsistent. Consider instances of (c) and (d): “I know that I will always be there for you, but I am not certain that I will,” and “Holmes now knew that the maid committed the crime, but he still wasn’t certain that she did it.” The intuitions that these sentences are inconsistent provide evidence that certainty is necessary for knowledge. Hence, there is a conflict between a common view in epistemology and our linguistic intuitions.

In this paper, I aim to resolve this conflict. I will do this in three steps. In §4.1, I present and criticize Jason Stanley’s (2008) approach to this conflict. In §4.2, I present and defend an analysis of certainty. In §4.3, I introduce a common and important type of knowledge – *evaluated knowledge* – and argue that certainty is necessary for evaluated knowledge but not for unevaluated knowledge. This conclusion both explains our linguistic intuitions and also allows us to keep the result that certainty is not necessary for knowledge.

4.1 Stanley

more confidence in some cases than others. This implies that ‘certainty’ does not express the highest degree of confidence. I am not sure how Stanley would resolve this tension.

Stanley attempts to explain the seeming inconsistency of instances of (c) in the following way. He writes that they are just as odd as instances of

(43) Dogs bark, but I'm not certain that they do.

(43) is an instance of Moore's paradox, as are the well known,

(45) Dogs bark, but I don't know that they do.

(46) Dogs bark, but I don't believe that they do

He writes, "The fact that [instances of (c)] are just as odd as cases of Moore's paradox with "certain" suggests the desirability of a uniform explanation" (p. 45). Stanley then defends the certainty norm for assertion, which states the rule: "Assert that p only if you are certain that p " (p. 46). If this rule is correct, then when someone says "Dogs bark," he is representing himself as being certain that dogs bark. But this contradicts the second conjunct of (43). This explains its seeming inconsistency.

Stanley does not go on to fill out the line of reasoning for how the certainty norm is supposed to explain the seeming inconsistency of instances of (c). However, it is easy to see how. According to Stanley, if I utter the antecedent of (c), I represent myself as being certain that I know that p . This would, presumably, represent me as being certain that p , which would in turn contradict my utterance of the second conjunct of (c).

In response, there is a relevant disanalogy between instances of (c) and instances of Moore's paradox. Regarding (43) (as well as (45) and (46)), it is crazy to infer the denial of the antecedent ("Dogs bark") from the truth of its consequent ("I'm not certain that they do"). If Stanley is right, this is because the consequent only contradicts what the speaker *represents* himself as being when he utters the antecedent, not the antecedent itself. Instances of (c) are different. Suppose Mother says to Little Timmy, "Little

Timmy, one thing I know is that Pa will be home for Christmas; although I'm not sure that he'll be here." Suppose Little Timmy responds, "If you're not sure, then you don't know that he'll be here!" Timmy's inference that his mother doesn't know does not seem crazy like the previous inference; in fact, it seems reasonable. This is evidence that the consequent contradicts the antecedent *itself*, not merely what the antecedent *represents* the speaker as being.⁶⁷ So, Stanley's solution does not sufficiently explain the seeming inconsistency of instances of (c).

What does Stanley have to say about the seeming inconsistencies of instances of (d): "*S* knows that *p*, but *S* isn't certain that *p*"? He definitely cannot appeal to the certainty norm because the consequents do not contradict anything that the speaker represents himself as being when uttering the antecedent. As I understand him, Stanley follows Peter Unger in saying that mere utterances of instances of (d) do not seem contradictory. Certain words in the sentences must be emphasized. Unger (1975, p. 85) writes

Here, while we might feel nothing contradictory, at first, in saying 'He knows that it is raining, but he isn't certain of it,' we should feel differently about our saying 'He really *knows* that it is raining, but he isn't certain of it.' And, if anything, this feeling of contradiction is only enhanced when we further emphasize, 'He really *knows* that it is raining, but he *isn't* absolutely *certain* of it.'

