

THE CONJUNCTIVE ACCOUNT OF KNOWING

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# THE CONJUNCTIVE ACCCOUNT OF KNOWING

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This thesis argues for a *conjunctive account of knowing*, one according to which, the condition picked out by our ordinary uses of the verb “knows” is the conjunction of a mental and a non-mental component. I argue for a specific version of this account, one that identifies *rational belief* as the mental component of knowing. The account sheds light on the relations between three important epistemic concepts: knowledge, rational belief, and evidence. It also fixes the “boundary” between the mental and the non-mental in a way that undermines certain, otherwise, plausible skeptical arguments against the possibility of rational belief. In both cases, the account offers substantive answers to important questions in epistemology and philosophy of mind and brings in focus the points of connection between the two fields.

## BIOGRAPHICAL SKETCH

Roald Nashi began his academic career as a philosophy major at the University of Wisconsin, Eau Claire where he received his B.A. in 1998. He continued his education at Fordham University earning an M.A. in 2002. In 2003, Roald transferred to the Department of Philosophy at Cornell University where he focused his studies on epistemology and metaphysics, earning an M.A. in 2006 and a Ph.D. in 2008.

To Johanna and Juna

## ACKNOWLEDGMENTS

David Hume wrote that a wise man proportions his belief to the evidence. In this dissertation, I try to shed some light on this advice. In general, I try to follow it. The people I want to thank have helped me do both.

John Greco was the person that first turned my attention to epistemology during a seminar that focused on the internalism-externalism debate. John's work in epistemology is a model of clarity and insight. I have learned much from it, both about content and style. John has also helped me make difficult decisions at important junctures in my graduate school career when proportioning belief to evidence was not easy. His advice always turned out to be correct.

Tamar Gendler picked up my training in epistemology, where John had left off. She helped me understand that good work in epistemology is done with an eye to both subtle disputes about methodology, and the points of contact between epistemology and other areas of research. Tamar's own work is the best model in this regard. This dissertation emulates this model in so far as it often deals with issues at the interface of epistemology, metaphysics, philosophy of language, and philosophy of mind. I have also learned immensely from Tamar as a person. More than anyone else I know, she is living proof that there is no conflict between what prudence counsels and what morality requires. I have often solicited her advice about both, received the same answer, acted on the basis of it, and have not regretted it.

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Zoltan Szabo helped me navigate the hardest and most technical issues in this dissertation, and he did that without making them seem especially hard or especially technical. This was in part because of his unusual ability as a teacher to identify the crux of the matter and then slowly add subtlety to it along the way. Zoltan's philosophy of language course on proper names was indispensable background to my understanding of content externalism and its implications to epistemology. Also, thanks to Zoltan, I have a better idea of the weak points of my dissertation. Some of them I know how to fix. The others I don't—at least not yet—but I am thinking about them. In that regard, Zoltan's contributions will continue to inform my work in the future.

The greatest influence in the writing of this dissertation has been a philosopher whom I have never met: Timothy Williamson. My project is, to a large extent, an attempt to understand, and respond to the epistemological outlook marshaled in his book, *Knowledge and its Limits*. Traces of Williamson's thought, philosophical techniques, and style will be obvious to anyone who reads this dissertation, and is familiar with his work. However, the epistemological outlook I propose is of the old variety—one that Williamson tries to replace: "knowledge second." This crude characterization is misleading. What I propose has more in common with Williamson's theory than any of the products of the post-Gettier industry of the last five decades.

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Portions of this dissertation were presented at the Columbia-NYU Graduate Student Conference and the University of Miami Graduate Student Conference in Epistemology. I want to thank the audiences for their comments in those occasions.

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## TABLE OF CONTENTS

BIOGRAPHICAL SKETCH	iii
DEDICATION	iv
ACKNOWLEDGMENTS	v
TABLE OF CONTENTS	viii
TABLE OF FIGURES	ix
PREFACE	x
INTRODUCTION	1
CHAPTER ONE: THE CONJUNCTIVE ACCOUNT OF KNOWING	6
CHAPTER TWO: FACTIVE STATIVE ATTITUDES AND KNOWING	51
CHAPTER THREE: EVIDENTIAL STATUS	86
CONCLUSION	126
APPENDIX	133
BIBLIOGRAPHY	135

## LIST OF FIGURES

FIGURE 1	61
FIGURE 2	64
FIGURE 3	66
FIGURE 4	133
FIGURE 5	134

## PREFACE

This dissertation discusses issues at the interface of epistemology and philosophy of mind. There is a certain consensus in epistemology that knowledge is hard to attain, while belief is easy. The consensus is, in part, motivated by the thought that attaining belief—like any other mental state—depends exclusively on getting the subject to be in a particular *internal* condition. By contrast, attaining knowledge—at least knowledge of the external world—requires in addition the “cooperation” of one’s *external* environment: at the very least, what one believes must turn out to be true in order for one to be able to know.

Quite often, a picture of the mind that goes by the name of *internalism*, is behind this thought. According to a popular version of internalism, mental states are internal, physical states obtaining within the confines of one’s own body. All other states of the world—whether they are states of one’s environment, or conjunctions of internal and environmental states—are not purely states of one’s mind. So, if internalism is correct, knowledge—which constitutively depends on the state of one’s environment—is not purely a mental state; and, since the mental state of the subject plays some role in the obtaining of this condition, knowledge cannot be purely a condition of one’s environment either. So, it must be the conjunction of mental and environmental constituents. This metaphysical conclusion motivates the project of analyzing knowledge in terms of its mental and non-mental components, respectively thought to be *belief* and *truth*. Hence, the picture of the mind proposed by internalism—in addition to explaining the relative easiness of attaining belief compared to that of attaining knowledge—supports a substantive answer to a central question in epistemology: *what is knowledge?*

Internalism’s way of fixing the boundary between the mental and the non-

mental also motivates a particular kind of skeptical argument about knowledge. The argument is of the following template:

- (1) If one is in exactly the same mental state in two situations then one knows in one what one knows in the other.
- (2) One is in exactly the same mental state in the *good* and the *bad* case.<sup>1</sup>
- (3) So, one knows as much in the *good* case as one does in the *bad* case.
- (4) One knows very little, if anything, in the *bad* case.
- (5) Therefore, one knows very little, if anything, in the *good* case.

It's easy to get a nod for the stipulation that the subjects in the good and bad case are internal, physical duplicates. When combined with internalism about mental states, the innocent stipulation entails the second premise.<sup>2</sup> In so far as the plausibility of the skeptical argument depends on the plausibility of the second premise, internalism helps motivate skepticism about knowledge. So, internalism supports a substantive answer to the other central question in epistemology: *how much do we know?*

These two implications of internalism show that where the philosophy of mind places the boundary between the mental and the non-mental is an issue that matters to epistemology. This point is rarely missed after the emergence of the literature on *content externalism*.<sup>3</sup> An important lesson of content externalism is that internalism misplaces the boundary: if the internal is understood as that part of physical reality which obtains within a subject's skin, then mental states, including belief, outstrip the boundaries of the internal—they constitutively depend on the state of one's external environment. The lesson was immediately employed to diffuse the kind of skeptical

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<sup>1</sup> Here I am using "good case" and "bad case" to stand respectively for a case where things appear as they ordinarily do and are that way, and a case where things appear as they ordinarily do and are not that way.

<sup>2</sup> Chapter One makes this argument precise.

<sup>3</sup> See Hilary Putnam's (1973) and Tyler Burge's (1979, 1986a, 1986b).

argument sketched above, by calling into question the internalist picture supporting the second premise.<sup>4</sup> More recently, content externalism is used to undermine the view of knowledge as a composite condition, constituted of a mental and a non-mental component, and the project of analysis of knowledge that this metaphysical view helps generate.<sup>5</sup>

In short, epistemologists have gradually come to recognize that where the philosophy of mind draws the boundary between mind and world is an issue that matters to their work. What is often missed is that the river flows both ways: the way we answer certain questions in epistemology has important implications for philosophy of mind in general, and the question about the boundary between mind and world in particular. I try to show that questions about what constitutes a subject's *evidence* in a particular case are of paramount importance in this respect.

The positive conclusion of this dissertation is twofold. First, *rational belief*—as understood in the technical sense specified in Chapter One—is a mental state: two subjects are in the same mental state only if there is no proposition that is rationally believed by one but not the other. The conclusion is rather surprising, for the picture of rational belief emerging from our discussion depicts it as a factive, propositional attitude—an attitude one can only bear to true propositions—and there is strong prejudice against the view that factive attitudes can be mental. Second, skeptical arguments about rational belief (of the template sketched earlier) are untenable, even if these arguments are plausible in the case of knowledge. Implications about the nature of knowledge and the prospect of the project of analysis are explored along the way. I argue that knowledge is a composite condition, the conjunction of a mental and a non-mental component, where rational belief plays the former role. This is true even on

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<sup>4</sup> See Putnam (1973), Williamson (2000) and Chalmers (<http://consc.net/papers/matrix.html>) for this kind of response to skepticism.

<sup>5</sup> See Williamson (2000).

the assumption of a strong version of content externalism. So, the expectation of a successful analysis of knowledge in terms of rational belief retains a strong metaphysical backing, despite the externalist results about content defended by certain philosophers of mind. The next, introductory section maps out the three central chapters of the dissertation in more detail.

## INTRODUCTION

**0.0 Three Questions.** The next three chapters discuss three interrelated questions in the following order:

Q1: Is knowledge a mental state?

Q2: Do factive, stative attitudes entail knowledge?

Q3: Is knowledge a requirement for evidence?<sup>6</sup>

I will try to motivate the negative answer in each case. The discussion will be concerned exclusively with *propositional knowledge*. Propositional knowledge is a kind of propositional attitude, an attitude a subject bears towards a proposition.<sup>7</sup> For the purpose of this dissertation, I assume that propositions as structured entities—they are entities made up of constituents in some broad sense.<sup>8</sup> The reason behind the assumption is purely dialectical. The versions of content externalism used to support the views that I try to undermine in this dissertation assume this picture of propositions. For ease of engaging these views in their own terms I make the same assumptions.

Paradigmatic propositional attitudes are believing that *p*, hoping that *p*, seeing

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<sup>6</sup> The questions are not new. This will be obvious to those familiar with Timothy Williamson's *Knowledge and Its Limits*. Williamson defends positive answers to all three questions. Helpful discussions of Williamson's answer to Q1 include (Brueckner 2002), (Jackson 2002), (Yablo 2003), (Magnus and Cohen 2003). Earlier discussions of Q2 include (Dretske 1969), (Unger, 1972) and (Kvart, 1993). Whitcomb (manuscript) provides several counterexamples to Williamson's (positive) answer to Q2. For previous discussions of Q3 see (Maher 1996), (Achinstein, 1996); for discussions of Williamson's view on evidence see (Joyce 2004), (Bird 2004) and (Weatherson, manuscript). The negative answers to all three questions are not new either: (Brueckner 2002), (Jackson 2002), (Magnus and Cohen 2003) defend the negative answer to Q1. (Whitcomb, manuscript) defends the negative answer to Q2; (Joyce 2004) and (Weatherson, manuscript) defend the negative answer to Q3.

<sup>7</sup> Whether or not *all* propositional attitudes constitute mental states, in the sense relevant to Q1, is a matter of debate; otherwise the positive answer to Q1 would be uncontroversial. In his argument against the negative answer to Q1 Williamson (2000: chaps. 1-3) doesn't assume that all propositional attitudes constitute mental states. This is sometimes missed by his commentators. (See Whitcomb manuscript: 1)

<sup>8</sup> See for example Salmon (1986) for an exposition and defense of this view.

that  $p$ , remembering that  $p$  (where  $p$  stands for some proposition). “Propositional knowledge” refers to the state of knowing that  $p$ . Sections 0.1 through 0.3 provide informal clarifications of the three questions. Section 0.4 takes a preliminary step towards showing how they are interrelated. Section 0.5 sketches the big picture that my answers intend to motivate.

**0.1** *Is knowledge a mental state?* According to a common view knowing that  $p$  requires believing that  $p$ . Hence, in an undemanding sense of “mental” knowing is a mental state: there is a mental state—believing that  $p$ —such that being in it is *necessary* for knowing that  $p$ . This undemanding sense of “mental” is not what is at issue in Q1. The question is whether knowing is a mental state in a more restrictive sense. Knowledge is a mental state in this more restrictive sense if and only if there is a mental state such that being in it is both necessary and *sufficient* for knowing that  $p$ . It is this demanding sense of “mental” that concerns us in Q1.

**0.2** *Do factive, stative attitudes entail knowledge?* Factive, stative attitudes constitute a class of propositional attitudes. A propositional attitude is factive if and only if, *necessarily*, one has it only to *true* propositions.<sup>9</sup> Factive, propositional attitudes include seeing that  $p$ , remembering that  $p$ , forgetting that  $p$ . The first two attitudes constitute *states*; the third is a *process*. It is factive, *stative*, attitudes (FSAs) that we are concerned with in Q2.<sup>10</sup> FSAs entail knowledge if and only if for every factive, stative attitude  $A$ , subject  $S$ , and proposition  $p$ ,  $S$  bears  $A$  towards  $p$  *only if*  $S$  knows that  $p$ .

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<sup>9</sup> See (Williamson 2000: 34) for a similar definition.

<sup>10</sup> I will provide a more formal account of FSAs by way of introducing four characteristics that distinguish them from other members of the class of propositional attitudes in Section 0.6.



**0.3** *Is knowledge a requirement for evidence?* The discussion of Q3 will assume a *propositional* and *categorical* view of evidence. The view is propositional in the sense that one's evidence is a set of propositions that satisfies some further criteria.<sup>11</sup> The view is categorical in the sense that for every proposition  $p$ ,  $p$  either is, or is not part of one's evidence. Knowledge is a requirement for evidence if and only if for every proposition  $p$  that is part of one's evidence one knows that  $p$ .

**0.4** *How are the three questions interrelated?* Chapter One develops in detail a view that is inconsistent with the positive answer to the first question. I call it the *Conjunctive Account of Knowing* ( $C_K$ ). According to ( $C_K$ ) knowledge is a composite state: the conjunction of a mental and a non-mental component. I try to motivate and defend a version of ( $C_K$ )—one that identifies *rational belief* as the mental component of knowledge—against recent objections. I argue that the only potentially damaging argument against this version of ( $C_K$ ) depends on the assumption that knowledge is a requirement for evidence. In Chapters Two and Three I argue against this assumption. The argument has two parts.

In Chapter Two, I argue as follows:

1. For every proposition  $p$ , if one bears a factive, stative attitude towards  $p$ , then  $p$  is part of one's evidence. Some factive, stative attitudes don't entail knowledge.
2. Hence, knowledge is not a requirement for evidence.

The conclusion of Chapter Two is tentative: there is a residual worry that the attitudes involved in motivating (2) are not factive, stative attitudes after all, for unlike certain uncontroversial members of this category, they are insufficient for securing

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<sup>11</sup> I have little new to offer in defense of this view; as I hope it will be clear by my discussion, my ambitions lie elsewhere. For a defense of the propositional view of evidence see (Williamson 2000: 194-200).

evidence. In the background of this objection lies the assumption that only known propositions are part of one's evidence. Chapter Three investigates the merits of this assumption. It considers two ways of arguing for the assumption: an indirect way based on certain general desiderata that a theory of evidence must satisfy; and a direct way that appeals to our intuitions about particular cases. I show that neither is successful. A better understanding of the category of factive stative attitudes is gained as a result. I close by trying to motivate a theory of evidence that identifies evidence propositions with those towards which one bears a factive, stative attitude.

**0.5 The Big Picture.** The overall picture that emerges from the discussion in the three main chapters is the following:

1. If a version of  $(C_K)$  is true then knowledge is not a mental state. (Chapter One)
2. A version of  $(C_K)$  is true *unless* knowledge is a requirement for evidence. (Chapter One)
3. Knowledge is not a requirement for evidence. (Chapters Two and Three)
4. Hence, a version of  $(C_K)$  is true, and knowledge is not a mental state.

The conclusion reached in (4) is important for a key question in epistemology: what is knowledge? If knowledge is a composite state, as suggested by the version of  $(C_K)$  that I defend, then there is a reasonable expectation for an informative answer to the first question: the concept “knows” can be analyzed in terms of the concepts corresponding to the mental and the non-mental component of knowledge.<sup>12</sup>

On the other hand, identifying the mental component of knowledge is important for a key question in philosophy of mind: where lies the correct boundary

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<sup>12</sup> Even if knowledge is a mental state (in the demanding sense indicated in Section 0.1) this doesn't mean that the concept “knows” is *unanalyzable*. But a strong motivation, as well as a *guide*, for the project of analysis—that provided by the Conjunctive Account of Knowing—is lost.

between mind and world? It is one of the conclusions of this dissertation that the mental component of knowledge is rational belief. The sketch of rational belief (developed in Chapter One) combined with a theory of evidence that requires evidence propositions to be true (developed in Chapter Three), renders rational belief a factive condition: one cannot rationally believe that  $p$ , unless  $p$  is true. If rational belief is both factive and a mental state some interesting results follow about the boundary between the mental and the non-mental.

One version of internalism—that according to which mental states are those that depend exclusively on conditions that obtain within the subject’s skin—is shown to be false. This version is arguably incompatible with content externalism, which is assumed in this dissertation. So, this result is not surprising. However there is another version of internalism that is compatible with one strain of content externalism—what in Chapter One I call *concept externalism*. It simply maintains that a representational state is mental *only if* it is *non-factive* in the sense that being in it doesn’t entail the truth of the content of the representation.<sup>13</sup> This version of internalism is intuitively plausible. However, if the picture of rational belief that emerges from our discussion is correct, this version of internalism is also false. This result is both interesting and surprising. These implications are discussed in more detail in the *Conclusion*.

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<sup>13</sup>

I make this point precise in the concluding chapter.

## CHAPTER ONE

### The Conjunctive Account of Knowing

#### Introduction

This chapter analyzes and tries to motivate a view that is inconsistent with knowledge being a mental state in a demanding sense to be specified below. I will refer to it as the *conjunctive account of knowing*<sup>14</sup>, (C<sub>K</sub>). According to (C<sub>K</sub>) knowing a proposition *p* is a *composite* condition: the conjunction of a mental and a non-mental component. (C<sub>K</sub>) is a *metaphysical* view about the condition that one knows *p*; not a view about the analysis of the concept *knows*, despite the fact that (C<sub>K</sub>) provides a motivation for the project of analysis of *knows* in terms of other concepts.

The first part of the chapter is expository: it clarifies what it means for knowledge to be a mental state in a demanding sense and it develops a general framework for (C<sub>K</sub>), the view that is inconsistent with knowledge being a mental state in that sense. The rest of the chapter discusses a version of (C<sub>K</sub>) that identifies the condition *that one rationally believes p* as the mental component of knowledge, (C<sub>K</sub>-RB).