Unger thinks that we ordinarily speak loosely, and he argues that emphasizing words gets us to focus on their literal meaning. Hence, he concludes that we should take the felt contradiction in sentences with emphasized words to show that the sentences really are contradictory (pp. 74-87). Stanley responds by arguing that emphasized words are *not* a guide to literal meaning (2008: pp. 42-46). Since he does not think that instances of (d)

⁶⁷ See Keith DeRose (1991, 596-599) for discussion of how the ability to make the inference is evidence that there is a genuine contradiction.

seem contradictory (without appeal to emphases), he does not think that they need to be explained.

Contrary to both Stanley and Unger, and as I hope I made clear at the beginning of this chapter, instances of (d) do (or should) seem contradictory even without emphasis. The best I can do is to try to keep motivating the intuitions. If Moriarty's henchman tells him, "Holmes now knows that the maid you sent is the killer; but he's not certain that she is," Moriarty would think that the henchman was sending mixed messages. I'll turn to a filled out version of Unger's example. Mick, Nick, Rick, and Dick's mother is good at reading her sons' faces. She takes a look at them and concludes, "Mick isn't certain that it's raining outside," "Nick is certain that it's raining outside," "Rick knows that it's raining outside," and "Dick knows that it's raining outside, but he's not certain of it." The last sentence seems odd, and in my ears, inconsistent.

So, instances of (d) do not need emphases in order to seem inconsistent; hence, an explanation is needed for their seeming inconsistency. Furthermore, we saw above that Stanley's explanation of instances of (c) is not a good one. Having criticized Stanley's approach, I will now present an analysis of certainty. This will provide us with an alternative explanation for the seeming inconsistencies of instances of (c) and (d).

4.2 What is Certainty?

In §4.2, I will consider and criticize accounts of certainty that can be drawn from the works of various philosophers. (Not all of these philosophers would endorse the accounts that I draw from them, but they are implied by what they say.) From these accounts, I will derive my own analysis of certainty.

First, consider the following quote by Wittgenstein (1972). He writes,

193. What does this mean: the truth of a proposition is *certain*?

194. With the word “certain” we express complete conviction, the total absence of doubt, and thereby we seek to convince other people. That is *subjective* certainty...

By ‘subjective certainty’, I believe that Wittgenstein means what I mean by

‘psychological certainty’.⁶⁸ We can draw the following account from Wittgenstein:

1) *S* is certain that *p* iff *S* has complete conviction that *p*.

(1) is similar to how I defined psychological certainty at the beginning of this paper (although I used ‘complete confidence’ and not ‘complete conviction’). Unfortunately, although (1) is true, it is not very illuminating. So, I will go on to examine more illuminating accounts. (Wittgenstein also mentions the ‘total absence of doubt’ in the above quote; I will explore this shortly.)

A second account defines certainty in terms of betting behavior. Ian Hacking (2001: 58) writes, “A proposition that is certainly true has probability 1.” But what is it for a proposition to have probability 1? Richard Jeffrey (1992: 1-2) explains

how momentous it may be to assign probability 1 to a hypothesis. It means you’d stake your all on its truth, if it’s the sort of hypothesis you can stake things on. To assign 100% probability to success of an undertaking is to think it advantageous to stake your life upon it in exchange for any petty benefit. We forget that when we imagine that we’d assign probability 1 to whatever we’d simply state as true.

We can draw the following account from this passage:

2) *S* is certain that *p* iff *S* would bet any amount on the truth of *p* if *S* were offered a bet with petty benefit.

⁶⁸ Wittgenstein also speaks of ‘objective certainty’, which refers to the particular role a proposition has in a speaker’s linguistic community. This is not equivalent to what I called ‘epistemic certainty’ at the beginning of the paper. See Klein (1981, pp. 127-130) for helpful discussion.

(2) is a relatively common analysis of certainty.⁶⁹ However, like most counterfactual analyses, (2) falls prey to counterexamples. Following an example by Richard Foley (1993: 150), I might, at the moment, be certain that *I am not being offered a bet*, but I would not bet anything on the truth of this proposition if I were offered a bet. Note also that *S*'s confidence that *p* could be shaken by the offering of the bet itself. The problem, stated more generally, is that when we examine the truth of a counterfactual, we must examine nearby worlds. Furthermore, it may be that what is going on in nearby worlds – e.g., *S*'s being offered a bet or *S*'s confidence being shaken – will affect whether *S* is certain. So, betting behavior is at best a rough way of determining that someone is certain.⁷⁰

A third way to analyze certainty is to appeal to feelings. William Alston writes,

Being certain of something may be construed as a matter of feeling assurance, feeling confident that one is correct; this is presumably the reverse side of the (de facto) absence of doubt. To feel complete confidence that one is correct is to entertain no doubt about the matter (Alston 1989: 258).