It has been argued that (1) (C<sub>K</sub>-RB) is *false* on the assumption of *content externalism* and *internalism* about mental conditions, and (2) *unmotivated* on the assumption of *content externalism* and *externalism* about mental conditions. The second part of the chapter distinguishes between two versions of content externalism; *concept externalism* and *strong singular thought theory*. The third part shows that the argument for (1) and (2) relies on the latter. The rest of the third part argues that,

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<sup>14</sup>

I borrow the term from Williamson (2000: 48).

- (i) The argument for (1) is straightforward and sound but potentially harmless for (C<sub>K</sub>-RB): according to a prevalent view *content externalism* entails that *internalism* about mental conditions is false. If this view is correct, an argument that enlists both content externalism and internalism about mental conditions as premises to the denial of (C<sub>K</sub>-RB) is unsound.
- (ii) The case for (2) is subtle and potentially harmful for (C<sub>K</sub>-RB), but ultimately inconclusive. Its success depends on a controversial view of *evidence*.

The results of this chapter will be tentative. I will not conclude that we *should* endorse the conjunctive account of knowing. My overall strategy is to show that the motivation for one version of it, (C<sub>K</sub>-RB), is independent of internalism about mental conditions and mental content. I also try to cast sufficient doubt on the argument against a version of (C<sub>K</sub>-RB) that concedes content externalism and externalism about mental conditions to allow for the more cautious conclusion that the case against the conjunctive account of knowledge is *inconclusive*: it crucially depends on a theory of evidence according to which evidence entails knowledge. I argue against this theory in the next two chapters. Some of the connections between three important epistemic concepts — knowledge, rational belief and evidence — will hopefully be brought into focus in the course of the discussion.

**1.1 Williamson's thesis.** In recent work (1995, 2000) Timothy Williamson has argued that knowledge is a mental state in the following demanding sense: for some mental state *S*, being in *S* is necessary and sufficient for knowing *p*. (2000: 21) This is a claim about *propositional* knowledge, which like other paradigmatic mental states (believing, hoping, fearing) is an attitude to propositions. If propositional attitudes are

understood as relations of subjects to propositions, the mental state *S* in Williamson's claim is a *mental* relation between a subject and the proposition *p*.<sup>15</sup>

**1.2 Preliminaries.** Employing terminology introduced by Williamson<sup>16</sup> we can state the thesis that knowledge is a mental state (in the demanding sense specified above) more rigorously as follows:

(W): For every proposition *p*, and every case  $\alpha$ , there is a mental *condition* with respect to  $\alpha$ —call it condition  $\mathbf{M}_p$ —such that the condition that one knows *p* obtains in  $\alpha$  if and only if  $\mathbf{M}_p$  obtains in  $\alpha$ .<sup>17</sup>

A case is to be understood as a nomically “possible world, but with a distinguished subject and time: a ‘centered world’ in the terminology of David Lewis.” (Williamson 2000: 52) A case is thus an ordered triple  $\langle w, i, t \rangle$  where *w* is the uncentered, possible world where the *case* is *located*, and *i-t*, the individual-time pair on which the possible world is centered.

“Condition” will be used in the sense explained by Williamson: “[c]onditions are specified by that clauses.” For example, the condition *that one knows the proposition p*, or the condition *that one is in pain*. “The pronoun ‘one’ and the present tense in such clauses refer to the distinguished agent and time respectively.” For any case  $\alpha$  and condition *C*, *C* either obtains or doesn’t obtain in  $\alpha$ . (Williamson 2000: 52) Two conditions *C* and *D* are *identical* if and only if each *entails* the other. “A condition *C* *entails* a condition *D* if for every case  $\alpha$ , if *C* obtains in  $\alpha$  then *D* obtains in  $\alpha$ .” (Williamson 2000: 52). The only truth function for conditions relevant to our

<sup>15</sup> Williamson’s subsequent discussion relies on this understanding of propositional knowledge. (See, especially pp. 49-60.)

<sup>16</sup> I will provide characterizations of the terms involved below.

<sup>17</sup> By contrast, a less demanding sense of knowledge being a mental condition would be the following: knowing is a mental condition in the sense that for every proposition *p*, there is a mental condition  $\mathbf{M}_p$  such that for every case  $\alpha$  the condition that one knows *p* obtains in  $\alpha$  *only if*  $\mathbf{M}_p$  obtains in  $\alpha$ . (See Williamson 2000: 21.)

discussion will be that for *conjunction*: for every case  $\alpha$  the *conjunction* of two conditions  $C$  and  $D$  obtains in  $\alpha$  if and only if both  $C$  and  $D$  obtain in  $\alpha$ .

The locution “mental condition” will also be used in a specified sense. I will define “mental condition  $C$  obtaining in case  $\alpha$ ” by reference to “the subject distinguished by  $\alpha$  being in a *mental state*  $S$  in the uncentered, possible world  $w$  where  $\alpha$  is *located*”<sup>18</sup>. Like Williamson, I will rely on the intuitive notion of “mental state”; a formal definition of “mental state” “would require a formal definition of the mental,” and that is unavailable. (1995: 538) The definition of “mental condition” is straightforward: for any case  $\alpha$ ,  $\langle w, i, t \rangle$ , and any condition  $C$ ,  $C$  is a *mental condition with respect to  $\alpha$* , if and only if for some mental state  $S$ ,  $C$  is identical to the condition that  $i$  is in  $S$ . The definition of “non-mental condition” is less straightforward. We start with a definition of “non-mental state”:  $E$  is a *non-mental state* if and only if for some nomically possible world  $w$ , and every mental state  $S$ ,  $S$  doesn’t obtain in  $w$ , and  $E$  obtains in  $w$ . Now we can define “non-mental condition” by reference to “non-mental state”: for any case  $\alpha$ ,  $\langle w, i, t \rangle$ ,  $C$  is a non-mental condition with respect to  $\alpha$  if and only if  $C$  is either (a) identical to the condition that  $i^*$  is in  $S$ , (where  $S$  is a mental state and  $i^* \neq i$ ); or (b) identical to the condition that  $E$  obtains, where  $E$  is a non-mental state; or (c) identical to the conjunction of conditions  $C_1$  through  $C_n$ , where each conjunct is a condition that satisfies either (a), or (b).<sup>19</sup>

To illustrate, suppose Hillary is in pain at time  $t$  in the (uncentered) world  $w$ . Then for any case  $\alpha$  *located* in  $w$ , the condition that Hillary is in pain is a mental condition with respect to  $\alpha$  only if the subject distinguished by  $\alpha$  is Hillary. The

<sup>18</sup> A case is located in a world  $w$ , if and only if  $w$  is the first member of the ordered triple that is that case. (See Gendler and Hawthorne [2002: 44] for a similar definition.) There is, then, a unique uncentered, possible world corresponding to every case, the possible world in which the case is located, but the converse doesn’t hold. “It may happen that two centered worlds are situated within the same uncentered possible world: only their designated individuals-at-times differ.” Lewis calls these cases “collocated.” (Lewis 2001)

<sup>19</sup> Thanks to Zoltan Szabó for noticing a problem with, and helping me fix, an earlier definition that gave rise to an undesired result.

condition that Hillary is in pain is a non-mental condition with respect to a case  $\beta$ , where the subject distinguished by  $\beta$  is Bill (and Bill is not identical to Hillary). So, more generally, the definition of “non-mental condition” states that for any inhabitant  $i$  of  $\alpha$  that is not identical with the subject distinguished by  $\alpha$ , and any mental state  $S$ , the condition  $C$  that  $i$  is in  $S$  is a *non-mental* condition with respect to  $\alpha$ . Intuitively in a world centered on myself, a condition is mental if and only if it is a condition of *my mind*; if I and Barack Obama inhabit the same world, the condition that Barack Obama believes that he should be the next president is not a condition of my mind, but rather a condition of my *surroundings*<sup>20</sup>. The bottom line is that a condition is mental or non-mental *relative* to a case: what conditions are (non)mental in a case is (in part) determined by reference to the subject distinguished by the case. I say “in part” because some conditions, such as the condition *that water is H<sub>2</sub>O*, are non-mental conditions in every case.

By the definitions for “mental” and “non-mental condition”, if a condition is mental with respect to  $\alpha$ , then it is not non-mental with respect to  $\alpha$ , and vice versa. In other words, the categories “mental” and “non-mental” are mutually exclusive with respect to a case.

For every case  $\alpha$ , some conditions are *mental* with respect to  $\alpha$  (e.g., the condition *that one believes that Michael Vick should not run for president*); some are *non-mental* with respect to  $\alpha$  (e.g., the condition *that water is H<sub>2</sub>O*); and some conditions are *composite* with respect to  $\alpha$  (e.g., the condition *that one believes that Michael Vick should not run for president and such that water is H<sub>2</sub>O*). A condition  $C$  is *composite* with respect to  $\alpha$  if and only if it is the *conjunction* of a mental condition

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<sup>20</sup> “Environment” would be a more fitting term, but Williamson uses “environment” to denote the totality of conditions obtaining outside a subject’s skin in a case centered on that subject. So, I am avoiding it and using “surroundings” instead to denote the totality of the non-mental conditions obtaining in a case, i.e. those conditions that are not conditions of a subject’s mind in a case centered on the subject, whatever these non-mental conditions turn out to be.



(with respect to  $\alpha$ ) and a non-mental condition (with respect to  $\alpha$ ).<sup>21</sup>

Every mental condition with respect to  $\alpha$  is *trivially* composite with respect to  $\alpha$ : it is *identical* to the conjunction of itself with the non-mental condition that holds in every case whatsoever.<sup>22</sup> A condition  $C$  is *non-trivially* composite with respect to  $\alpha$  if there is no mental condition (with respect to  $\alpha$ ) or non-mental condition (with respect to  $\alpha$ ) such that *it* entails  $C$ .<sup>23</sup> If a condition is non-trivially composite with respect to  $\alpha$  then it is not mental with respect to  $\alpha$  for if it were it would be trivially composite with respect to  $\alpha$ : the conjunction of itself with the non-mental condition that holds in every case whatsoever. Neither is a non-trivially composite condition with respect to  $\alpha$ , a *non-mental* condition with respect to  $\alpha$ . Every non-trivially composite condition with respect to a case is the conjunction of a mental and a non-mental condition with respect to that case. This conjunctive condition fails to satisfy the *disjunctive* requirement for being a non-mental condition, laid out earlier.

If a condition is mental with respect to a case then it is not a non-trivially composite condition with respect to that case for if it were it would fail to entail itself.

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<sup>21</sup> This is the only point where the terminology I employ diverges from that employed by Williamson. Williamson defines a *composite condition* as a conjunction of a narrow and an environmental condition. This definition corresponds to my definition of a composite condition only on the internalist assumption that all mental conditions are narrow.

<sup>22</sup> Proof: Let  $N$  be a non-mental condition that holds in every case. Let  $M$  be a mental condition with respect to  $\alpha$ . Let  $M \wedge N$  be the conjunction of  $M$  and  $N$ . Let  $\gamma$  be a case where  $M$  obtains.  $N$  obtains in  $\gamma$  because  $N$  obtains in every case. By the truth-condition for the conjunction of conditions  $M \wedge N$  obtains in  $\gamma$  because both  $M$  and  $N$  obtain in  $\gamma$ . So, for every case  $\gamma$ , if  $M$  obtains in  $\gamma$  then  $M \wedge N$  obtains in  $\gamma$ . So,  $M$  entails  $M \wedge N$ . Let  $\beta$  be a case where  $M \wedge N$  obtains. By the truth-condition for the conjunction of conditions  $M$  obtains in  $\beta$ . So, for every case  $\beta$ , if  $M \wedge N$  obtains in  $\beta$  then  $M$  obtains in  $\beta$ . So,  $M \wedge N$  entails  $M$ . Since  $M$  both entails and is entailed by  $M \wedge N$ ,  $M$  is identical to  $M \wedge N$ .

<sup>23</sup> According to this definition of non-trivial compositeness, the *base condition*, i.e., the conjunction of the mental condition that holds in every case with the non-mental condition that holds in every case, if there was one, would not be non-trivially composite with respect to any case (it violates the requirement of non-trivial compositeness twice, both its mental and non-mental components entail the condition). But, notice, that given our definition of a *case* there is no base condition, because there is no mental condition that holds in every case. As indicated earlier a case is a possible world with a *distinguished* subject and time, such that different cases distinguish different subjects. Hence there is no mental condition, *that one is in S*, such that it obtains in every case: for in each case the pronoun “one” refers to the distinguished agent at *that* case and different cases distinguish different agents.

For the same reason if a condition is non-mental with respect to a case then it is not a non-trivially composite condition with respect to that case. The bottom line is that mental, non-mental and non-trivially composite conditions are mutually exclusive: if a condition falls in one of these categories with respect to a case then it doesn't fall in any of the other two categories with respect to that same case.<sup>24</sup> However, they are not jointly exhaustive with respect to a case. Certain conditions involving quantification over mental states are neither mental, nor non-mental, nor non-trivially composite in the sense specified above. For example the condition the one inhabits a world where someone is in pain.<sup>25</sup> The arguments below do not assume that the three conditions are jointly exhaustive.

For the purpose of readability, in what follows, I will drop the qualifications “with respect to x” (where x stands for the name of a particular case); I trust the reader will bear in mind that conditions are (non-)mental and (non-)trivially composite relative to the case under discussion. The next two sections introduce two different challenges to (W).

**1.3 The Internalist Challenge.** The first challenge relies on a picture of the mind Williamson calls *internalism*. According to a popular version of internalism “if one fixes [the]...physical and functional states and processes of a person's *body*...one has thereby fixed the person's mental states and processes.”<sup>26</sup> (emphasis mine) In Williamson's terms, internalism is the thesis that all mental conditions are *narrow*; where a condition is *narrow* if and only if for all *cases*  $\alpha$  and  $\beta$ , if the total internal

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<sup>24</sup> According to this taxonomy, not every non-mental condition is mental, and not every condition that fails to be mental is automatically non-mental: in each case the condition can be non-trivially composite.

<sup>25</sup> See the definitions for “mental” and “non-mental” conditions laid out earlier in this chapter. Thanks to Zoltan Szabo for calling this issue to my attention.

<sup>26</sup> See, Burge 1985: 62. As both Burge (1985: 62) and Williamson (2000: 21) point out this characterization of internalism (in Burge's case, *individualism*) neglects dualist versions of internalism, which for ease of exposition I, following Williamson, will leave to one side.

physical state of the agent in  $\alpha$  is exactly the same as the total internal physical state of the agent in  $\beta$ <sup>27</sup>, then the condition obtains in  $\alpha$  if and only if the condition obtains in  $\beta$ . (2000: 52). In other words, duplicate the physical states inside one's skin and you have duplicated the person's mental states no matter what the world outside the skin is like.

If this version of internalism is true (W) is false: for at least some propositions  $p$  -- those about the state of the world outside one's body -- physical duplicates can differ with regard to their knowledge that  $p$ . Of two subjects in exactly the same internal physical state, one may know that the object in front of her is a cat, while the other staring at a fake, but visually indistinguishable replica of the cat, falsely believes that it is. Since by internalist lights physical duplicates are mental duplicates, for at least some propositions  $p$  there is no mental condition such that its obtaining is *sufficient* for knowing  $p$ .

**1.4 The challenge from the conjunctive account of knowing.** The second challenge to (W) comes from the position I called *the conjunctive account of knowing* ( $C_K$ ).

- ( $C_K$ ) For all propositions  $p$  and every case  $\alpha$  (1) the condition that one *knows*  $p$  (from now on  $K_p$ ) is the conjunction of a mental condition  $M_p$  and a non-mental condition  $N_p$  and (2) there is no mental condition  $M_p$  or non-mental condition  $N_p$  such that *it* (alone) entails  $K_p$ .

Condition (2) renders  $K_p$  *non-trivially* composite.

- ( $C_K$ ) For all propositions  $p$  and every case  $\alpha$  the condition that one *knows*  $p$  is a *non-trivially* composite condition, the conjunction of a mental condition  $M_p$  and a non-mental condition  $N_p$ .

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<sup>27</sup> For all cases  $\alpha$  and  $\beta$ , if the total internal physical state of the agent in  $\alpha$  is exactly the same as the total internal physical state of the agent in  $\beta$ , then  $\alpha$  is internally like  $\beta$ . (Williamson, 2000: 52)

(W) can also be stated in terms of (non)trivial compositeness. According to (W) for every proposition  $p$  and every case  $\alpha$  there is a mental condition  $\mathbf{M}_p$  such that the condition that one knows  $p$  obtains in  $\alpha$  if and only if  $\mathbf{M}_p$  obtains in  $\alpha$ . By entailment the mental condition  $\mathbf{M}_p$  both entails and is entailed by  $\mathbf{K}_p$ , which is to say that  $\mathbf{M}_p$  is identical to  $\mathbf{K}_p$ . If so, then  $\mathbf{K}_p$  is identical to the conjunction of  $\mathbf{M}_p$  with the non-mental condition that holds in every case whatsoever.<sup>28</sup> This makes  $\mathbf{K}_p$  in our taxonomy *trivially* composite, the conjunction of a mental condition with the non-mental condition that holds in every case. If  $(C_K)$  is true (W) is false.

Is  $(C_K)$  true? The affirmative answer will be motivated piecemeal. The next section explores the constraints that a plausible version of  $(C_K)$  would have to place on  $\mathbf{M}_p$ , the mental component of knowledge.

**1.5 Requirements for the mental component of knowledge.** This section identifies four requirements that  $\mathbf{M}_p$  must satisfy in order for  $(C_K)$  to be true. Three of them are compatible with (W). The fourth requirement constitutes the point of disagreement between  $(C_K)$  and (W). Identifying it facilitates understanding the arguments for and against  $(C_K)$  that will be discussed in the chapter.

Let  $\mathbf{M}_p^*$  be the condition which obtains in a case  $\alpha$  if and only if the condition that one knows  $p$  obtains in some case *mentally* like  $\alpha$ .<sup>29</sup> A case  $\beta$  is *mentally like* a case  $\alpha$  if and only if one is in exactly the same (total) mental condition in  $\alpha$  as in  $\beta$ . (Williamson 2000: 55) One is in exactly the same (total) mental condition in  $\alpha$  as in  $\beta$  if and only if for every mental condition  $C$ ,  $C$  obtains in  $\alpha$  if and only if  $C$  obtains in

<sup>28</sup> Proof: Since  $\mathbf{M}_p$  is mental then it is identical to the conjunction of itself and the mental condition that holds in every case whatsoever (see, note 8 for the proof). If  $\mathbf{K}_p$  is identical to  $\mathbf{M}_p$  then  $\mathbf{K}_p$  is also identical to the conjunction of  $\mathbf{M}_p$  and the non-mental condition that holds in every case, because condition identity is transitive.

<sup>29</sup> The argument for isolating the mental component of knowledge is structurally similar to Williamson's argument (on behalf of the internalist) for isolating the internal component of knowledge. (2000: 66)

$\beta$ .<sup>30</sup>  $M_p^*$  satisfies the following three requirements:

- $M_p^*$  is a mental condition.<sup>31</sup>
- $K_p$  entails  $M_p^*$ .<sup>32</sup>
- $M_p^*$  entails every mental condition that  $K_p$  entails.<sup>33</sup>

Let  $N_p^*$  be the condition which obtains in a case  $\alpha$  if and only if the condition that one knows  $p$  obtains in some case that is *non-mentally* like  $\alpha$ . A case  $\alpha$  is *non-mentally like* a case  $\beta$  if and only if one is in exactly the same (total) non-mental condition in  $\alpha$  as in  $\beta$ . (Williamson 2000: 55) One is in exactly the same (total) non-mental condition in  $\alpha$  as in  $\beta$  if and only if for every non-mental condition  $C$ ,  $C$  obtains in  $\alpha$  if and only if  $C$  obtains in  $\beta$ . The three arguments for  $M_p^*$  apply *mutatis mutandis* to  $N_p^*$ .<sup>34</sup> Hence,

- $N_p^*$  is non-mental
- $K_p$  entails  $N_p^*$
- $N_p^*$  entails every non-mental condition that  $K_p$  entails.

*If  $K_p$  is the conjunction of a mental and a non-mental condition then it is the*

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<sup>30</sup> Williamson gives an equivalent definition of mental likeness in terms of mental states:  $\alpha$  is mentally like  $\beta$  if and only if one is in exactly the same (total) mental state in  $\alpha$  as in  $\beta$ . “One is in exactly the same (total) mental state in  $\alpha$  as in  $\beta$ ” if and only if “for all mental states  $S$ , in  $\alpha$  one is in  $S$  if and only if in  $\beta$  one is in  $S$ ”. (2000:55)

<sup>31</sup> Proof: Suppose  $M_p^*$  is non-mental. Then, for some case  $\alpha$ , and some case  $\gamma$  which is mentally like  $\alpha$ ,  $M_p^*$  obtains in  $\alpha$  and  $M_p^*$  doesn’t obtain in  $\gamma$ . If  $M_p^*$  obtains in  $\alpha$  then there is some case  $\beta$ , mentally like  $\alpha$  such that one knows  $p$  in  $\beta$  (by the definition of  $M_p^*$ ). Mental likeness is symmetrical: if  $\gamma$  is mentally like  $\alpha$ , then  $\alpha$  is mentally like  $\gamma$ . Mental likeness is transitive: if  $\beta$  is mentally like  $\alpha$ , and  $\alpha$  is mentally like  $\gamma$ , then  $\beta$  is mentally like  $\gamma$ . But if one knows  $p$  in a case  $\beta$  which is mentally like a case  $\gamma$ , then  $M_p^*$  obtains in  $\gamma$  (by the definition of  $M_p^*$ ).

Contradiction:  $M_p^*$  both obtains and doesn’t obtain in  $\gamma$ . Therefore,  $M_p^*$  is mental.

<sup>32</sup> Proof: Suppose  $K_p$  obtains in  $\alpha$ . Then  $M_p^*$  obtains in a case mentally like  $\alpha$ . Mental likeness is reflexive:  $\alpha$  is mentally like  $\alpha$ . Therefore,  $M_p^*$  obtains in  $\alpha$ . Since for all cases  $\alpha$ , if  $K_p$  obtains in  $\alpha$  then  $M_p^*$  obtains in  $\alpha$ , then  $K_p$  entails  $M_p^*$ .

<sup>33</sup> Proof: Suppose  $K_p$  entails a mental condition  $M_p^{**}$  and  $M_p^*$  obtains in a case  $\alpha$ . Then  $K_p$  obtains in some case  $\beta$  mentally like  $\alpha$  (by the definition of  $M_p^*$ ). Since  $K_p$  entails  $M_p^{**}$ ,  $M_p^{**}$  obtains in  $\beta$ . Since  $\beta$  is mentally like  $\alpha$ , and  $M_p^{**}$  obtains in  $\beta$ , then  $M_p^{**}$  obtains in  $\alpha$ . Since for every case  $\alpha$ , if  $M_p^*$  obtains in a case  $\alpha$  then  $M_p^{**}$  obtains in  $\alpha$ ,  $M_p^*$  entails  $M_p^{**}$  (for every mental condition  $M_p^{**}$  that  $K_p$  entails).

<sup>34</sup> We use the proofs laid out in the three preceding footnotes substituting “ $M_p^*$ ” with “ $N_p^*$ ”.

*conjunction of  $M_p^*$  and  $N_p^*$ .*<sup>35</sup>

Both (W) and (C<sub>K</sub>) maintain that  $K_p$  is the conjunction of a mental and a non-mental condition. So, for both (W) and (C<sub>K</sub>) the mental component  $M_p$  must satisfy the following three requirements:

- (a)  $M_p$  is a mental condition.
- (b)  $M_p$  is such that  $K_p$  entails  $M_p$ .
- (c) For every *mental* condition  $M_{p+}$  that  $K_p$  entails,  $M_p$  entails  $M_{p+}$ .

For (W) the mental component  $M_p$  is identical to  $K_p$ ; so in addition to (a)-(c),  $M_p$  satisfies a fourth requirement:  $M_p$  entails  $K_p$ . By condition (2) of (C<sub>K</sub>) there is no mental condition  $M_p$  such that it (alone) entails  $K_p$ . Hence according to (C<sub>K</sub>) the mental component of knowledge must satisfy the following further requirement: (d)  $M_p$  doesn't entail  $K_p$ . If (d) is a requirement that  $M_p$  must satisfy then  $K_p$  is *not a mental condition*. Proof: Suppose  $K_p$  is a mental condition. Then, by (c) and the fact that  $K_p$  entails itself,  $M_p$  entails  $K_p$ . By (d)  $M_p$  doesn't entail  $K_p$ . Therefore,  $K_p$  is not mental. Conversely, if  $K_p$  is a mental condition then there is no mental condition that satisfies (a)-(d). If there is no mental condition that satisfies (a)-(d), (C<sub>K</sub>) is false. In summary, (C<sub>K</sub>) maintains, and (W) denies, that there is a mental condition that satisfies (a)-(d). (W) maintains, and (C<sub>K</sub>) denies, that there is a mental condition that satisfies (a)-(c) and the negation of (d).

<sup>35</sup>

Proof: Suppose,  $K_p$  is the conjunction of  $M_p^{**}$  and  $N_p^{**}$ . Then (a)  $K_p$  entails  $M_p^{**}$  and (b)  $K_p$  entails  $N_p^{**}$ . If so then (a1)  $M_p^*$  entails  $M_p^{**}$  and (b1)  $N_p^*$  entails  $N_p^{**}$ , because  $M_p^*$  entails every mental condition that  $K_p$  entails and  $N_p^*$  entails every non-mental condition that  $K_p$  entails. By (a1) and (b1), (and the truth-function for conjunction of conditions) the conjunction of  $M_p^*$  and  $N_p^*$  entails the conjunction of  $M_p^{**}$  and  $N_p^{**}$ . Since, the conjunction of  $M_p^{**}$  and  $N_p^{**}$  is identical to  $K_p$  and since  $K_p$  entails both  $M_p^*$  and  $N_p^*$  and as a consequence their conjunction, then the conjunction of  $M_p^{**}$  and  $N_p^{**}$  entails the conjunction of  $M_p^*$  and  $N_p^*$ . Since (a2) the conjunction of  $M_p^*$  and  $N_p^*$  entails the conjunction of  $M_p^{**}$  and  $N_p^{**}$  and (b2) the conjunction of  $M_p^{**}$  and  $N_p^{**}$  entails the conjunction of  $M_p^*$  and  $N_p^*$ , then the two conjunctions are identical. In summary, if  $K_p$  is a conjunction of a mental and a non-mental component then the mental component  $M_p$  must be  $M_p^*$ .

**2.1 The relation between the two challenges.** The first part of the chapter introduced two challenges to (W): the internalist challenge, and the (C<sub>K</sub>) challenge. Now we are in a position to see why they are different and how they overlap. Internalism motivates a particular version (C<sub>K</sub>), which Williamson discusses under the rubric of *Primeness*.<sup>36</sup>

(I-C<sub>K</sub>): For every proposition *p*, knowing *p* is a *non-trivially* composite condition, the conjunction of a *narrow* condition (what Williamson calls *virtual-K*<sup>37</sup>) and an *environmental* condition (what Williamson calls *outward-K*<sup>38</sup>).<sup>39</sup>

We already know what narrow conditions are: a condition is *narrow* if it's shared by physical duplicates in every case. A condition is *environmental* if it's shared by *environmental* duplicates in every case.<sup>40</sup> Bottom line, (I- C<sub>K</sub>)<sup>41</sup> maintains that for every proposition *p*, knowing *p* is the conjunction of a narrow and an environmental condition. This version of (C<sub>K</sub>) voices the internalist assumption that the mental component of knowledge, whatever it turns out to be, must be a *narrow* condition. By contrast, (C<sub>K</sub>) as formulated above, is consistent with *externalism* about mental conditions, where the latter is understood as the denial of internalism. More

<sup>36</sup> See, Williamson 2000: 65-92.

<sup>37</sup> Virtual-K is a technical term coined by Williamson; it refers to the condition that obtains in a case  $\alpha$  if and only if K (knowledge) obtains in some case internally like  $\alpha$ . Virtual-K is the *strongest* narrow condition that being in a state of knowledge entails, in the sense that it entails every other narrow condition entailed by being in a state of knowledge. (See proof in 2000: 66)

<sup>38</sup> Outward-K is also a technical term coined by Williamson; it refers to the condition which obtains in a case  $\alpha$  if and only if K (knowledge) obtains in some case externally like  $\alpha$ . Outward-K is the strongest environmental condition that being in a state of knowledge entails in the sense that it entails every other environmental condition entailed by being in a state of knowledge.

<sup>39</sup> Williamson proves that “if knowledge is the conjunction of any narrow and environmental conditions at all it is the conjunction of virtual-K and outward-K.”

<sup>40</sup> More rigorously a condition is environmental if and only if for all cases  $\alpha$  and  $\beta$ , if the total physical state of the *environment* outside the agent's body in  $\alpha$  is exactly the same as the total physical state of the environment outside the agent's body in  $\beta$ , then the condition obtains in  $\alpha$  if and only if the condition obtains in  $\beta$ .

<sup>41</sup> I use the acronym (I-C<sub>K</sub>) to stand for the *internalist* version of (C<sub>K</sub>); I will use the acronym (E-C<sub>K</sub>) to stand for the *externalist* version of (C<sub>K</sub>), where externalism is to be understood as the denial of internalism.

specifically,  $(C_K)$  is consistent with the mental component of knowledge being *broad*. Hence,  $(C_K)$  doesn't entail  $(I-C_K)$ ;  $(C_K)$  entails  $(I-C_K)$  only on the assumption of internalism about mental conditions. More to the point, a successful argument against  $(I-C_K)$  doesn't tell against  $(C_K)$  unless one also assumes internalism.<sup>42</sup>

A version of  $(C_K)$  that rejects the internalist constraint on mental conditions allows  $\mathbf{M}_p$ , the mental component, to be *broad*, in the sense that physical duplicates *can* differ with regard to whether or not they are in  $\mathbf{M}_p$ . Call this version of  $(C_K)$ ,  $(E-C_K)$ . The logical relation between  $(E-C_K)$  and  $(W)$  is the same as that between  $(C_K)$  and  $(W)$ : if  $(E-C_K)$  is true  $(W)$  is false. The third part of the paper analyzes and tries to motivate a version of  $(E-C_K)$ .

**2.2 The conjunctive account of knowing and content externalism.** As indicated in the last section,  $(C_K)$  is consistent with *externalism about mental conditions*, the thesis that some mental conditions are *broad* (in the sense that they are determined (in part) by the state of one's *environment*<sup>43</sup>). One argument for externalism about mental conditions relies on externalism about mental *content*:

1. Some propositional attitudes (beliefs, desires, fears, hopes) are (paradigmatic) mental conditions.
2. These mental conditions are determined (in part) by their contents.<sup>44</sup>
3. The contents of these mental conditions are determined (in part) by the state of one's environment. (Content Externalism)

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<sup>42</sup> For an argument against  $(I-C_K)$  see the "Primeness" chapter in Williamson 2000, especially pp. 65-75.

<sup>43</sup> "Environment" here is to be understood in the technical sense specified by Williamson (2000: 49-50).

<sup>44</sup> Burge writes: "Since mental acts and states are individuated (partly) in terms of their contents, the differences between Earth and Twin-Earth include differences in the mental states and acts of their inhabitants." (1982: 107)



4. Therefore, some mental conditions are determined (in part) by the state of one's environment.<sup>45</sup>

If the argument is valid then *internalism about mental conditions* is false, if *content externalism* is true.

The defenders of premise (3)—whose work I review below—agree on two things: contents are (a) entities structured of parts<sup>46</sup>; and (b) in part individuated by these parts.<sup>47</sup> Here, I think, the agreement ends. The disagreement concerns (a). There are two different answers to “what are the content-building parts?” question. The two answers give rise to two different motivations for content externalism: Burge's *concept externalism* (CE) and the McDowell/Evans *strong singular thought theory*<sup>48</sup> (SSTT). The difference matters: CE and SSTT are two fundamentally different ways of classifying contents. One could combine CE with SSTT to articulate a strong version of content externalism. Yet there is a weaker version of content externalism: one that accepts CE, but rejects SSTT. Distinguishing between the weaker and stronger versions of content externalism aids in evaluating Williamson's claim that a combination of (C<sub>K</sub>) with content externalism makes the denial of (W) either false or

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<sup>45</sup> See Burge 1979, 1982 for examples of this type of argument. The argument assumes that the *determination* relation is transitive.

<sup>46</sup> Defenders of premise (3) in the argument sketched above, include philosophers who do not accept (a); Robert Stalnaker (1999: chap 3) is an example. As indicated in the introduction, I focus on the work of those content externalists who hold a structured view of propositions for ease of engaging with Williamson's defense of the view that I try to undermine in this chapter.

<sup>47</sup> It is often assumed that we get at the contents of propositional attitudes by scrutinizing attitude attributions. So, for Burge they are “the semantical value[s] associated with the oblique occurrences in attributions of propositional attitudes.” (Burge 1982: 119, ft. 2) An expression occurs obliquely in a propositional attitude attribution if the substitution of co-referring expressions *may* affect the truth-value of the attribution. For example “Brown rats roam the NYC subway” occurs obliquely in the propositional attitude attribution: “Ralph believes that brown rats roam the NYC subway”, because replacing “brown rat” with the co-referring expression “*rattus norvegicus*” may affect the truth-value of the attribution: Ralph might not believe that large *rattus norvegicus* roam the NYC subway, because he has never heard the scientific term for brown rats. An expression occurs non-obliquely if co-referential substitution wouldn't affect the truth of the attribution as in “Ralph believes that *that* rat is really fast”. The truth-value of the attribution would not change if “rat” is replaced by “*rattus norvegicus*” even if Ralph has never heard the latter term. (See, Burge 1979: 599 and Burge 1982: 118, ft. 1.)

<sup>48</sup> I borrow the term from (Segal: 1989) who in turn borrows it from (Blackburn: 1984).

“ill-motivated” (2000: 58). We start with a short review of Burge’s (CE).

**2.3 Concept externalism.** Concept externalism has two prongs: the “concept” prong and the “externalism” prong. I review them below in that order. According to concept externalism, the constitutive parts of content are *concepts* such as water, aluminum, gold, polio, arthritis and so on.<sup>49</sup> Burge wants to remain neutral about the ontology of both concepts and contents. The former are to be intuitively understood as “context-free” *ways one thinks about* “a stuff, a thing, or a group of things” (1982: 120, ft. 14) context-free “means of representing objects in thought” (1977: 345-346) or context-free “thought symbols”(1977: 351). Contents, the wholes constituted by these *ways of thinking*, are *thought*-tokens. Hence, thought-token and content will be used interchangeably in what follows.

Concepts are context-free in the sense that these ways of thinking determine their extensions -- the stuff, thing, or group of things the thought-token is about -- independent of the context in which the thought-token occurs.<sup>50</sup> For any thought-token (e.g., of the thought type *water is wet*) the thought-symbol “water” nets the same stuff-- the set of all aggregates of H<sub>2</sub>O molecules, together probably with the individual molecules”—as the stuff the thought token is about in *every* context.<sup>51</sup> In that regard a *concept* is different from other ways of thinking, such as those expressed by

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<sup>49</sup> Burge 1982: 120, ft. 14. In earlier work (1979) Burge uses “notions” instead of “concepts.” However, the point is the same: he uses “notion” “to apply to components or elements of content.” (Burge 1979: 598)

<sup>50</sup> It is important to notice that Burge is holding on to the view that a concept determines its extension. (See, especially Burge 1982: 10.) As Kent Bach (1994: 275) observes Burge “is not challenging either the Fregean view that meaning determines extension or the Fregean conception of the meaning of a term as the concept associated with it. Rather he is challenging the traditional view of concepts. He claims that having a natural kind concept such as the concept of water is not simply a matter of being in a certain internal state.” In other words, as Segal (2000: 27) points out, Burge rejects the view that one could separate the “the relationally determined aspect” of a concept “from some more internal factor” akin to Putnam’s *stereotype*.

<sup>51</sup> Burge 1982: 120, ft. 14.

demonstratives (whether bare or complex) and proper names.<sup>52</sup> These ways of thinking fail to determine an object of thought independent of context. The objects of the thought-tokens in which they occur are determined relationally<sup>53</sup> by features unique to the context of the subject-object encounter.<sup>54</sup>

Since the ways of thinking expressed by demonstratives, do not determine an object as the object of a thought-token independent of a context, the thought tokens in which they occur do not have context-independent truth-conditions. The semantic structure of these thoughts is either  $[x][F]$  where the demonstrative thought-symbol is represented by the free variable, or  $[Rx][F]$  where  $Rx$  represents the complex-demonstrative thought-symbol (e.g., “that red flag”, or in the special case of proper names “that Ralph”). Keeping with the tradition I will call these *singular thoughts*.

The upshot of this view is the following: singular thoughts are (a) semantically incomplete and (b) object-independent. They are semantically incomplete in the sense that they are not truth-evaluable in themselves. To borrow an example from Segal

<sup>52</sup> “Indexicals like ‘this’ are to be treated as analogues to proper names, except that they do not express a predicative element.” (Burge 1977: 354) For Burge (a singular unmodified) proper name “is a predicate true of an object if and only if the object is given that name in an appropriate way” (1970) In this view proper names (e.g., Ralph) functioning as singular terms (as in “Ralph cries”) have the semantical structure of complex demonstratives – like “that book” – in the case of a proper name, “this/that Ralph” and like demonstratives, their extensions are determined in part by contextual features.