We can draw the following account of certainty from this passage:

3) *S* is certain that *p* iff *S* feels confident that *p*.

(3) is incorrect. Suppose that, at t_1 , Joy is certain that *Joe will be on time*. She also feels confident that *Joe will be on time*. She then proceeds to take a nap. While she dreamlessly sleeps at t_2 , she doesn't feel *anything*. Hence, at t_2 , it's false that she *feels* confident that *Joe will be on time*. Intuitively, however, she is still certain that *Joe will be on time*. So, Alston's account is false. These considerations show that one can be either *occurrently* certain or *dispositionally* certain. *S* is *occurrently* certain that *p* if and only if

⁶⁹ It is so common that it often seems to be presupposed without defense. For example, see Christensen (2004: 22).

⁷⁰ See Lina Eriksson and Alan Hajek (2007) for some powerful critiques of some of the most prominent betting behavior tests and analyses of degrees of belief. Their points are relevant here.

S's certainty that *p* is conscious; *S* is dispositionally certain that *p* if and only if *S*'s certainty that *p* is not occurrent. As noted in Chapter 2, *feeling* confident that *p* entails an experiential state, a sort of feeling. And, plausibly, experiences are *essentially occurrent*; they cannot be dispositional. Since it is impossible for feelings to be nonoccurrent, certainty should not be identified with a feeling.

Some of Alston's other remarks, as well as the above Wittgenstein quote, suggest the view that certainty is just the absence of doubt. The absence of doubt requires no feeling and is not occurrent. Peter Unger's (1975, p. 63) remarks are in accord with this suggestion:

the presence of certainty amounts to the complete absence of doubt. This thought leads me to say that 'It is certain that *p*' means, within the bounds of nuance, 'It is not at all doubtful that *p*,' or 'There is no doubt at all but that *p*.'⁷¹

These quotes suggest the following:

4) *S* is certain that *p* iff *S* has no doubt that *p*.

Unfortunately, (4) is false. Note first that the absence of doubt is too easy a condition to meet. Autumn leaves and pumpkin pie do not have doubt that *Thanksgiving is near*; they also do not have certainty. Once this is seen, a counterexample is easy to form: Fred does not have any doubt that $26 \times 23 = 598$; he has never even entertained that proposition! Yet, he is far from certain that it is true.

Perhaps what Unger, Wittgenstein, and Alston intended was something like the following:

5) *S* is certain that *p* iff *S* believes that *p* and has no doubt that *p*.⁷²

⁷¹ Unger later goes on to present his well known skeptical argument that since knowledge requires certainty and almost nothing is certain, nothing is known. I will provide an analysis of certainty which, contrary to Unger, has the result that many propositions are certain for us. Furthermore, as we will see shortly, even on Unger's own analysis of certainty as the absence of doubt, certainty is easy to obtain. See Chapter 2 for more discussion.

I argued against this view in Chapter 3. Belief without doubt does not constitute the high degree of confidence required for certainty. First, note how easy it is to form a belief without doubt. Many animals form belief without doubt. When my dog sees and smells a full doggy dish in front of her, she knows (and so believes) that *there is food*. Her knowledge (or belief) explains why she walks up to the dish and eats the food. Furthermore it seems false that she harbors some doubt that *there is food*. I also have the intuition that she lacks certainty that there is food. I take this example to be a counterexample to (5). However, since people might be skeptical about cases that appeal to animals, I will not stake my argument on this case. I believe, though, that this illustration does show how easy it is to form a belief without doubt.

Let us consider human cases. Most of our ordinary, mundane beliefs are formed without accompanying doubts. Consider,

Case A: While walking to your car, you unreflectively form belief in propositions such as *I am walking to my car, there's a squirrel, the door is locked, I'd better get out my keys*, and so on. All of these beliefs are formed without accompanying doubts; you simply form the beliefs and that's that.

Contrast Case A with the following:

Case B: The same events that occur in Case A occur in this case. However, after reaching your car, you decide that you want to make sure that it was a squirrel and not a chipmunk or a squirrel-shaped brown rock. Hence, you take a more careful look. You see the squirrel chattering away (indicating that it is not a rock), and you see some of its physiological characteristics (indicating that it is not a chipmunk but a squirrel). You mutter to yourself, "That is definitely a squirrel," and you walk away with the belief that *that is definitely a squirrel*.

Plausibly, you are more confident that there is a squirrel in Case B than in Case A. It follows that you do not have the highest degree of confidence in Case A. Therefore, you

⁷² This seems to be the view espoused by Peter Klein (1981, p. 150).

are not certain that there is a squirrel in Case A, even though you believe without doubt. Therefore, (5) is false.

Note that in Case B, it seems that you are certain that there is a squirrel. This lends evidence toward the following account:

6) S is certain that p iff S believes that it's impossible that $\sim p$.

In other words, the sentence, "I'm certain that Sally will make it" is equivalent to the sentences, "There's no way that Sally won't make it" and "Sally will definitely make it," both of which express the belief that it's impossible that Sally will not make it. I mean for the 'impossible' to express an epistemic impossibility. Note that certainty entails the presence of a likelihood-belief.

We can see that (6) has strong intuitive appeal. Someone who believes it's impossible that p is false seems to be someone who is certain that p . If a person believes it's possible that she's wrong, it seems that she isn't certain. This also explains why it seems inconsistent to say,

e) " S is certain that p , but S believes that p might be false."

Furthermore, you count as certain that p *only if* you believe that p couldn't be false. If a person has not formed such a likelihood-belief, as in Case A, it seems that the person does not have the degree of confidence required for certainty.

Unfortunately, (6) has a counterexample. You are telling Joe about your pleasant meal with Joy. Joe asks, "Are you sure it was Joy?" You answer, "Yes, I'm sure it was Joy." Joe asks, "Do you believe in the *possibility* of aliens?" You answer, "Yes." Joe asks, "And isn't it *possible* that there are aliens who look exactly like us, and isn't it *possible* that they might deceive you, and so isn't it *possible* that the creature you thought

was Joy was actually an alien?” Incredulous, you answer, “Well, that’s *possible*, but no, that possibility’s *so* crazy that it doesn’t make me uncertain that it was Joy. I’m still certain that it was Joy.” It seems that if a possibility is taken to be sufficiently ridiculous (or insignificant), then you could believe in the possibility that you are wrong but still remain certain.

In light of this counterexample, I suggest the following:

- 7) S is certain that p iff either S believes that it’s impossible that $\sim p$ or S believes that the possibility that $\sim p$ is insignificant.

As in Chapters 2 and 3, we are once again confronted with the question with what it is to believe that a possibility is insignificant. I think it is best to focus on examples. In the previous example, you did not believe that there was a significant possibility that Joy was an alien. You believed the possibility was insignificant. If there were reliable news of an alien invasion, then you would believe that possibility was significant. If further explicating is needed, however, I would appeal to my account of doubt in Chapter 3. We can determine whether a person believes that a possibility that p is significant (or insignificant) by examining our intuitions about whether the person has doubt. We could then state the second disjunct of the right-hand side of (7) as ‘ S believes that $\sim p$ is possible and does not have doubt that p .’ Then, doubt would appear in the analysis of my analysis of certainty, and I see no problem with this.