<sup>53</sup> The terminology of “relational” and “satisfactional” determination of referent is borrowed from Bach (1994). According to Bach (1994: 12) the objects of general, descriptive thoughts are determined satisfactionally in the sense that “the fact that the thought is of that object does not require any connection between thought and object.” The objects of singular thoughts are determined *relationally* in the sense that for something to be the object of a singular thought “it must stand in a certain kind of relation to that very thought.” Bach thinks that this is a kind of causal relation supplied by the context of the encounter between subject and object of thought. The distinction is similar to that pointed out by Burge: singular thought is sponsored “by a *contextual* not purely *conceptual* relation between thinkers and objects.” (Burge 1977: 361-362) (emphasis mine)

<sup>54</sup> As Burge points out, this is not to deny that the mental means by which the object of thought is determined in the case of *de re* beliefs don’t include conceptual elements from the believer’s repertoire of concepts; this is obviously false in the case of complex demonstratives. The point is that however rich in conceptual elements a demonstrative thought symbol is, its success in netting an object as the object of the thought-token in which it occurs depends “partly but irreducibly to factors unique to the context of the encounter with the object”, factors which “are not part of the mental or linguistic repertoire of the believer.” (Burge 1977: 352) For a similar point see also (Segal 2000: 109) and (Bach: 1994: 13, ft. 5).

(2000: 106-107) if Peggy observing the Chrysler Building thinks to herself *that is great* her thought is true if the object that the demonstrative “that” refers to in the context of her utterance (in this case the Chrysler Building) is great. What object “that” refers to is determined *relationally* by factors unique to the context of her encounter, most likely in this case by Peggy perceiving the building. Singular thoughts are object-independent in the sense that in different contexts “they can pick out different objects”: Twin-Peggy living in Twin-Earth has the same thought in her Twin-encounter with the Twin- Chrysler Building. She also has the same thought with Triplet-Peggy who in Triplet-Earth hallucinates the Triplet-Chrysler building. The same thought picks out the Chrysler Building on Earth, the Twin Chrysler Building on Twin Earth and fails to pick out something on Triplet Earth.

“Externalism” in concept externalism stands for the claim that (at least some of the) *concepts* we think in terms of are individuated in part by environmental conditions; physical duplicates think in terms of different concepts if located in superficially indiscriminable but microstructurally different environments. Since concepts are non-propositional parts of contents and contents are individuated in part by their non-propositional parts, the contents of one’s propositional attitudes are individuated in part by the environments of those who think through these concepts.<sup>55</sup>

**2.4 Singular thought theory.** SSTT claims that the picture of singular thought recommended by CE rests on the conflation of two different ways of thinking about concepts: “concepts as *parts* or aspects of the content of a representational state” and “concepts as *means* of representation” of objects in thought. (McDowell 1984: 286-287) (emphasis mine) An example from Gareth Evans helps clarify the distinction.

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<sup>55</sup> See Burge 1979, 1982, 1985.

“[A] subject thinks on [day] *d1* about *d1* to the effect that it is fine by thinking ‘Today is fine’, and thinks on [day] *d2*, about *d1*, to the effect that it is fine by thinking ‘Yesterday was fine’.” [Evans 1982: 193] The *means* by which the subject represents *d1* in thought on *d1* and on *d2* are different, respectively “today” and “yesterday”. However this doesn’t show that the subject has two different singular thoughts on *d1* and *d2*: if the subject “keeps track” of *d1* “as it recedes into the past, thinking of it successively as *today*, *yesterday*, *the day before yesterday* and so on that enables [the subject] to hold on to thoughts about it [*d1*]—thoughts that preserve their identity through the necessary changes in how they might be expressed.” (McDowell 1984: 285) So, even though *d1* is represented in thought by different *means* (“today” on *d1* and “yesterday” on *d2*) there is *a way of thinking* about *d1*, *a way of keeping track* of it, that preserves its identity through its representation by different *means*. McDowell calls this way of thinking of an object its *de re sense*. (McDowell 1984: 285) Like Burge’s *concepts* *de re* senses are context-free: the way of thinking about *d1* determines the same object as the object of a thought-token both on *d1* and on *d2*. In that regard it is not different from the ways of thinking about water, aluminum and polio.

De re senses are not to be confused with means of representation in thought; the latter are “vehicles of content”<sup>56</sup> which “the changing of circumstances force us to change in order to keep hold of a constant reference and a constant thought.” (Evans 1982: 194) In Evans’ expressive analogy, “we must run to keep still.” (1982: 194) By contrast *de re* senses “are *parts* or aspects of content” (emphasis mine) on the same footing with other concepts.<sup>57</sup>

<sup>56</sup> The term is borrowed from McDowell 1984: 285.

<sup>57</sup> How are *de re* senses acquired and maintained? Sticking with the case of demonstrative thoughts, *de re* senses are what Evans calls “demonstrative Ideas”. [Evans 1982: 173] One acquires such an Idea, “in virtue of the existence of an *information link* between oneself and the object, which enables one to locate the object in egocentric space...if there is no one object with which the subject is in informational contact—if he is hallucinating, or if several different

In summary, according to SSTT singular thoughts (e.g., *that is F*) are *semantically complete*, in the sense that they are truth-evaluable in themselves: they are true if the object corresponding to the de re sense figuring in the singular thought is *F*, and false otherwise. Singular thoughts are *object-dependent*: Peggy observing the Chrysler Building on Earth and thinking to herself *that is great*, has a different thought from Twin-Peggy living in Twin-Earth thinking *that is great* while observing the Twin-Chrysler Building. She also has a different thought from Triplet-Peggy who in Triplet-Earth hallucinates the Triplet-Chrysler building, because Triplet-Peggy lacks the relevant singular thought, she only thinks she has one.

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objects succeed each other without his noticing—then he has no-Idea-of-a-particular object, and hence no thought... the information link on which demonstrative identification proper depends is really serving three functions. In the first place its previous and present deliveries provide the subject with his *governing conception* of the object... Second, the subject remains in *contact* with the object and is thus (unmediately) disposed to alter his governing conception in response to certain information received from the object... But finally and crucially, the subject is able upon the basis of the link, to locate the object in egocentric space, and thereby in objective space.” [emphasis added] Evans 1982: 173] So, demonstrative Ideas are governing conceptions of objects acquired through an informational link between subject and object. Despite its changes in response to the transformations the object undergoes, the governing conception determines the same reference. An example by Kent Bach will illustrate the point: “Say a card-sharp shows you three playing cards, an ace and two tens, and places them face down. They look alike but you think of the ace as the one on the right. He then begins interchanging them.” (Bach 1994: 43). As you keep your eye on the ace you can continue to think of it under a governing conception. This governing conception is ace-dependent and the singular thoughts you form with this governing conception as a constituent (e.g., that card is moving fast) are ace-dependent too: if you lose track of the ace during an interchange of cards and start keeping track of the ten, you acquire a *different* governing conception and think *different* singular thoughts from the ones you would have thought if the ace instead of the ten were to move in space in the way the ten is actually moving. The singular thought “that card is moving fast” while you are keeping your attention on the ace is a different thought from the thought “that card is moving fast” if you were keeping your attention on the ten because they have different governing conceptions as their semantic constituents no matter how similar things might seem from the inside. A corollary to this position is that we can be mistaken about the contents of our own minds.

What happens if the card-sharp removes the ace but it still appears to you that you are tracking the ace? Aside from this being a great trick on the part of the card-sharp, as far as your singular thoughts are concerned things are quite simple: you have lost your ability to locate the ace in egocentric space because you have lost your governing conception of the ace. You have lost that because the information link between you and the ace is severed. Any singular thoughts you think you are forming, you aren’t. All you have is second-order thoughts that you have a first order thoughts of the form *that card is doing such and such* and those second-order thoughts are false.

## 2.5 CE, SSTT and Williamson's argument against the conjunctive account of knowing.

I have gone on at some length about these two different versions of content externalism to emphasize that their standards for the classification of thought-tokens (contents) -- and indirectly mental states -- if the argument in Section 2.2 is sound -- are different. The following example illustrates the point. Jodie says to herself "that is full of water" while observing a bathtub on Earth. Twin-Jodie on Twin-Earth — where the liquid that comes out of faucets is superficially indistinguishable, but of a different chemical composition from the Earth-liquid (call it *twater*) — says to herself "that is full of water" while observing a bathtub on Twin-Earth. Triplet-Jodie on Triplet-Earth — where the liquid that comes out of faucets looks the same and has the same chemical composition as the Earth-liquid — hallucinates a bathtub full of water. For Burge's CE Jodie and Twin-Jodie entertain different thoughts; but Jodie and Triplet-Jodie entertain the same thought. For the McDowell/Evans SSTT, Jodie entertains different thoughts from both Twin-Jodie and Triplet-Jodie. In fact, Triplet-Jodie entertains no first-order, singular thought at all; she only entertains a second-order thought that she has a first-order singular thought of the form *that is full of water*.

In summary both CE and SSTT maintain that intentional content is individuated by features of the environment outside one's skin, but they differ regarding which features affect the individuation. For CE these are features relevant to the individuation of concepts such as water, aluminum, polio and so on; for SSTT they include features relevant to the individuation of *de re* senses.

Distinguishing between these two versions of content externalism is important for the following reason: Williamson's strategy "is to show that objections to the involvement of factive attitudes in genuine mental states are sound only if objections to the involvement of broad contents in genuine mental states are also sound." (2000: 51) Spelled out with regard to knowledge the strategy is to show that objections to (W)

are sound only if objections to content externalism are sound. As it applies to (C<sub>K</sub>) Williamson's argument tries to establish that (C<sub>K</sub>) is either false or unmotivated on the assumption of content externalism. The last four sections have argued for a distinction between two versions of content externalism: CE and SSSTT. Section 3.3 (below) will show that CE has no bearing on Williamson's argument against (C<sub>K</sub>); the argument relies exclusively on SSTT. So the argument, if successful, doesn't show that (C<sub>K</sub>) is either false or unmotivated on the assumption of content externalism as such; *at best* it shows that the view is false or unmotivated on the assumption of SSTT. The rest of the chapter argues that Williamson's argument doesn't even show that.

The next section sketches one strategy of arguing for (C<sub>K</sub>) and thus indirectly against (W). The rest of the paper tries to use this strategy to motivate a version of (C<sub>K</sub>) that is consistent with both (CE) and (SSTT).

**3.1 Sketching the argument for the conjunctive account of knowing.** To make his case the defender of (C<sub>K</sub>) has to isolate a condition **M<sub>p</sub>**, that is “genuinely mental”<sup>58</sup> (i.e., of the kind *that one is in S*, where *S* is a mental state) and such that it satisfies requirements (b) through (d), laid out in Section 1.5. So, overall, she must identify a condition that satisfies conditions (a), (b), (c) and (d). There are conditions that (almost) uncontroversially satisfy (a), (b) and (d). The most obvious candidate is the condition that *one believes p*: (a) is satisfied because believing is paradigmatically mental, (b) is satisfied because it's generally agreed that the condition that one knows *p* entails it<sup>59</sup>, and (d) is satisfied because it doesn't entail the condition that one knows *p*, (at least in some cases one believes something which one doesn't know). The challenge is to show that it also satisfies (c), i.e., the requirement that there is no

<sup>58</sup> Williamson (2000: 54) alludes to this requirement in his discussion of Broadness; our definition of “mental condition” and the general version of (C<sub>K</sub>) allows us to see quite clearly why this is a requirement for the plausibility of (C<sub>K</sub>).

<sup>59</sup> Williamson concedes this point in (2000: 1.5; 202).



mental condition that knowing  $p$  entails such that the candidate condition for  $\mathbf{M}_p$  doesn't entail *it*. Does the condition that one believes  $p$  satisfy (c)? If so, how could we show that it does? The general challenge to the defender of (CK) can be stated as follows: how can you show for a particular mental condition  $\mathbf{M}_p$  that uncontroversially satisfies (a), (b) and (d), that it also satisfies (c)? Below I sketch a strategy that is available to the defender of (CK).

Let  $\mathbf{M}_p$  be a condition that uncontroversially satisfies (a), (b) and (d). We can show that  $\mathbf{M}_p$  satisfies (c) by way of (Add)<sup>60</sup>:

(Add): For all propositions  $p$  and cases  $\alpha$ , if  $\mathbf{M}_p$  obtains in  $\alpha$ , then there is a case  $\beta$  which is mentally like  $\alpha$  and  $\mathbf{K}_p$  obtains in  $\beta$ .<sup>61</sup>

If (Add) is true then for every mental condition  $\mathbf{M}_{p+}$  that  $\mathbf{K}_p$  entails,  $\mathbf{M}_p$  entails  $\mathbf{M}_{p+}$ . Proof: Suppose there is a mental condition  $\mathbf{M}_{p+}$  such that  $\mathbf{K}_p$  entails  $\mathbf{M}_{p+}$  and  $\mathbf{M}_p$  doesn't entail  $\mathbf{M}_{p+}$ . By Entailment, if  $\mathbf{M}_p$  doesn't entail  $\mathbf{M}_{p+}$ , then there is a case  $\alpha$ , such that  $\mathbf{M}_p$  obtains in  $\alpha$  and  $\mathbf{M}_{p+}$  doesn't obtain in  $\alpha$ . Let this case be  $\gamma$ . Since  $\mathbf{M}_p$  obtains in  $\gamma$ , by (Add) there is a case  $\beta$  which is mentally like  $\gamma$  such that  $\mathbf{K}_p$  obtains in  $\beta$ . If  $\mathbf{K}_p$  obtains in  $\beta$ , then by Entailment  $\mathbf{M}_{p+}$  obtains in  $\beta$ , because  $\mathbf{K}_p$  entails  $\mathbf{M}_{p+}$ . But if  $\mathbf{M}_{p+}$  obtains in  $\beta$ , then  $\mathbf{M}_{p+}$  also obtains in  $\gamma$ , because  $\gamma$  is mentally like  $\beta$ . So,  $\mathbf{M}_{p+}$  both obtains and doesn't obtain in  $\gamma$ , which is a contradiction. Hence, there is no mental condition  $\mathbf{M}_{p+}$  such that  $\mathbf{K}_p$  entails  $\mathbf{M}_{p+}$  and  $\mathbf{M}_p$  doesn't entail  $\mathbf{M}_{p+}$ . If (Add) is true for a condition  $\mathbf{M}_p$  that uncontroversially satisfies (a), (b) and (d), then  $\mathbf{M}_p$  satisfies (c).

<sup>60</sup> (Add) gives formal expression to the intuition that there is some mental condition such that knowledge *adds* nothing mental to it. Stich (1978: 574) and Kim (1993: 188) take it to be the condition *that one believes p*.

<sup>61</sup> Principles (5), (6) and (7) in Williamson's discussion of Broadness are instances of (Add). (2000: 56-57)

**3.2 Rational belief as the mental component of knowledge.** Until now the discussion of (C<sub>K</sub>) and its rival (W) has been fairly abstract. That changes in the following sections. Williamson discusses two *prima facie* eligible candidates for **M<sub>p</sub>**: the condition *that one believes p* (**B<sub>p</sub>**) and the condition that *one rationally believes p* (**RB<sub>p</sub>**). If **RB<sub>p</sub>** is eligible, **B<sub>p</sub>** is disqualified as a candidate for **M<sub>p</sub>** by default: it fails to satisfy condition (c) (there is a mental condition that **K<sub>p</sub>** entails, namely **RB<sub>p</sub>**, such that **B<sub>p</sub>** doesn't entail it).

Williamson argues forcefully and convincingly that (Add) is false for **M<sub>p</sub>** = **B<sub>p</sub>**: if one believes *p* in a case  $\alpha$  “solely for sufficiently confused and irrational reasons” then there is no case  $\beta$  mentally like  $\alpha$ , where one knows *p*, for if  $\beta$  is mentally like  $\alpha$ , one would believe *p* for the same sufficiently confused and irrational reasons in  $\beta$  and that is incompatible with knowing *p* in  $\beta$ . (2000: 57) Hence, the discussion that follows will concern the only running candidate **RB<sub>p</sub>**. The version of (C<sub>K</sub>) that I will develop and defend is one according to which **K<sub>p</sub>** is non-trivially composite: the conjunction of **RB<sub>p</sub>** with a non-mental condition **N<sub>p</sub>**. Call this version (C<sub>K</sub>-RB). According to (C<sub>K</sub>-RB), (Add) holds for **M<sub>p</sub>** = **RB<sub>p</sub>**. Call this instance of (Add), (Add-4-RB).

Williamson's argument against (C<sub>K</sub>-RB) has two prongs:

- A. On the assumption of *content externalism* and *internalism* about mental conditions (C<sub>K</sub>-RB) is false.
- B. On the assumption of *content externalism* and *externalism* about mental conditions (C<sub>K</sub>-RB) is unmotivated.

Either way this makes the denial that **K<sub>p</sub>** is a mental condition on the grounds of (C<sub>K</sub>-RB) “ill-motivated.” (Williamson 2000: 58) Let's start with the A-prong.

**3.3 The first prong of Williamson's argument against (C<sub>K</sub>-RB).** The argument for (A) is complex. I will present it in parts. The first part has the following structure: Williamson introduces an example where a subject comes to form a belief that *p*. He then argues that *if* the subject rationally believes *p* in this example then (Add-4-RB) is false. If (Add-4-RB) is false, then **RB<sub>p</sub>** doesn't satisfy condition (c), and consequently (C<sub>K</sub>-RB) is false. Here is the example:

### **Dog**

Suppose that it looks and sounds to me as though I hear a barking dog; I believe that a dog is barking on the basis of the argument "That dog is barking; therefore a dog is barking". Unfortunately I am the victim of an illusion, my demonstrative fails, my premise sentence thereby fails to express a proposition, and my lack of the corresponding singular belief is a feature of my mental state, according to the *content externalist*. *If I rationally believe that a dog is barking*, then by [Add-4-RB] someone could be in exactly the same mental state as I actually am and know that a dog is barking. But that person too would lack a singular belief to serve as the premise of the inference and would therefore not know that a dog is barking. (2000: 58) (emphasis mine)

So, *if the subject rationally believes that a dog is barking*, there doesn't exist a case which is mentally like the illusion case in which one knows that a dog is barking. Hence, if one rationally believes that a dog is barking in the illusion case then (Add-4-RB) is false.

There are a few things to notice right away. First, it is crucial to remember that the argument is a conditional proof and the conclusion is a conditional: *if one*

*rationally believes that a dog is barking in the illusion case then (Add-4-RB) is false.*

If (Add-4-RB) is false then (C<sub>K</sub>-RB) is false.

Second, the argument doesn't appeal to concept externalism (CE): "the content externalist" in the example is the defender of SSTT. So the example relies on SSTT to establish that the victim of the illusion lacks the singular belief that *that dog is barking*. That conclusion cannot be reached merely on the assumption of CE. (See Sections 2.1 - 2.5 above for a discussion of the distinction between CE and SSTT.)

Third, an analogous argument that invokes CE to a similar conclusion seems *prima facie* unmotivated. A structurally similar argument would involve an example of the following type: for some proposition *p*, a prerequisite of one coming to know *p* in a case is one's reasoning to *p* on the basis of a premise *B<sub>i</sub>* -- where *B<sub>i</sub>* is a member of a set of premises *B*: {*B<sub>1</sub>*, *B<sub>2</sub>*...*B<sub>n</sub>*} -- where each *B<sub>i</sub>* involves a concept *C*, for example the concept *water*, which for concept externalist reasons is not available in a case *α*, located on Twin Earth where the liquid that fills the rivers and runs from faucets is *twater*. In *α* one reasons to the conclusion that *p* on the basis of premise *B<sub>i</sub>*\* which involves *twater*, instead of *water*, but is otherwise like its counterpart premise *B<sub>i</sub>* in every respect. The belief that *p* one comes to form in *α* is *prima facie* rational, but one doesn't know *p*. And there is no case *β* mentally like *α*, where one knows *p*, for in any such case one would base his belief that *p* on a premise that involves *twater* instead of *water*. Hence if the subject's belief in *α* is rational, then (Add-4-RB) is false. Now, if *p* involves the concept *water*, then *α* is impossible: one cannot come to believe *p* in *α*, because by stipulation the concept *water* is not available in *α*. If *p* doesn't involve the concept *water*, it is not clear why coming to know *p* would require one's reasoning to *p* on the basis of a premise that involves the concept *water*. So, Williamson has not shown that the same conclusion can be reached on the assumption of content

externalism; *at best*, he has shown that the conclusion can be reached on the assumption of SSTT.

Assuming that the argument crucially involves SSTT, the argument doesn't show that (Add-4-RB) is false, unless we also assume that the subject's belief in the illusion case *is* rational. The defender of (C<sub>K</sub>-RB) can argue as follows: both (Add-4-RB) and SSTT are true; therefore, the subject's belief that a dog is barking in the illusion case *is not* rational. Williamson thinks that this response doesn't save an *internalist* version of (C<sub>K</sub>-RB). Here is how the argument can be spelled out:

1. Suppose, (a) internalism about mental conditions is true (*all mental conditions are narrow*); and (b) SSTT is true.
2. If (C<sub>K</sub>-RB) is true **RB**<sub>p</sub> satisfies conditions (a), (b), (c) and (d) (laid out in Section 1.5).
3. The subject's belief that *p* in Dog is either rational or irrational.
4. If the subject's belief that *p* is rational and SSTT is true then (Add-4-RB) is false. (This is what Dog shows.)
5. If (Add-4-RB) is false, then **RB**<sub>p</sub> doesn't satisfy condition (c).
6. So, if the subject's belief in Dog *is* rational (C<sub>K</sub>-RB) is false.
7. If the subject's belief in Dog *is not* rational, then **RB**<sub>p</sub> is not a *narrow* condition; it is *broad*, because whether or not it obtains constitutively depends on the environment outside the subject's skin.
- 62
8. If *all mental conditions are narrow* then **RB**<sub>p</sub> is not mental: it fails to satisfy condition (a).

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<sup>62</sup> That is what I take Williamson to argue in the following paragraph: suppose the subject doesn't "rationally believe that a dog is barking even though there need be nothing *internal* wrong with [her] thought processes. Consequently, if the contents of beliefs depend like that on the external environment, then so too does the attitude of rational belief to that content." (2000: 58) (emphasis mine)

9. If  $\mathbf{RB}_p$  doesn't satisfy condition (a), then  $(C_K\text{-RB})$  is false.
10. So, if the subject's belief in Dog *is not* rational  $(C_K\text{-RB})$  is false.
11. Therefore, if both SSTT and internalism about mental conditions are true,  $(C_K\text{-RB})$  is false. (By Conditional Proof)

The crucial premise is (7). One straightforward argument for (7) would go like this: let  $\alpha$  be the illusion case; there is a case  $\beta$  (the case where one perceives that that dog is barking) where one is in the same internal physical state as in  $\alpha$  and one rationally believes  $p$ . Since the condition that one rationally believes  $p$  obtains in  $\alpha$  and not in  $\beta$ , and  $\alpha$  is internally like  $\beta$ , the condition that one rationally believes  $p$  is not narrow. I will assume this argument succeeds; as indicated above my aim is to develop and defend a version of  $(C_K\text{-RB})$  that concedes both SSTT and externalism about mental conditions, i.e., a non-internalist version of  $(C_K\text{-RB})$ .

Assuming it succeeds, what does the argument show? It shows that SSTT,  $(C_K\text{-RB})$  and internalism about mental conditions are *jointly inconsistent*. As far as  $(C_K\text{-RB})$  is concerned it shows that the view is false on the assumption of SSTT and internalism about mental conditions. But if the argument from content externalism to the denial of internalism about mental conditions succeeds (see Section 2.2) this lesson is harmless as far as  $(C_K\text{-RB})$  is concerned: internalism and SSTT can't be jointly assumed because one entails the negation of the other.

Suppose that the argument sketched in Section 2.2 doesn't succeed. The defender of  $(C_K\text{-RB})$  still has two options: she can reject SSTT, or she can reject internalism about mental conditions. In other words, both an internalist version of  $(C_K\text{-RB})$  that rejects SSTT and a version of  $(C_K\text{-RB})$  that endorses SSTT and rejects internalism about mental conditions seem *prima facie* motivated at this stage. As indicated in the introduction, I am assuming the strongest version of content externalism in this dissertation, which means that I am assuming SSTT. That renders

the first option unavailable by default. This still leaves the defender of (C<sub>K</sub>-RB) with the other option: the trio, (C<sub>K</sub>-RB), SSTT, and externalism about mental conditions. Is this trio motivated? This is the question pursued in the remainder of this chapter.

**3.4 The broadness constraint on rational belief.** As a preliminary we must notice a constraint that one of the members of the trio, SSTT, places on (C<sub>K</sub>-RB): if SSTT is true, the condition *that one rationally believes p*, is *broad*. To see this consider a variation on the argument sketched above that doesn't assume internalism about mental conditions.

1. Suppose (C<sub>K</sub>-RB) and SSTT are true.
2. If (C<sub>K</sub>-RB) is true **RB**<sub>p</sub> satisfies conditions (a), (b), (c) and (d) (laid out in Section 1.5).
3. If the subject's belief that *p* in Dog is rational and SSTT is true then (Add-4-RB) is false. (This is what Dog shows.)
4. If (Add-4-RB) is false, then **RB**<sub>p</sub> doesn't satisfy condition (c) and consequently (C<sub>K</sub>-RB) is false.
5. But (C<sub>K</sub>-RB) and SSTT are both true, so the subject's belief in Dog *is not* rational.
6. If the subject's belief in Dog *is not* rational, then **RB**<sub>p</sub> is not a *narrow* condition: it is *broad*, because whether or not it obtains constitutively depends on the environment outside the subject's skin.
7. Therefore, if (C<sub>K</sub>-RB) and SSTT are both true, **RB**<sub>p</sub> is a *broad* condition.

The conclusion seems *prima facie* unproblematic given the third member of the trio, externalism about mental conditions, but trouble is on the way for the defender of (C<sub>K</sub>-RB).

**3.5** *The second prong of Williamson's argument against (C<sub>K</sub>-RB).* “If taking the externalist attitude of rational belief to a given content can contribute to one's mental state, why cannot taking the externalist attitude of knowledge to that content also contribute to one's mental states?” (Williamson 2000: 58) The worry seems to be the following: if **RB<sub>p</sub>** is both broad and mental, the prejudice that **K<sub>p</sub>** is broad cannot motivate the denial that **K<sub>p</sub>** is a mental condition. If so what is left to motivate the denial that **K<sub>p</sub>** is mental? A straightforward answer to this worry would require providing a non-internalist, yet restrictive sense of the “mental” that classifies **RB<sub>p</sub>** and **K<sub>p</sub>** respectively as mental and non-mental conditions. This in turn would require a formal definition of the “mental” which as indicated earlier (Section 1.3) is unavailable. A *less* direct answer would be the following: the denial that **K<sub>p</sub>** is a mental condition is as motivated as (C<sub>K</sub>). What motivates (C<sub>K</sub>) is *simply* the claim that some *mental* condition — i.e., a condition that satisfies requirement (a) — also satisfies requirements (b), (c), and (d). (C<sub>K</sub>-RB) claims that **RB<sub>p</sub>** does. So, whether broad or narrow, if **RB<sub>p</sub>** satisfies conditions (a)-(d), then **K<sub>p</sub>** is not a mental condition, for if it was by (c) **RB<sub>p</sub>** would entail it and by (d) it doesn't. If (C<sub>K</sub>-RB) is true, the denial that **K<sub>p</sub>** is mental is well-motivated. So, the question is, does **RB<sub>p</sub>** satisfy (a)-(d) on the assumption of SSTT and externalism about mental conditions? If the answer is “yes” the trio (C<sub>K</sub>-RB), SSTT, and externalism about mental conditions is motivated, otherwise not.

It is important to notice that the same argument cannot be easily mounted against the claim that **RB<sub>p</sub>** is a mental condition. To be able to mount such an argument we must be able to identify a condition **M<sub>p</sub>** that is (a) mental, (b) such that **RB<sub>p</sub>** entails it, (c) such that it entails every mental condition that **RB<sub>p</sub>** entails and (d) such that it doesn't entail **RB<sub>p</sub>**. Analogously to the case of knowledge, if there is a



condition that satisfies (a), (b) and (d) and the following principle holds between it and **RB**<sub>p</sub> then the condition also satisfies (c):

(Add-4-M) For all propositions *p* and cases  $\alpha$ , if **M**<sub>p</sub> obtains in  $\alpha$ , then there is a case  $\beta$ , which is mentally like  $\alpha$  and **RB**<sub>p</sub> obtains in  $\beta$ .

But there doesn't seem to be a mental condition that satisfies (Add-4-M). Certainly belief, or even true belief, cannot play the role of **M**<sub>p</sub>. If I believe, or even truly believe that *p*, for sufficiently bizarre and confused reasons in a case  $\alpha$ , there is no case  $\beta$ , which is mentally like  $\alpha$  where I rationally believe that *p*—for if I rationally believe that *p* in  $\beta$ , I can't believe *p* based on the same bizarre reasons for which I believe it in  $\alpha$ . No other condition seems to suggest itself as good candidate for the mental component of rational belief. If no condition can satisfy the requirements for being the mental component of **RB**<sub>p</sub> an argument that **RB**<sub>p</sub> is not a mental condition cannot be mounted from that premise.

**3.6 Rational belief and the requirements for being the mental component of knowledge.** The argument that **RB**<sub>p</sub> doesn't satisfy (a)-(d) on the assumption of SSTT and externalism about mental conditions is subtle. It begins with what has already been established: if the subject's belief that *p* in Dog is rational and SSTT is true then (Add-4-RB) is false. To save (Add-4-RB) the defender of (C<sub>K</sub>-RB) concedes that the belief in the illusion case is *irrational*. But the question is on what grounds? Here is Williamson's way of raising the worry: "We could make [Add-4-RB] trivially true by defining 'in case  $\alpha$  one rationally believes *p*' as 'in some case  $\beta$  one is in exactly the same mental state as in  $\alpha$  and one knows *p*'. [But this] would *neither isolate the mental component of knowing in independent terms, nor provide any reason to suppose the mental component to fall short of knowing itself.*" (Williamson 2000: 58) (emphasis mine)

The worry is twofold:

- (1) The response to Dog raises the suspicion that the defender of (C<sub>K</sub>-RB) lacks an *independent* grasp of the concept “rational belief”: his pronouncements with regard to whether a belief is or isn’t rational are made based on whether or not (Add-4-RB) is preserved. The account of rational belief developed as a result is gerrymandered to preserve (Add-4-RB) and thus can’t be used to isolate the mental component of knowing in a way that provides *independent* support for (Add-4-RB).
- (2) How can we be sure that the condition isolated by this gerrymandered account of rationality is one that falls short of the condition that one knows *p*? The worry becomes even more pressing on the assumption that **RB**<sub>p</sub> is broad: If **RB**<sub>p</sub> is narrow then it uncontroversially satisfies (d), because **K**<sub>p</sub> is broad. If **RB**<sub>p</sub> is broad all bets are off, because **RB**<sub>p</sub>’s satisfaction of (d) cannot be motivated by the narrow/broad distinction.

Williamson promises to argue that (1) is not just a suspicion: we don’t have an independent grasp of the concept “rational belief” because “considerations of rational belief depend on considerations of knowledge.”<sup>63</sup> (2000: 59) He makes good on this promise by developing an account of rationality according to which considerations of rational belief depend on considerations of knowledge, on the further assumption that one’s evidence in a case is all and only what one knows. However, as I will show, this account of evidence is not mandatory for his account of rationality: one can reject the former and accept the latter. If we reject the equation of knowledge and evidence, we

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<sup>63</sup> This stronger claim is crucial to Williamson’s overall strategy of changing the order of explanation in epistemology from that of providing complex explanations of “knows” in terms of concepts such as “evidence”, “rationality” and “justification” to that of using the concept of knowledge in “partial elucidation” of these other concepts.

are left with an account of rational belief that is in agreement with our pre-theoretical intuitions about rational belief, provides a grasp of the concept “rational belief” that is independent of considerations of knowledge, and preserves (Add-4-RB) in face of Dog and similar counterexamples. Or so I will argue in what follows.

The next section considers a preliminary response on behalf of the defender of (C<sub>K</sub>-RB) to the worry raised by (1) and (2).

**3.7 A preliminary response.** The suspicion raised by (1) is unfounded: we *do* have an independent grasp of the concept of rationality. Very roughly, whether one rationally believes *p*, depends exclusively on three things: the evidence one *has*, the degree to which one’s evidence supports *p*, and how well one reflects this support in forming one’s opinions about whether or not *p*. By contrast whether one knows *p* depends both on the evidence one has but also on *evidence that one doesn’t possess*, but which is relevant to *p*. In other words the *supervenience base* for rational belief is *prima facie narrower* than that for knowledge. That is the reason why (2) shouldn’t be a worry either: in two cases where one has *conclusive* evidence for *p* (one’s evidence entails *p*), one can rationally believe *p* in both, but might fail to know *p* in one due to relevant *misleading* evidence that one doesn’t possess. The challenge to the defender of (C<sub>K</sub>-RB) is to develop this view into an account of rational belief that meets all the constraints introduced up to this point. I summarize them in the next section.

**3.7 The challenge clarified.** The preceding discussion poses a complex challenge to the defender of (C<sub>K</sub>-RB). To motivate the trio – (C<sub>K</sub>-RB), SSTT, and externalism about mental conditions – he must sketch a plausible theory of **RB<sub>p</sub>** that meets the following three conditions: the sketch must,

- (i) define **RB<sub>p</sub>** in terms independent of knowledge.

- (ii) preserve (Add-4-RB) by ruling the belief in the illusion case *irrational*.
- (iii) account for the intuition that **RB<sub>p</sub>** doesn't entail **K<sub>p</sub>**.

Interestingly enough Williamson's discussion of rationality provides the groundwork for meeting this challenge.

**3.8 A sketch of a theory of rational belief.** According to Williamson, "properly understood" the claim that "rational thinkers respect their evidence" is "a platitude."<sup>64</sup> (2000: 164) One way of cashing out this requirement is to claim that rationality requires one to proportion one's belief in a proposition in a case to its probability on one's (total) evidence in that case. (2000: 223) Call this the *proportionality requirement* (PR). (PR) is a formal constraint on the rationality of *individual* degrees of beliefs, rather than *systems* of degrees of belief. So the kind of rationality (PR) is concerned with is *local*, rather than *global* rationality.<sup>65</sup> What local rationality requires vis-à-vis a particular proposition *p* is not always transparent to the believing subject: "Rationality may be a matter of doing the best one can with what one has, but one cannot always know what one has or whether one has done the best one can with it." (2000: 179) Less metaphorically, the subject is not always in a position to know what her *evidence* is, or what *the probability of the proposition p* is on her evidence.<sup>66</sup> One can believe irrationally that *p* without being in position to know that one's belief is irrational.<sup>67</sup>

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<sup>64</sup> This is often considered a starting point in discussions of *epistemic* rationality. See, for example, Christensen 2004: 4.

<sup>65</sup> See Christensen 2004: 8-11 for a discussion of the distinction between *local* and *global* rationality.

<sup>66</sup> Both are non-trivial conditions, and if Williamson's Anti-Luminosity Argument is correct (2000: chap. 4), no non-trivial conditions are luminous.

<sup>67</sup> "[T]he rationality of believing a given proposition must sometimes differ between cases that are indiscriminable to the subject, because indiscriminability is not a non-transitive relation." (2004: 315)

Williamson doesn't give a precise definition of "probability on one's evidence", but he provides some guidance: the probability of  $p$  conditional on one's total evidence  $e$ ,  $P(h/e)$ , is a number in the interval  $[0, 1]$ , with  $P(h/e) = 0$  if  $e$  is inconsistent with  $p$  and  $P(h/e) = 1$  if  $e$  entails  $p$ . "Between those extremes, the initial probability distribution provides a continuum of intermediate cases, in which the evidence comes more or less close to requiring or ruling out" the proposition." (2000: 212) If  $P$  is one's "prior probability distribution",  $e_\alpha$  "the conjunction of all old and new evidence for one in a case  $\alpha$ , and  $P_\alpha(p)$  the evidential probability of a proposition  $p$  for one in  $\alpha$ ," then,  $P_\alpha(p)$  is given by the following formula:

$$\text{ECOND} \quad P_\alpha(p) = P(p/e_\alpha) = P(p \wedge e_\alpha) / P(e_\alpha) \text{ (Williamson 2000: 220)}$$

By ECOND one's evidence propositions in  $\alpha$  have evidential probability 1 in  $\alpha$ .

Williamson (2000: 221) admits that, "different conceptions of evidence are compatible with ECOND." He defends a particular conception according to which "one's total evidence in  $e_\alpha$  is the conjunction of all the propositions one knows in  $\alpha$ ," but ECOND doesn't require that. Despite rampant disagreement among those who hold a *propositional* view of evidence<sup>68</sup>, there is a broad consensus that one's evidence in a case is a subset of the propositions one believes in that case.<sup>69</sup>

Williamson is part of this consensus.