But doesn’t one of the supports for (6) – that the assertion of ‘ S is certain that p , but S believes that p might be false’ seems inconsistent – count against (7)? If (7) is true, then the two conjuncts are consistent. In response, following a move by Jeremy Fantl and Matthew McGrath (2009: 20-23), I can say that statements of ‘ S believes that p might

be false' pragmatically implicate that *S* believes that there is a significant possibility that *p* is false. To say, '*S* believes that *p* might be false', when *S* does not believe that there is a significant possibility that *p* is false, would be a violation Grice's rule of *relevance*. In most contexts, it is irrelevant to make such a statement about *S*, unless *S* believes there is a significant possibility. If Joe told you, "I believe that it's possible that that wasn't Joy you were talking to," you would expect Joe to tell you that he has good evidence that Joy has a look-alike or a twin who is in town. You would expect these significant (nonridiculous) possibilities because only they are relevant; his expressing his belief in ridiculous possibilities would, in most contexts, be irrelevant. So, the intuition of inconsistency about (e) is really about the proposition that *S is certain that p, but S believes that there is a significant possibility that p is false*, which is conversationally implicated by (e), and the inconsistency of *that* proposition is explained by (7). Note that it does not sound inconsistent to say, "I am certain that *p*, and I believe that the possibility that $\sim p$ is ridiculous and insignificant."

One might object that (7) makes certainty too hard to have. According to (7), unsophisticated animals and very young children who are unable to form likelihood-beliefs do not have certainty. However, surely unsophisticated animals and very young children do have certainty. So, my account is false.

I will first emphasize, as I emphasized in Chapter 2, that relatively young children *can* form likelihood-beliefs. Insofar as a young child can assert, "Sally couldn't be at the North Pole!" she can have the belief that *it's impossible that Sally is at the North Pole* and thereby have certainty that *Sally is not at the North Pole*. Now, for very young children and animals who cannot form such beliefs, I am willing to accept the result that

they cannot have certainty. This is not an implausible result for at least two reasons. First, intuitively, it seems to me that they do not have certainty in propositions. They are like my dog, discussed in the previous section. Second, suppose a very young child unreflectively believes that *that is Mommy*. If an angel granted this child the ability to form likelihood-beliefs, and if the child did form the belief that *it's impossible that that's not Mommy*, it seems that there would be an *increase* in her degree of confidence that *that is Mommy*. Furthermore, in reflecting on this case (and cases like Cases A and B), it seems that any believer who believes that p and does not believe that *it's impossible that $\sim p$* would have an increase in confidence by forming the belief that *it's impossible that $\sim p$* . It follows that the believer without the likelihood-belief did not have the highest degree of confidence and so was not certain after all.

Here is an objection.⁷³ Suppose S believes it's impossible that $\sim p$ and *also* believes that it's impossible that it's not impossible that $\sim p$. Suppose T is the same as S but does not have the latter belief. The objector would say that, intuitively, S is more confident that p than T is. It follows that T does not have the highest degree of confidence and so is not certain that p ; this is a counterexample to (7). In response, I do not have the intuition that S is more confident than T . I agree that S is more confident that *it's impossible that $\sim p$* than T is, but I have no clear intuition that S is more confident that p . To me, they are both just certain that p .

Here is another objection. Suppose S believes it's impossible that $\sim p$ and also believes that it's possible that it's not impossible that $\sim p$. My analysis states that S is certain that p ; such a person does not seem to be certain that p . In response, such a case is hard for me to grasp; when I try to fill in the details of such a possible case for any

⁷³ Thanks to Peter Markie whose remarks on different but similar topic (in Chapter 3) led to this objection.

ordinary human, it seems that the person really just believes it's possible that $\sim p$. I can imagine someone *saying*, "I believe that $\sim p$ is impossible, but it's possible that it's not impossible," but then I think that person's cognitive state is really just one of believing that $\sim p$ is possible. Now, surely there are bizarre, metaphysically possible persons that do meet the description I made of S . In those cases, I will accept that S is certain that p but then say that we should not be very confident about our intuitions about such bizarre cases.

4.3.0 Evaluated Knowledge

In §4.3.1, I explain evaluated knowledge. In §4.3.2, I argue that certainty is necessary for evaluated knowledge but not for unevaluated knowledge.

4.3.1 Evaluated Knowledge Explained

To explain evaluated knowledge, I will first explain *evaluated belief*. The following are stipulated definitions:

- 8) S has an evaluated belief that $p =_{\text{def}} S$ believes that p and S has a likelihood-belief that p .
- 9) S has an unevaluated belief that $p =_{\text{def}} S$ believes that p and S has no likelihood-belief that p .