<sup>68</sup> As the name suggests, according to the view one's evidence is a set of propositions, as opposed to, for example, mental states.

<sup>69</sup> According to Alston (2005: 83) "complete generality [requires us] to speak of evidence as consisting of *beliefs* [propositions that one believes] rather than facts [true propositions]." (emphasis mine) The subjective Bayesian might agree with Alston if the propositions that one believes are understood as propositions of "maximal personal probability" i.e., subjective probability 1. (Van Fraassen 1995) For Feldman (2004:226), the "total possible evidence" one has at a time "includes everything [every proposition] that one has actively believed and could recall with some prompting": one's "total *actual* evidence" is a subset of one's total possible evidence. For Williamson, one's total evidence is one's total knowledge. But he grants that knowing a proposition entails believing it (2000 1.5, 202). So, the propositions constituting one's evidence are for Williamson a subset of the propositions one believes. The common denominator of these views on evidence is that believing  $p$  is a necessary condition on  $p$  being a member of one's total evidence set.

(PR) is a constraint on the rationality of “credences,” or “degrees of belief.”: it requires one to distribute credences to propositions in accordance with the propositions’ probabilities on one’s evidence; one must give the highest credence to a proposition entailed by one’s evidence and the lowest credence to a proposition that is inconsistent with one’s evidence. If we model the lower and upper bounds for credence as 0 and 1, there is a function  $\mu$ , from the set of credences  $F_c$  to the interval  $[0, 1]$ :  $\mu: F_c \rightarrow [0, 1]$ . If  $C_p$  is one’s credence in proposition  $p$  in a case  $\alpha$  (PR) requires that  $\mu(C_p) = P_\alpha(p)$ , where  $P_\alpha(p)$  is the evidential probability of  $p$  in  $\alpha$ . The following is a summary of Williamson’s account of rationality developed so far:

### **W-RB**

- (E=K)      One’s evidence in a case  $\alpha$  is the set of propositions one knows in  $\alpha$ .
- (PR)        One’s credence in  $p$  ( $C_p$ ) is rational in  $\alpha$  only if  $C_p$  is proportionate to the probability of  $p$  conditional on one one’s evidence in  $\alpha$ .  $\mu_\alpha(C_p) = P_\alpha(p)$
- (ECOND)     $P_\alpha(p) = P(p/e_\alpha) = P(p \wedge e_\alpha) / P(e_\alpha)$ <sup>70</sup>

The defender of ( $C_K$ -RB) can selectively use elements of (W-RB) to give an alternative model of rational belief that meets the three-fold challenge introduced in Section 3.7. The proposal is this: accept (PR) and (ECOND), but reject (E=K). (PR) can serve as a constraint on the rationality of *believing that p*, the condition entailed by *knowing that p*, if we employ what Christensen calls a *unification* account<sup>71</sup> of belief,

<sup>70</sup> Is W-RB relevant to the condition that one rationally believes  $p$ ? Williamson’s answer is not clear, but his most recent discussion (Williamson 2004: 313-316) suggests that the answer might be “yes”: the evidential probability of a proposition in a case  $\alpha$ ,  $P_\alpha(p)$ , determines the *degree* to which it is rational to believe  $p$  in  $\alpha$ . So, if  $P_\alpha(p) > P_\beta(p)$ , then it is *more* rational to believe  $p$  in  $\alpha$  than in  $\beta$ ; if  $P_\alpha(p) = P_\beta(p)$  then it is *equally* rational to believe  $p$  in  $\alpha$  and  $\beta$  and so on.

<sup>71</sup> See Christensen 2004: chap. 2.

according to which believing  $p$  is identical to a particular kind of credence in  $p$ .<sup>72</sup> If the highest credence one can give to a proposition amounts to *believing* it then belief is identical to credence 1<sup>73</sup>. Identifying believing  $p$  with giving  $p$  credence 1 is consistent with the three other elements of the account of rational belief developed so far: the consensus that one's evidence is a subset of the set of propositions one believes, ECOND and (PR). Here is why. If proposition  $p$  is a member of  $e_\alpha$  then by ECOND  $P_\alpha(p) = 1$ . If  $P_\alpha(p) = 1$ , then (PR) requires one to give credence 1 to  $p$  in  $\alpha$ . The requirement of (PR) is consistent with the identification of belief with credence 1, since by being a member of one's evidence set in  $\alpha$ ,  $p$  is a proposition one believes in  $\alpha$ .

If believing  $p$  is giving  $p$  credence 1, then according to (PR) one rationally believes  $p$  in  $\alpha$  *only if*  $P_\alpha(p) = 1$ . This is not a sufficient condition for one rationally believing  $p$  in  $\alpha$ : one might come to believe  $p$  *irrationally*, even when the propositions constituting one's evidence set entail  $p$ , as the case would be when one's belief is not *based on* one's evidence. According to Williamson (2000: 191) a belief can be based on one's evidence in two different ways: *explicitly* or *implicitly*. The belief that  $p$  is explicitly evidence based "if it is influenced by prior beliefs about the evidence for  $p$ "; the belief is implicitly evidence based "if it is appropriately causally sensitive to the

<sup>72</sup> Williamson's discussion in (2000) introduces a threefold distinction:

- (i) Outright belief
- (ii) Degrees of outright belief
- (iii) Credences

"One believes  $p$  *outright* when one is willing to use  $p$  as a premise in practical reasoning... Outright belief still comes in degrees for one may be willing to use  $p$  as a premise in practical reasoning only when the stakes are sufficiently low... One's degree of outright belief in  $p$  is not in general to be equated with one's subjective probability for  $p$ ." (2000: 99) At least the following is clear: "credences are not the degrees of outright belief". (2000: 209) This still doesn't help clarify the relation between credences and outright belief? Is "outright belief" the same as credence 1? What is the relation between "believing that  $p$ ", understood as the mental condition entailed by "knowing that  $p$ ", and outright belief; are they the same thing? Williamson's answers to these questions are not clear. What is important is that (PR) can serve as a constraint on rational belief, if we answer both questions affirmatively.

<sup>73</sup> See Halpern 1991, Halpern 1996, and Halpern 2005, chap. 8 as an example of this probabilistic model of binary belief.

evidence for  $p$ .” The distinction is important in explaining why there is no regress of explicitly evidence-based belief: one’s beliefs about one’s evidence for  $p$  need not be explicitly evidence based; it is sufficient for them to be implicitly-evidence based. One can have implicitly evidence-based belief even if one is prone to misidentifying one’s evidence: implicit evidence based belief requires *mere* causal sensitivity to one’s evidence and “[c]ausal sensitivity need not be perfect to be genuine. There can be a non-accidental rough proportionality between the strength of the belief and the strength of the evidence, even if distortions sometimes occur.” (2000: 192) Whether implicitly or explicitly evidence-based, a belief that  $p$  is *based on* one’s evidence in a case only if the strength of the belief is non-accidentally proportionate to the strength of one’s evidence in that case. The strength of one’s evidence for  $p$  in a case is measured by the conditional probability of  $p$  on one’s total evidence in that case.

The following is a sketch of the account of rational belief developed on behalf of the defender of (C<sub>K</sub>-RB) so far.

### **Minimal RB**

1. ( $E \subseteq B$ ) One’s evidence in a case  $\alpha$  is a subset of the propositions one believes in  $\alpha$ .
2. The condition *that one believes  $p$*  is identical to the condition that *one gives  $p$  credence 1*.
3. (PR) One rationally believes  $p$  in  $\alpha$  if and only if one’s belief in  $p$  is *non-accidentally* proportionate to the probability of  $p$  conditional on one’s evidence in  $\alpha$ .  $\mu_{\alpha}(C_p) = P_{\alpha}(p) = 1$
4. (ECOND)  $P_{\alpha}(p) = P(p/e_{\alpha}) = P(p \wedge e_{\alpha}) / P(e_{\alpha})$



The main way in which Minimal RB departs from W-RB is in weakening the requirement on evidence. But in that regard it remains within the bounds of consensus with regard to evidence: one's evidence is a subset of propositions one believes. Yet, one might worry that Minimal RB makes rational belief very hard to come by identifying belief with credence 1: our evidence *rarely* entails a proposition. The worry is premature: as stated Minimal RB is quite flexible. It is true that by (PR) and (ECOND) we rationally believe a proposition  $p$  *only if* our evidence entails  $p$  but depending on whether the constraint we place on what counts as evidence is weak or strong by Minimal RB we can end up rationally believing a lot or very little. As stated Minimal RB doesn't have skeptical consequences. The next section will show that on the assumption of SSTT, Minimal RB meets the first two parts of the challenge laid out in Section 3.7.

**3.9 Meeting the first two parts of the challenge.** We start with the second part. If Minimal RB is true, the belief that  $p$ , *a dog is barking*, in Dog is irrational. If SSTT is true, one doesn't believe the proposition  $q$ , *that dog is barking*: the demonstrative fails to refer and consequently one lacks the singular belief that  $q$ . One only has the second-order belief  $r$ , *that one believes that  $q$* , and that belief is false. By Minimal RB believing  $q$  is a necessary condition on  $q$  being a member of one's total evidence set; hence  $q \notin e_{\text{dog}}$ . If it was, the probability of the proposition  $p$  conditional on  $e_{\text{dog}}$  would be 1, and by (PR) the subject's belief that  $p$  would be rational. What does  $e_{\text{dog}}$  include? According to Williamson the subject believes that  $s$ , *it appears to him that that dog is barking*. (2000: 198-9) If SSTT is true the subject also has the second order belief  $r$ , that she has a first-order belief that  $q$ . By the stipulation of the counterexample this is all the relevant evidence for  $p$  that the subject has in this case. Therefore, at best the subject's evidence for  $p$  is limited to  $s$  and  $r$ . Neither  $r$  nor  $s$  (nor their conjunction)

entails  $p$ ; so,  $P(p / e_{\text{dog}})$  is less than 1. If that is so then by Minimal RB believing  $p$ , (i.e., giving  $p$  credence 1) in Dog is *irrational*.

Prima facie condition (i) is satisfied too: the concept “rational belief” is defined in terms independent of the concept “knows”. What about condition (iii): does  $\mathbf{RB}_p$  entail  $\mathbf{K}_p$  according to Minimal RB? The next section analyzes a well-worn case to motivate the negative answer. The argument for (C<sub>K</sub>-RB) will be ultimately inconclusive: its success or failure will depend on what we take to be the correct theory of evidence.

**4.1 Meeting the third part of the challenge.** Let’s start with a well-worn case where intuitively one doesn’t know the proposition  $p$ , *that’s a barn*.

#### **Fake Barn Bad**

Henry is driving in the countryside with his son. For the boy’s edification Henry identifies various objects in the landscape as they come into view. ‘That’s a cow’ says Henry, ‘That’s a tractor,’ ‘That’s a silo,’ ‘That’s a barn,’ etc. Henry has no doubt about the identity of these objects; in particular he has no doubt that the last mentioned object is a barn, which indeed it is. Each of the identified objects has features characteristic of its type. Moreover, each object is fully in view, Henry has excellent eyesight, and he has enough time to look at them reasonably carefully since there is little traffic to distract him.... Suppose we are told that, unknown to Henry, the district he has just entered is full of papier-mache facsimiles of barns. These facsimiles look from the road exactly like barns but are really just facades, without back walls or interiors, quite incapable of being used as barns. Having just entered the

district, Henry has not encountered any facsimiles; the object he sees is a genuine barn. (Goldman: 1976: 772)<sup>74</sup>

Now consider another case, Fake Barn Good, where everything is just like in Fake Barn Bad except there are no fake barns in the district Henry has just entered; all the barns are real. Henry identifies the same barn as it comes into view: ‘That’s a barn’. Intuitively Henry knows in Fake Barn Good. Now if Henry rationally believes that  $p$  in both cases but knows  $p$  in one of them (Fake Barn Good) but not in the other (Fake Barn Bad), then  $\mathbf{RB}_p$  doesn’t entail  $\mathbf{K}_p$ .

<sup>74</sup>

Fake Barn Bad is a case of *non-misleading* evidence that one doesn’t possess: the proposition  $r$ , *the area is filled with fake barns* isn’t *prima facie* evidence for believing a false proposition. Another type of case that could motivate the same conclusion is a case of *misleading evidence* that one doesn’t possess. The distinction between misleading and non-misleading evidence is similar to the distinction that Klein (1976) draws between misleading and non-misleading defeaters. The distinction is not clear; I am inclined to think the difference is one of degree rather than kind but am not prepared to argue for it here. Cases of misleading evidence one doesn’t possess are those introduced by Harman 1973: chap. 9. The following case introduced by Dretske 1981: 123-124 is a clear illustration of a case of misleading evidence one doesn’t possess.

#### **Pressure Gauge (Bad)**

A sensitive and completely reliable instrument (a pressure gauge) is used to monitor the pressure within a certain boiler. Since the boiler pressure is a critical quantity, in that too much pressure can result in a dangerous explosion, the gauge is made from the finest materials, to the most exacting standards, by the most careful methods. These instruments have always been completely reliable. The gauge is located in a console. An attendant checks it periodically. No one has the slightest hesitation about saying that the attendant knows what the boiler pressure is when he consults the gauge. The gauge delivers the relevant information. Nevertheless despite an impeccable performance record, a nervous engineer becomes concerned about a possible failure in the pressure sensing mechanism and the consequent accuracy of the gauge. He decides to install an auxiliary system whose function it is to detect malfunctions in the main channel of communication (the pressure sensing system). If things go wrong with the pressure gauge, a small light will flash on the attendant’s console, alerting him to the problem. The auxiliary system is installed, but before the attendant can be told about the additional precautions that have been taken, a failure occurs in the auxiliary device. The warning light flashes on the attendant’s console, but the pressure gauge, operating in its old reliable way, indicates a completely normal boiler pressure. We may suppose that the attendant either doesn’t see the flashing light or sees it but ignorant of its purpose ignores it in coming to the belief (on the basis of the pressure gauge reading) that the boiler pressure is normal. Question does the attendant know that the boiler pressure is normal?

Henry knows  $p$ , *that's a barn* in Fake Barn Good. On the plausible assumption<sup>75</sup> that if one knows  $p$  in  $\alpha$ , then  $p$  is a member of  $e_\alpha$ ,  $p$  is part of Henry's evidence in Fake Barn Good. Hence  $P(p/e_{\text{good}}) = 1$ : Henry both knows and rationally believes  $p$  in Fake Barn Good.

Does Henry have the same evidence in Fake Barn Bad?<sup>76 77</sup> If Henry's evidence is the same in both cases, then  $P(p/e_{\text{good}}) = P(p/e_{\text{bad}}) = 1$ . Consequently Henry rationally believes *but* doesn't know  $p$  in Fake Barn Bad, which is to say that  $\mathbf{RB}_p$  doesn't entail  $\mathbf{K}_p$ .

How can the defender of  $(C_K\text{-RB})$  motivate the sameness of evidence claim? I think the most straightforward strategy would be the following: Henry *sees* in both cases that the building is a barn. *Seeing* that  $p$  is what Williamson calls a "factive mental attitude": if one bears it with regard to a proposition  $p$ , then  $p$  is true. Williamson claims that knowing is the most general factive mental attitude: so, "if you see that it is raining, then you know that it is raining." (2000: 37). However he admits that such entailments are "plausible but not uncontroversial." (2000: 37) Going back to Fake Barn Bad why does Henry fail to see that that's a barn? He has the relevant concept of a barn, he has 20/20 vision, the weather conditions are favorable and so on. I will paraphrase the answer Williamson gives in a similar case: Henry cannot see *that* that's a barn precisely because he does not know what he sees to be a situation in which the object in front of him is a barn (given the unfavorable evidence).<sup>78</sup>

<sup>75</sup> See Williamson (2000: 203-207) for an argument for the claim that all knowledge is evidence. See also Joyce (2004). The claim is controversial; see Weatherson (manuscript) for an argument against it.

<sup>76</sup> In his original presentation of the case Goldman claimed that: "Henry's evidence for the proposition that the object is a barn is the same in both cases." (Goldman 1976: 000)

<sup>77</sup> If *only* knowledge is evidence then the answer is "no": Henry doesn't know  $p$  in Fake Barn Bad; according to Williamson he only knows  $q$ , *that appears to be a barn*. If so then Henry doesn't rationally believe  $p$  in Fake Barn Bad because  $P(p/e_{\text{bad}})$  is less than 1 (Henry's relevant evidence for  $p$  in Fake Barn Bad is at best  $q$  and  $P(p/q)$  is less than 1).

<sup>78</sup> The paragraph I am paraphrasing is the following: "By looking in the right direction, you can

I think the explanation is question-begging: it *assumes* that in order for one to see that  $p$  one must know that  $p$ , and that's precisely what is at issue here. To summarize, the following three claims are individually plausible and jointly inconsistent:

- Henry doesn't know that *that's a barn* in Fake Barn Bad.
- If Henry sees that *that's a barn* then he knows that *that's a barn*.
- Henry sees that *that's a barn* in Fake Barn Bad.

Williamson accepts the first two and rejects the third. If Henry doesn't see that the object is a barn, the attempt to argue that the proposition  $p$  is part of Henry's evidence in Fake Barn Bad via the claim that he sees that  $p$  fails. The defender of (C<sub>K</sub>-RB) accepts the first and last claims and rejects the second. Who is right? A definite answer is premature. The suggestion is that the knowledge requirement on evidence—*only knowledge is evidence*-- depends in part on a controversial view about factive mental attitudes such as seeing that  $p$ , hearing that  $p$ , remembering that  $p$ ; according to this view, bearing a factive mental attitude to a proposition entails knowing it. The view is controversial; so the knowledge requirement on evidence is controversial. If the knowledge requirement on evidence is removed, the account of rational belief developed in Minimal RB can give a satisfactory response to the two worries sketched in Section 3.5. It can also give a systematic explanation for the failure of rationality in the Dog case. As noted in Section 3.7 these are the only challenges posed to a version of (C<sub>K</sub>-RB) that concedes content externalism and externalism about mental conditions and Minimal RB can meet all three of them. So, the argument against the trio (C<sub>K</sub>-RB), content externalism and externalism about mental conditions, is ultimately inconclusive.