S has an evaluated belief that p when S makes true assertions such as

- f) "I am certain that p ,"
- g) "It might be false that p ,"
- h) "It is extremely likely that p , but there is a small chance that $\sim p$,"

or when some other person, T , makes true assertions about S , such as,

- i) " S is certain that p "

j) “ S believes that it might be false that p ”

k) “ S believes that it is extremely likely that p , but there is a small chance that $\sim p$.”

In each of these cases, S has formed a likelihood-belief that p .

Suppose S says,

l) “I am not certain that p ,”

and T says,

m) “ S is not certain that p .”

(l) and (m) ascribe the absence of certainty to S . Interestingly, they both conversationally implicate that S has a likelihood-belief, specifically, the belief that there is a significant possibility that $\sim p$. It would be conversationally irrelevant, in most contexts, for S to assert (l) or T to assert (m) if S did not think there was a significant possibility that $\sim p$. Furthermore, regarding (l), it would be extremely difficult for S to truthfully say, “I am not certain that p ” without having formed the belief that there is a significant possibility that $\sim p$.

Yet, (l) and (m) do not actually ascribe a likelihood-belief that p to S ; it is compatible with the truths of (l) and (m) that S has never entertained the proposition that p . If p is the proposition that *it is raining in Geneva*, and S does not even know that there is such a city as Geneva, then the propositions expressed by (l) and (m) are true. So, evaluated belief is ascribed by (f)-(k) and only conversationally implicated by (l) and (m).

I will now introduce the notion of *evaluated knowledge*:

10) S has evaluated knowledge that $p =_{\text{def}} S$ knows that p and S has a likelihood-belief that p .

11) S has unevaluated knowledge that $p =_{\text{def}} S$ knows that p and S has no likelihood-belief that p .

Given my exposition of evaluated belief, the concept of evaluated knowledge should be clear enough.

This leaves us with a final question. Why should we care about evaluated belief and knowledge? I have two reasons. First, the distinction makes clear an epistemically valuable property that is present in evaluated belief and not in unevaluated belief. Socrates famously said, “The unexamined life is not worth living.” Now, not everybody will agree that “The unevaluated belief is not worth believing,” but we can agree that evaluated belief (and knowledge) has an epistemic value that unevaluated belief (and knowledge) does not have because we all agree that it is valuable to evaluate the strength of our evidence for what we believe. Second, and more importantly for this paper, the distinction between unevaluated and evaluated belief will provide a resolution to the conflict I presented at the introduction.

4.3.2 Certainty, Evaluated Knowledge, and Unevaluated Knowledge

I will now present my argument that certainty is not necessary for knowledge. My dog knows that there is a doggy dish in front of her. Would we say that she is *certain* that there is a doggy dish in front of her? Intuitively, certainty should not be ascribed to her. If animal cases are unconvincing, note that you know, in Case A, that there’s a squirrel. But I argued above that you are not *certain*; certainty is present in Case B, not Case A. So, certainty is not necessary for knowledge.

I will now argue that certainty is necessary for evaluated knowledge. Consider the following sentences:

- n) “*S* knows that *p* and believes that it is likely that $\sim p$.”
- o) “*S* knows that *p* and believes that *p* is about as likely as not.”
- p) “*S* knows that *p* and believes there is a very small chance that $\sim p$.”
- q) “*S* knows that *p* and believes that it might be that $\sim p$.”
- r) “*S* knows that *p* and believes that the possibility that $\sim p$ is ridiculous and insignificant.”
- s) “*S* knows that *p* and believes that it’s impossible that $\sim p$.”

In (n)–(s), evaluated knowledge is ascribed. (r) and (s) seem consistent (or at least do not seem inconsistent); (n)–(q) do not seem consistent. As I noted toward the end of §4.1.2, the latter conjunct of (q), in most contexts, will implicate that there is a significant possibility that $\sim p$.

The seeming inconsistency of (n)–(q) is reason to think that evaluated knowledge that *p* is incompatible with the belief that *p* might be false. However, consider that (r) seems consistent and that the seeming inconsistency of (q) can be explained by the fact that its second conjunct conversationally implicates that *S* believes that there is a significant possibility that *p* is false. We should conclude from (q) and (r) that evaluated knowledge that *p* is incompatible with the belief that there is a *significant* possibility that $\sim p$, not the insignificant possibility that $\sim p$.