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see a situation in which it is raining. In the imagined case moreover, you have enough concepts to grasp the proposition that it is raining. Nevertheless you cannot see *that* it is raining, precisely because you do not know what you see to be a situation in which it is raining (given the unfavorable evidence).” (2000: 38)

**4.2 Evidence one doesn't posses.** Contemporary epistemology takes for granted the intuitive distinction *between evidence that one possesses* for a proposition  $p$  (EP) and *relevant evidence that one doesn't posses* (EDP).<sup>79</sup> So, for example in Fake Barn Bad, the proposition  $r$ , *this area is full of fake barns*, is relevant evidence for  $p$  that Henry doesn't posses;  $r$  is not part of Henry's evidence and if  $r$  became part of Henry's evidence then the probability of  $p$ , *that's a barn*, conditional on the new evidence would be less than 1. Knowing that  $p$ , as the Fake Barn case shows, constitutively depends on EDP. According to Minimal RB rationally believing that  $p$  depends on EP and the relation between EP and the belief that  $p$ . Up to this point Williamson and the defender of (C<sub>K</sub>-RB) are in agreement. What they disagree about is what constitutes one's EP. If Williamson is correct and EP in a case  $\alpha$  is all *and only* what one knows in  $\alpha$ , then rationally believing that  $p$  constitutively depends on EDP, because EP does: one can believe the same true propositions in  $\alpha$  and  $\beta$ , while one's total evidence in  $\alpha$  being different from one's total evidence in  $\beta$ . This is a blow to a version of (C<sub>K</sub>-RB) that takes Minimal RB to be the correct theory for rational belief for two reasons: (1) if evidence is knowledge then Minimal RB fails to provide an independent characterization of rational belief: "considerations of rational belief [ultimately] depend on considerations of knowledge". (2000: 59) and if that is the case then Minimal RB has failed to meet the first part of the challenge sketched out in Section 3.7; (2) Cases of evidence one doesn't posses cannot motivate the claim that **RB** <sub>$p$</sub>  doesn't entail **K** <sub>$p$</sub> . More generally the original intuition that **RB** <sub>$p$</sub>  satisfies condition (c) because **K** <sub>$p$</sub>  has a *broader* supervenience base than **RB** <sub>$p$</sub>  is shown on reflection to be

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<sup>79</sup> See especially chap. 9 in Harman 1973 titled "Evidence One Does not Posses". See also Klein 1976, Lycan 1977, Dretske 1981.

baseless. The upshot of all this is the insight that the disagreement between (W) and (C<sub>K</sub>-RB) can be traced back to a disagreement about the correct account of evidence.

The challenge to the defender of (C<sub>K</sub>-RB) is to defend *a theory* of evidence according to which Henry's evidence remains the same in Fake Barn Good and Fake Barn Bad. More generally, he has to defend a theory of evidence according to which what evidence one *has* doesn't constitutively depend on what evidence one doesn't posses. Can this be done? The arguments in Chapters Two and Three try to motivate the "yes" answer. Suppose for a moment that those arguments work; how will the case for (C<sub>K</sub>-RB) look on the completion of this project?

**4.3 Summary.** On the plausible assumption that all knowledge is evidence, by Minimal RB, **K<sub>p</sub>** entails **RB<sub>p</sub>**; so **RB<sub>p</sub>** satisfies condition (b). If the defender of (C<sub>K</sub>-RB) succeeds in defending a theory of evidence according to which one rationally believes but doesn't know in cases of evidence one doesn't posses, then **RB<sub>p</sub>** satisfies condition (d): **RB<sub>p</sub>** doesn't entail **K<sub>p</sub>**. If Minimal RB is true then Dog is not a counterexample to (Add-4-RB). In the absence of a counterexample to (Add-4-RB), there is no reason to think that **RB<sub>p</sub>** doesn't satisfy (c). With regard to (a), the assumption that rational belief is a mental condition doesn't clash with any pre-theoretical reasons for thinking otherwise. As I also tried to show in Section 3.5 there are no good theoretical reasons that call **RB<sub>p</sub>**'s status as a mental condition into doubt, for there is no condition that can plausibly play the role of its mental component. It is true that Minimal RB makes rational belief a broad condition, but any reasons for arguing against the mental status of **RB<sub>p</sub>** based on it being broad are internalist in nature. Our challenge was to show that (C<sub>K</sub>-RB) is motivated on the assumption of SSTT and externalism about mental conditions, assumptions on which an internalist constraint on the mental is rejected by default.

## **Conclusion**

I have tried to analyze and motivate a version of ( $C_K$ -RB) that concedes SSTT and externalism about mental conditions. I have argued that this version can resist some strong objections recently advanced against ( $C_K$ -RB). The argument doesn't show that we should endorse the conjunctive account of knowing. At best, it shows that the arguments against this account are not conclusive.



## CHAPTER TWO

### Factive, Stative Attitudes and Knowing

#### Introduction

When one can see, hear, or smell that things are a certain way, one is in possession of evidence that they are that way. This I will take to be uncontroversial. Can one see, hear or smell that things are a certain way, without knowing that they are that way? This is a matter of dispute. Timothy Williamson (2000: 33-41) has argued that propositional attitudes like seeing, hearing and smelling that  $p$  (where  $p$  stands for some proposition), are instances of a category of conditions that entail knowing that  $p$ . Williamson calls the conditions *factive, stative attitudes*: the attitudes are factive in the sense that necessarily one bears them only to truths, and stative in the sense that they are *states*, as opposed to events or processes.<sup>80</sup>

Using terminology introduced in the previous chapter<sup>81</sup> we can state the thesis more rigorously as follows:

**K-Entailment**: Necessarily, for any case  $\alpha$ , proposition  $p$  and factive, stative attitude  $\Phi$ , if the condition that one bears  $\Phi$  to  $p$  obtains in  $\alpha$ , then the condition that one knows  $p$  obtains in  $\alpha$ .

This chapter argues against this thesis. If the argument is successful, there are certain factive, stative attitudes that guarantee evidence, but not knowledge. If that is so, then knowledge is not a requirement for evidence.

The argument has three parts. The first part is straightforward: I try to show that there are cases where for some factive, stative attitude  $\Phi$  and proposition  $p$ , one

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<sup>80</sup> See Parsons 1990: Chapter 3 for a discussion of the threefold distinction.

<sup>81</sup> See Section 1.2 in the “The Conjunctive Account of Knowing”.

bears  $\Phi$  to  $p$ , but doesn't know  $p$  in those cases. Though straightforward the argument in part one is not conclusive. The residual worry is that the condition obtaining in those cases where the corresponding knowledge condition doesn't is not the uncontroversially factive, stative attitude  $\Phi$ , but some other condition—call it  $\Psi$ —that is easily confused with  $\Phi$ . According to the objection, unlike  $\Phi$ ,  $\Psi$  is not a factive, stative attitude, and thus the argument against *K-Entailment* fails.

The second part of the chapter takes this objection seriously: it tries to show that even if we concede that condition  $\Psi$  is different from  $\Phi$ , there are no prima-facie good reasons for thinking that  $\Psi$  is not a factive, stative attitude. If  $\Psi$  is a factive, stative attitude on its own right, and it obtains in some cases where the knowledge condition doesn't, then *K-Entailment* is false.

In order to show that condition  $\Psi$  is a factive, stative attitude, I try to isolate the requirements that mark the difference between factive, stative attitudes and other factive conditions. As we discover, there is only one plausible argument for blocking  $\Psi$ 's membership in the category of factive, stative attitudes. The argument relies on a knowledge requirement on evidence: one's evidence is constituted only by those proposition that one knows. The next chapter argues against this requirement, and thus indirectly for  $\Psi$ 's membership in the category of factive, stative attitudes. If that argument is sound, *K-Entailment* is false.

**1.1 Straightforward strategies.** There are two different, straightforward ways for arguing against

*K-Entailment*. The first one has the following structure:

1. We choose an uncontroversial member  $\Phi$  from the category of factive, stative attitudes.
2. We isolate a set of *sufficient* conditions for bearing  $\Phi$  to a proposition  $p$ .

3. We show that there is a case  $\alpha$  where this set of conditions obtains with regard to a particular proposition  $p$ —and hence one bears  $\Phi$  to  $p$ —but one fails to know  $p$  in  $\alpha$ .

The second way has a slightly different structure:

4. We start, again, by choosing an uncontroversial member  $\Phi$  from the category of factive, stative attitudes.
5. We isolate a set of *necessary* conditions for knowing a proposition  $p$ .
6. We show that there is a case  $\alpha$  where this set of conditions doesn't obtain with regard to a particular proposition  $p$ —and hence one doesn't know  $p$ —and yet one bears  $\Phi$  to  $p$  in  $\alpha$ .

Both strategies try to establish the conclusion that a certain factive, stative attitude can obtain in some cases where the corresponding knowledge condition doesn't. If this conclusion is true *K-Entailment* is false. The next few sections develop these two strategies in more detail.

**1.2**    *The First strategy.* Starting with the first strategy, let  $\Phi$  be an uncontroversial member of the category of factive, stative attitudes (from now on FSAs). Let  $C_p$  be a set of sufficient conditions for bearing  $\Phi$  to a particular proposition  $p$ . If in some case  $\alpha$ , one doesn't know  $p$  even though  $C_p$  obtains in  $\alpha$ , then bearing  $\Phi$  to a proposition doesn't entail knowing it. If one member of the FSA category of conditions doesn't entail knowledge, *K-Entailment* is false.

Many in the literature (Dretske 1969, 1981; Kvat 1993; Williamson 2000; Cassam forthcoming) take the condition expressed by the locution “S *sees* that  $p$ ” (for some proposition  $p$ ) to be an uncontroversial member of the class of factive, stative attitudes. This condition will be our chosen  $\Phi$ .

As Dretske (1969:1) points out, the construction “S sees that  $p$ ” is used in many different ways: not only do we claim to see that something is in trouble but also “what caused it and how to remedy it.” We will be concerned with the special case where the construction is used in what Dretske (1969) calls its *primary* sense: in this sense one can’t see that an object  $b$  is  $P$ , unless one *sees*  $b$ .<sup>82</sup> One sees that  $b$  is  $P$  in a non-primary, or *secondary* sense when one sees that  $b$  is  $P$  without seeing  $b$ . (Dretske 1969: 79-80) If seeing in the primary sense is a special case of seeing that  $p$ , then seeing (in the primary sense) that  $b$  is  $P$  is sufficient for bearing our chosen attitude  $\Phi$  to the proposition that  $b$  is  $P$ . *A fortiori*, a set of sufficient conditions for seeing that  $b$  is  $P$  in the primary sense is also a set of sufficient conditions for bearing our chosen  $\Phi$  to the proposition that  $b$  is  $P$ . The next step is to isolate a set of sufficient conditions for seeing that  $b$  is  $P$  in the primary sense: the chosen set will be the set of necessary and sufficient conditions for seeing that  $b$  is  $P$  in this sense.<sup>83</sup>

82

The condition that S sees  $b$  is what Dretske calls *non-epistemic seeing*. According to Dretske, unlike seeing that  $b$  is  $P$  in the primary sense, non-epistemic seeing doesn’t logically entail the condition that S has some particular belief. Here is Dretske’s informal way of drawing the distinction: “I am concerned [with] an ability [non-epistemic seeing] whose successful exercise is devoid of positive belief content. With respect to its positive belief content seeing a bug in this fundamental way is like stepping on a bug; neither performance involves, in any essential respect, a particular belief or set of beliefs on the part of the agent. Nothing one believes is logically relevant to what one has done. *Purposely* stepping on a bug is something else again, and so is seeing *that* it is a bug, or *what* kind of bug it is. Both of these latter accomplishments, if I can call them that, have a positive belief content.” (1969: 6) In light of Dretske’s remark *non-doxastic* seeing would perhaps be a more fitting term for this condition, for after all it is in terms of the absence of a logical relation between seeing  $b$  and the *beliefs* that the subject has that the condition is introduced. Thanks to Gail Fine for calling my attention to this terminological problem.

83

Why choose the set of necessary and sufficient conditions to present our case, instead of any other set of sufficient conditions whatsoever? First, notice, that for every set  $Sp$  of sufficient conditions for bearing an attitude  $\Omega$  to a proposition  $p$ , there is a set  $Sp^*$  that includes  $Sp$  and the condition that one knows  $p$  such that  $Sp^*$  is also sufficient for bearing  $\Omega$  to  $p$ . So, not all sets of sufficient conditions for bearing  $\Omega$  to  $p$  can be instrumental in showing that  $\Omega$  doesn’t entail the condition that one knows  $p$ . How do we go about isolating a set of sufficient conditions that can establish this conclusion? The set of necessary and sufficient conditions, for bearing  $\Omega$  to a proposition  $p$  ( $N\&Sp$ ) is the *weakest* set of sufficient conditions for bearing  $\Omega$  to  $p$ , in the sense that for every set of sufficient conditions  $Sp$ ,  $Sp$  entails  $N\&Sp$ . Now, if there is a set of sufficient conditions  $Sp$  for bearing  $\Omega$  to a proposition  $p$ , such that  $Sp$  doesn’t entail the condition that one knows  $p$  ( $Kp$ ), then the set of necessary and sufficient conditions for bearing  $\Omega$  to  $p$  ( $N\&Sp$ ) doesn’t entail  $Kp$ .

**1.3 Dretske's proposal.** Dretske's proposal is a helpful place to start. According to Dretske (1969: 78-88) a person *S* sees that *b* is *P* in the primary sense<sup>84</sup> if and only if the following four conditions are satisfied:

1. *b* is *P*.
2. *S* sees *b*.
3. The conditions under which *S* sees *b* are such that *b* would not look, *L*, the way it now looks to *S* unless it was *P*.
4. *S*, believing that the conditions are as described in (3), believes *b* to be *P*.

In what follows I argue that condition (3) is too strong. One way of motivating this kind of objection to (3) is suggested by Igal Kvart (1993: 294). Suppose *b* is in fact shivering; *S* sees *b*, and he looks like he is shivering. But the conditions under which *b* looks like he is shivering are such that, had he not been shivering a back-up, visual effect would have kicked in to ensure that *b* looked like he was shivering to *S*. When *S* looks at *b* the back-up effect is on stand-by mode because *b* is in fact shivering. Kvart thinks, and I agree, that this is a case where *S* sees that *b* is shivering despite the presence of the back-up mechanism, (i.e., despite it being the case that the conditions under which *S* sees *b* are not such that *b* would not look how it in fact does unless it was *P*).<sup>85</sup>

I will refer to the type of case Kvart describes as the “back-up” case. If one

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Proof: Suppose *Sp* doesn't entail *Kp*. Then there is a case  $\alpha$  such that *Sp* obtains in  $\alpha$  and *Kp* doesn't obtain in  $\alpha$ . But since *Sp* entails *N&Sp*, then *N&Sp* obtains in  $\alpha$ . Since *N&Sp* obtains in  $\alpha$  but *Kp* doesn't obtain in  $\alpha$ , then *N&Sp* doesn't entail *Kp*.

So our attempt to show that there is a set of sufficient conditions for bearing  $\Omega$  to *p* can succeed *only if* we can show that the set of necessary and sufficient conditions for bearing  $\Omega$  to *p* doesn't entail knowing *p*. This is what we will try to show in this section by first identifying the set of necessary and sufficient conditions for  $\Omega$  being “primary seeing.”

<sup>84</sup> In what follows I will omit the qualification “in the primary sense” for ease of exposition; the reader should assume that the condition discussed in this chapter is seeing in the primary sense, unless otherwise indicated.

<sup>85</sup> Pappas and Swain (1973) also argue for the same conclusion.

sees that the relevant  $b$  is  $P$  in a “back-up” case then Dretske’s condition (3) is not a necessary condition for seeing that  $b$  is  $P$ , for in this case the condition is not satisfied and yet one allegedly sees that the relevant  $b$  is  $P$ .

There is some intuitive plausibility to Kvat’s suggestion that “back-up” cases are cases of successful seeing that the relevant  $b$  is  $P$ . After all, the back-up mechanism stays idle. It’s as if it isn’t even there: the mechanism doesn’t interfere with the visual process or the conceptual repertoire of the perceiver. How then does it block one from seeing that  $b$  is  $P$ ? The answer has perhaps something to do with the fact that the perceiver’s epistemic position is weakened in some relevant respect. Perhaps the perceiver fails to *know* the relevant proposition via visual means in these cases. But even this suggestion is controversial. One might argue, and some actually have<sup>86</sup>, that not only does the subject see that  $b$  is  $P$  in “back-up” cases, but he also *knows* that. In fact a famous example in the epistemological literature, Nozick’s “grandmother” case, is arguably “a back-up” case, where consensus has it that the subject both sees and knows that the relevant  $b$  is  $P$ :

“Grandmother”: A grandmother sees her grandson is well when he comes to visit; but if he were sick or dead, others would tell her he was well to spare her upset. Yet this does not mean that she doesn’t know he is well (or at least ambulatory) when she sees him. (1981: 179)

If one’s epistemic position is good enough for knowing that  $p$  via visual means in a “back-up” case, then there is no obvious reason for thinking that it is not good enough for seeing that  $p$ .<sup>87</sup>

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<sup>86</sup> See, Neta and Rohrbaugh (forthcoming).

<sup>87</sup> One might object that the “grandmother” case is relevantly different from Kvat’s “back-up” case: in the “grandmother” case the subject would believe that her grandson was ambulatory (if he was dead) via a *different* method (testimony) from that by which she comes to believe that he is ambulatory when she sees him (visual inspection). In the “back-up” case, the subject would believe that  $b$  is shivering via the same method (visual inspection) both in the actual scenario when he sees  $b$  shivering and in the counterfactual scenario when the back-up

If, in turn, “back-up” cases are cases of successful (primary) seeing, then we should modify condition (3) in Dretske’s analysis for it to deliver the right verdict in this type of case.

How do we do that? To a first approximation the right answer would have to involve a way of rendering irrelevant the presence of the back-up mechanism. The details of how to accomplish this are suggested by recent work in the metaphysics of causation. This is in part because “back-up” cases such as the one introduced by Kvat are strikingly similar in their causal structure to some recently discussed cases in the literature on *token-level* causation, where the focus is on the question, what does it mean that a condition *c* *actually caused* condition *e*?<sup>88</sup> Consider the following case introduced by Christopher Hitchcock (2001a: 276):

“Assassin”: an assassin in training is on his first mission. Trainee is an excellent shot: if he shoots his gun the bullet will fell Victim. Supervisor is also present, in case Trainee has last minute loss of nerve (a common affliction among student assassins) and fails to pull the trigger. If Trainee does not shoot, Supervisor will shoot Victim

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mechanism makes *b* look like he is shivering. This is true if methods are individuated “internally” in the way suggested by Nozick (1981) . According to Nozick “a method will have a final upshot in experience on which the belief is based, such as visual experience and then (a) no method without this upshot will be the same method, and (b) any method experientially the same “from the inside” will count as the same method.” If as suggested by Nozick, we individuate methods “internally” then in Kvat’s “back-up” case if the relevant *p* were false, *S* would believe *p* via the same method that he does in the actual scenario—visual inspection. If methods are individuated by a more fine-grained standard that also involves the causal mechanism producing the belief, the method by which one believes that *b* is *P* when the back-up visual mechanism is on stand-by mode will count as a different method from that by which one comes to believe the same proposition when the mechanism is activated. Deciding what is the best way for individuating methods is a complicated discussion best left for another time. Suffice it to say that there are serious problems with Nozick’s way of individuating methods. See, (Williamson 2000: 152-61) for some powerful objections.