So, the only likelihood-beliefs that are compatible with evaluated knowledge, as seen in (r) and (s), are the beliefs that *the possibility that $\sim p$ is insignificant* and the belief that *it’s impossible that $\sim p$* . If you have evaluated knowledge that *p*, you must have one of *these* likelihood-beliefs. It follows from (7), my account of certainty, that if you have

evaluated knowledge that p , then you must be certain that p . Therefore, certainty is necessary for evaluated knowledge.

4.4 Conclusion: Conflict Resolved

I said in the introduction that sentences of the form,

- c) “I know that p , but I’m not certain that p ,”
- d) “ S knows that p , but S isn’t certain that p ,”

seem inconsistent. This was *prima facie* evidence that certainty is required for knowledge. But we can now reject this claim and retain the intuitions about (c) and (d).

First, we saw toward the beginning of §4.3.1 that (l) and (m) (i.e., “I am not certain that p ” and “ S is not certain that p ”) both conversationally implicate that S has a likelihood-belief, specifically, the belief that there is a significant chance that $\sim p$. Hence, (c) and (d) implicate the presence of evaluated knowledge. But we saw that the belief that there is a significant possibility that $\sim p$ is incompatible with certainty. (This follows from (7), my analysis of certainty.) And we saw in the previous section that certainty is necessary for evaluated knowledge. So, the seeming inconsistency of (c) and (d) can be explained by the fact that evaluated knowledge is being ascribed, certainty is necessary for evaluated knowledge, and the second conjuncts of (c) and (d) conversationally implicate something that is incompatible with certainty (i.e., belief in the significant possibility that p is false).

Fortunately, our intuitions about (c) and (d) tell us nothing about unevaluated knowledge, and thereby, about knowledge *simpliciter*. Hence, we can both explain the intuitions that (c) and (d) are inconsistent and retain the view that certainty is not necessary for knowledge. Conflict resolved.

Conclusion

The purpose of this dissertation has been to explore whether there are any nonepistemic, psychological requirements for knowledge beyond simple belief. I have examined whether degrees of belief, confidence, the absence of doubt, and certainty are necessary for knowledge. Of these, I concluded that only the absence of doubt is required for knowledge, although certainty is necessary for evaluated knowledge. I will now draw away some conclusions from the dissertation as a whole and point to potential areas of further research.

First, I have given some analyses (or accounts) of various concepts:

- S is confident that p iff S believes that p is likely
- S has some doubt that p iff S believes that there is a significant possibility that $\sim p$.
- S is certain that p iff either S believes that it's impossible that $\sim p$ or S believes that the possibility that $\sim p$ is insignificant.

I pointed out explicitly in Chapter 2 how belief plays a role in determining both confidence and action. I called this a 'belief-first approach'. We can see that belief also plays a role in determining the presence of doubt and certainty. So, my dissertation exemplifies a belief-first approach to both doubt and certainty.

I will note three areas for further research. First, there is the concept of epistemic possibility. Although I mostly appealed in the dissertation to our intuitive grasp of the concept, a successful analysis would be helpful. Second, I appeal in my accounts of certainty and doubt to belief that there is a significant possibility that $\sim p$. I further said that we can understand this sort of belief in terms of doubt (which rendered my account of doubt circular). An analysis that didn't depend on a prior understanding of doubt

would be helpful. I noted in a footnote that perhaps we can appeal to the account by Jeremy Fantl and Matthew McGrath (2009: 22): “Perhaps the chance that not-*p* is significant just in case it is high enough to make it improper to *put p to work* as a basis not only for belief, but... for action as well.” They spend much of their book exploring what it is ‘*to put p to work*’. An exploration of the truth of Fantl and McGrath’s views would be a fruitful area of research. Third, it would be very helpful to have accounts of when someone epistemically *ought* to have some degree of confidence, doubt, or certainty. Although this topic would be outside of the purview of this dissertation, I would definitely be interested in exploring it in the future.

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