<sup>88</sup> For a detailed discussion of the distinction between token-level and type-level causation see Sober 1985 and Eells 1991. The distinction is nicely illustrated by Christopher Hitchcock: “Type level causal relations are described by causal generalizations such as “smoking causes lung cancer’ while token-level causal relations involve particular events” ‘the loud party next door caused Jennifer’s headache...Token-level causal relations...require analysis that are more sensitive to the spatio-temporal details of the causal processes.’ (2001b: 361)

herself. In fact, Trainee performs admirably, firing his gun and killing Victim.

As Hitchcock points out “ it seems that Trainee’s shot caused the death of the Victim, even though Victim’s death doesn’t counterfactually depend upon Trainee’s shot.”

(2001: 276) The causal facts are very similar in Kvat’s “back-up” case: a particular mental condition *e* (*b* looking *P* to *S*) is caused by a condition *c* (the condition that *b* is *P*), despite it being the case that *e* doesn’t counterfactually depend on *c* (if *b* were not *P*, it would still look *P* to *S* due to the triggering of the back up mechanism). If one successfully sees that *b* is *P* in a “back-up” case, then perhaps successful (primary) seeing tracks the causal rather than the counterfactual relation between the relevant pair *c* and *e*. This diagnosis suggests the following way of fixing Dretske’s condition (3).

(3\*) The conditions under which *S* sees *b* are such that the condition that *b* is *P* causes the way, *L*, that *b* now looks to *S*.

Condition (4) should also be changed to reflect the modification in (3):

(4\*) *S* believing that the conditions are as described in (3\*), believes *b* to be *P*.

If we modify Dretske’s analysis in the way suggested by (3\*) and (4\*) the analysis gives us the right verdict in “back-up” cases.

The causal facts in the standard “back-up” cases are clear, but this is not always true in other cases of epistemological interest. If we are to replace the counterfactual condition (3) in Dretske’s definition with a causal requirement, we need an analysis of token-level causation that is both plausible and sufficiently substantive to discipline our causal intuitions in those cases of epistemological interest where the causal facts are not entirely clear.<sup>89</sup> The next section summarizes an analysis of causation that, I think, satisfies both of these desiderata.

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<sup>89</sup>

Thanks to Nico Silins for pressing me for an explanation of this point.



**1.3 Hitchcock's analysis of causation.** The analysis of causation that I am about to summarize is motivated by problems arising with David Lewis's original counterfactual account of causation. According to Lewis's analysis, if an event *e* counterfactually depends on *c*, then *e* causally depends on *c*, or in other words, *c* is a cause of *e*. According to this theory, counterfactual dependence is sufficient but not necessary for causation. Event *c* is a cause of event *e* if and only if they are connected by a chain of counterfactual dependence; in the simple case, the chain has just one link. (Lewis, 1986)

As Christopher Hitchcock indicates, this formula renders causation transitive by definition. (Hitchcock, 2001a) So, given Lewis's formula for any three events *a*, *b*, *c*, if *a* counterfactually depends on *b* and *b* counterfactually depends on *c*, then *c* is a cause of *a* even if *a* does not counterfactually depend on *c*. This picture is very appealing when dealing with ordinary cases. Yet problems arise when dealing with some unusual cases such as the following "boulder" case, first introduced by Hitchcock (2001a: 276).

"Boulder": A boulder is dislodged and begins rolling ominously towards Hiker.

Before it reaches him, Hiker sees the boulder and ducks. The boulder sails harmlessly over his head with nary a centimeter to spare. Hiker survives his ordeal.

It is clear that in this case the Hiker's ducking is counterfactually dependent upon the boulder's fall and the Hiker's survival is counterfactually dependent on the Hiker's ducking. Yet we are reluctant to say that the boulder's fall *caused* the Hiker's survival, even though there is a chain of counterfactual dependence running from one event to the other. Hitchcock's preliminary diagnosis of cases like "the boulder case" boils down to the claim "that causation *is not* transitive in general." Meanwhile, his alternative proposal has the burden of accounting for those cases in which a chain of

counterfactual dependence is sufficient for causation in a way that explains why a similar counterfactual chain is not sufficient in cases similar to the “boulder” case.

Hitchcock’s analysis makes use of what he calls “systems of structural equations” which are construed as ordered pairs  $\langle V, E \rangle$  where  $E$  is a sequence of equations relating the values of the variables (representing conditions<sup>90</sup>) belonging to the set of variables  $V$ . A quick run through the details of these causal models, as described by Hitchcock, is necessary for understanding his analysis.

The elements of  $V$  represent conditions obtaining in (centered) worlds. They can be both exogenous and endogenous variables. Equations with an exogenous variable in the left hand side have the simple form  $X = x$ , where  $x$  is the actual numerical value for  $X$ . (If  $X$  is a binary variable then  $X = 1$  or  $X = 0$  depending on whether or not  $X$  obtained.) Equations with an endogenous variable on the left hand side express the value of this variable as a function of the value of other variables in  $V$ . This latter class of equations encodes counterfactual dependences. Hitchcock upholds Lewis’s “no-backtracking-counterfactuals” restriction in his analysis of causation. So, the switching of the variables from one side of the equation to another is not permitted.

The structural equations use sentential symbols to represent relations between variables. So,

$$\neg X \equiv 1 - X$$

$$X \vee Y \equiv \max [X, Y]$$

$$X \wedge Y \equiv \min [X, Y]$$

If a variable  $Y$  appears on the right hand side of an equation with an endogenous variable  $X$  on the left hand side, then  $Y$  is a *parent* of  $X$ . The system of

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<sup>90</sup> In Hitchcock’s analysis the variables in  $V$  represent properties or eventualities, but my switch to talk of conditions will not affect the analysis since there is no relevant difference between conditions as understood here and eventualities in Hitchcock’s sense.

the structural equations is given a graphical representation. The *nodes* in the graph are elements of the set of variables  $V$ . An *arrow* is drawn from a variable-representing node  $X$  to a variable-representing node  $Y$ , if  $X$  is a parent of  $Y$ . “A *route* between two variables  $X$  and  $Z$  is an ordered sequence of variables  $\langle X, Y_1, Y_2, \dots, Y_n, Z \rangle$  such that each variable in the sequence is in  $V$  and is a parent of its successor in the sequence.” A route between  $X$  and  $Z$  is graphically represented by a *directed path* which is a sequence of arrows lined up tip to tail connecting  $X$  with  $Z$ . A variable  $Z$ , which is distinct from both  $X$  and  $Y$  is an *intermediate* variable between  $X$  and  $Y$  if it belongs to some route between  $X$  and  $Y$ .

How do structural equation systems help Hitchcock deal with problem cases such as “the boulder case” within the framework of the counterfactual theory of causation? To illustrate Hitchcock’s proposal let us represent the causal structure of the “boulder” case using the structural equations apparatus developed so far. The causal graph for “the boulder case” is depicted in Figure 1 below.

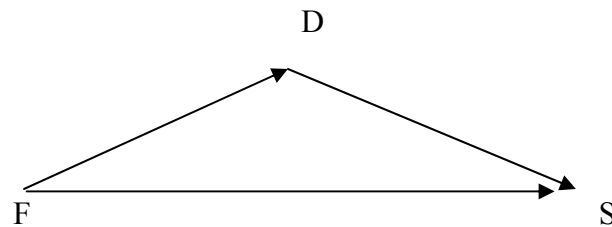


Figure 1

$F=1, 0$  depending on whether or not the boulder falls.  $D=1, 0$  depending on whether or not the Hiker ducks.  $S=1, 0$  depending on whether or not the Hiker survives. The set of structural equations  $E$  is the following:

$$F=1; D=F; S = \neg F \vee D^{91}$$

Given this set of structural equations, we can determine the value for S.

$$D=1$$

$$S = \max [\neg F \vee D]$$

$$S = \max [0, 1]$$

$$S=1$$

Hitchcock's central proposal is the following:

Let  $c$  and  $e$  be distinct occurrent [conditions], and let  $X$  and  $Z$  be variables such that the values of  $X$  and  $Z$  represent alterations of  $c$  and  $e$  respectively. Then  $c$  is a cause of  $e$  if and only if there is an **active causal route** from  $X$  to  $Z$  in an appropriate causal model  $\langle V, E \rangle$ . (Hitchcock, 2001a: 286)

A route from  $X$  to  $Z$  is *active* in the causal model in question if and only if  $Z$  depends counterfactually upon  $X$  within a new system of equations  $E1$  constructed from  $E$  as follows: for all variables  $Y$  such that they are *intermediate* between  $X$  and  $Z$  but do not belong to this route, we replace the equation for  $Y$  with one that sets  $Y$  equal to its actual value in  $E$ . (If there are no intermediate variables that belong to this route, then  $E1$  is just  $E$ .)

Going back to the “boulder case” The direct route from  $F$  to  $S$ ,  $\langle F, S \rangle$  is not active, because holding  $D$  fixed at its actual value ( $D = 1$ ), and changing the value of  $F$  from 1 to 0, the value of  $S$  ( $S = \max [\neg F \vee D]$ ;  $S = \max [1 - 0, 1]$ ) remains the same as before, namely 1. Intuitively, if the Hiker had ducked while the boulder had not fallen

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<sup>91</sup> In words: the boulder falls; if the boulder hadn't fallen, the hiker wouldn't have ducked; if the boulder had fallen and the hiker hadn't ducked, the hiker would not have survived.

the Hiker would have survived. So,  $S$  doesn't counterfactually depend on  $F$  along this route. If we consider route  $\langle F, D, S \rangle$  we see that there are no intermediate variables to hold fixed along other routes. If the value of  $F$  changes from 1 to 0, the value of  $D$  changes from 1 to 0, but the value of  $S = \max [-F \vee D]$  ( $S = \max [1 - 0, 0]$ ) remains the same, namely 1. Thus,  $S$  doesn't counterfactually depend on  $F$  along this route either. Intuitively, if the boulder hadn't fallen, then the Hiker's life wouldn't have even been put at risk, i.e., he would have survived. According to Hitchcock's analysis of token-level causation, the fact that there are no active routes from  $F$  to  $S$  is sufficient for concluding that the boulder's fall didn't cause the Hiker's survival.

The advantage of Hitchcock's analysis of token-level causation consists in its ability to better track the pronouncements of common sense regarding causal facts in problematic cases.<sup>92</sup> The analysis also gives the right verdict in "back-up" cases like the "assassin" case and Kvart's case introduced earlier. The details are sketched in the Appendix.

If Dretske's analysis of primary seeing is modified in the way suggested in the previous section, and if the causal relation invoked in (3\*) is cashed out in the way developed by Hitchcock, then seeing that  $p$  doesn't entail knowing that  $p$ .

**1.4 The Barn façade case.** To see why consider the following well-worn case.

Barn façade case: Henry is driving in the countryside with his son. Identifying various objects in the landscape as they come into view, they drive by a barn and Henry says to his son "that's a barn". He has no doubt about the fact that the object in view is a barn; it has all the identifying features of barns. It, also, happens that the object in question is actually a barn. Yet, unbeknownst to Henry, the

<sup>92</sup>

See Hitchcock 2001a and Halpern and Pearl 2000 for more evidence.

district he had just entered is full of barn facades, without back walls, or interiors, quite incapable of being used as barns. Does Henry know that the barn that he saw was a barn?

There is some consensus in the literature that the answer is “no”, even though the necessary and sufficient conditions on seeing that the object is a barn are satisfied. Conditions (1), (2) and (4\*) are clearly satisfied: the subject sees the object, the object is a barn, and the subject, taking his barn-appearances to have been caused by the presence of a barn, believes that the object is a barn. To see whether condition (3\*), is satisfied, we must decide on a causal model for the “barn façade” case.

There are two different ways for modeling this case. What’s important is that, as we will see, condition (3\*) is satisfied in both models. We begin with the simplest model.  $B = 1, 0$  depending on whether or not  $b$ , the object Henry sees and points to, is a barn,  $F = 1, 0$  depending on whether or not  $b$  is a barn façade.  $L = 1, 0$  depending on whether or not it looks to Henry as if the object he sees is a barn. In one understanding of the “barn façade” case, conditions are such that if  $b$ , the object Henry saw, weren’t a barn, it would have been a barn-façade. So, the set of equations for this case will be  $E: B=1, F=\neg B, L = B \vee F$ . The graphical representation of the case is depicted in Figure 2 below:

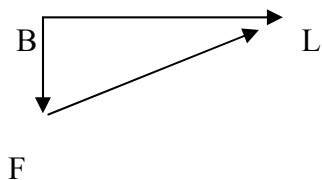


Figure 2

The values of our variables in  $E$  are the following:  $B = 1, F = 0, L = 1$ . The direct route from  $B$  to  $L$  is active for if we change the value of  $B$  from 1 to 0 holding the value of  $F$  fixed ( $F = 0$ ), we get the following new set of equations  $E^*: B=0, F=0,$

$L=0$ . So,  $L$  counterfactually depends on  $B$  along  $\langle B, L \rangle$ , which according to Hitchcock's definition means that there is an active route from  $B$  to  $L$ , and hence that the condition represented by  $B$  causes the condition represented by  $L$ . According to the analysis, requirement (3\*) for seeing that  $b$  is a barn is satisfied in this model: the condition that  $b$  is a barn *causes* the way that  $b$  looks to  $S$ .

A second way of modeling the "barn façade" case is suggested by considering that the counterfactual, if  $b$  weren't a barn it would have been a barn façade, is not clearly true in this case.<sup>93</sup> As far as we are told, it's quite possible that if  $b$  weren't a barn it would have been a nursery, or perhaps a shooting range. What's true is that (1) if  $b$  weren't a barn, then Henry wouldn't have seen a barn and (2) if he hadn't seen a barn he would have seen a barn façade. Neither (1) or (2) tell us what  $b$  would have been if it hadn't been a barn. If this is how we understand the case then we need two extra variables for the two new conditions that we need to represent. The two conditions are the condition that Henry sees a barn (represented below by the variable  $E$ ) and the condition that Henry sees a barn-façade (represented below by the variable  $G$ ). The set of structural equations in this model would be the following.  $E: B = 1$  ( $b$  is a barn),  $E = B$  (first counterfactual),  $G = \neg E$  (second counterfactual),  $L = G \vee E$  (if Henry hadn't seen a barn or a barn façade it wouldn't have looked to Henry as if he saw a barn). The graphical representation of the case is depicted in Figure 3 below:

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<sup>93</sup> Thanks to Zach Abrahams for pressing me to think of another way for modeling this case.

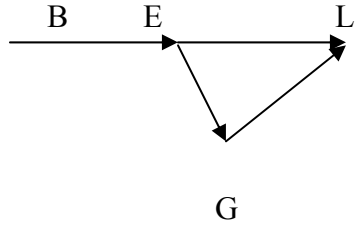


Figure 3

Solving the equations in E we get the following values:  $B = 1$ ,  $E = 1$ ,  $G = 0$  and  $L = 1$ . To see whether there is an active route from B to L we need to see whether the value of L changes, if we change the value of B from 0 to 1, along one of the routes, if we keep the values of intermediate variables fixed along the other routes. Route  $\langle B, E, L \rangle$  is active: if we change the value of B from 1 to 0, while keeping the value of G along the  $\langle B, E, G, L \rangle$  route fixed at the value 0, the value of L changes from 1 to 0.<sup>94</sup> Since route  $\langle B, E, L \rangle$  is active the condition represented by B causes the condition represented by L even in this second model. So, condition (3\*) is satisfied in this case as well: the condition that  $b$  is a barn causes the way,  $L$ , that  $b$  looks to S.

Which of these two models best represents the “barn-façade” case? For the moment, the answer doesn’t much matter. Since condition (3\*) is satisfied in both models—together with conditions (1), (2) and (4\*)—according to our analysis, Henry sees that the edifice is a barn in the “barn-façade” case. Yet, intuitively, he doesn’t know that it is a barn. In other words, if our analysis of primary seeing is correct, the “barn façade” case is a counterexample to *K-Entailment*.

However, the distinction highlighted by the two models will turn out to be important. To get a better grasp of this distinction consider a variant of the “assassin” case introduced earlier. In this variant Trainee and Supervisor both shoot at the same

<sup>94</sup> If we change the value of B from 1 to 0, the value of E changes from 1 to 0 and thus the value of  $L = \max[G, E]$  changes from 1 to 0.



time, but Trainee's bullet reaches Victim's chest a split second before Supervisor's bullet. If Trainee's bullet hadn't killed Victim, Supervisor's bullet would have. The original "assassin" case and the new variant just introduced illustrate an important distinction highlighted by David Lewis: that between early and late preemption: "[i]n early preemption the process running from the preempted alternative is cut off well before the main process running from the preempting cause has gone to completion." (1986: 200) This is not the case with late preemption where "the alternative is cut off...by the continuation of the main process beyond the effect." (1986: 2003) As L. A. Paul explains, in the case of late preemption "the alternative causal process runs more slowly than the main process, so that the alternative process is cut off by the effect itself. If the preempted cause had been left to produce the effect, the effect would have been delayed." (1998: 192)

Going back to our two models of the barn façade case, in the first model the process of seeing a barn façade is cut off early by the fact that *b* is a barn. In the second model, the process of seeing a barn façade is cut off late by the effect of seeing *b* (the barn) rather than the building next door, a barn façade. Hence, according to the first model, the "barn façade" case, like Kvat's "back-up" case, is a case of early preemption. According to the second model, unlike Kvat's case, the "barn façade" case is a case of late preemption.

The distinction is important, for the defender of *K-Entailment* can argue as follows: early preemption cases like Kvat's "back-up" case are in fact cases where one both knows and sees that the relevant *b* is *P*. On the other hand, both knowing and primary seeing are absent in cases of late preemption. The "barn façade" case is best modeled as a late preemption case and thus is relevantly different from the "back-up" case. Hence, any analysis of primary seeing that groups these two cases in the same

category is incorrect. This is a plausible objection. In fact, I will assume that the objection is correct in the second part of the chapter.

However, if we assume that our analysis of primary seeing is correct, we have good reasons to think that *K-Entailment* is false. To summarize, we have (1) isolated an FSA  $\Phi$ , i.e., seeing that  $p$ ; (2) we have isolated a set of sufficient conditions for the obtaining of  $\Phi$ ; and (3) we have shown that this set of conditions obtains in some cases where the relevant knowledge condition doesn't. Hence, there are some cases where for some FSA  $\Phi$ ,  $S \Phi$ s that  $p$  but doesn't know that  $p$ . If this conclusion is correct then the generalization we set out to disprove at the beginning, *K-Entailment*, is false. The next section develops the second straightforward strategy for arguing against *K-Entailment*.

**1.6 The second strategy.** In this section we continue to focus our attention on the condition that one sees that  $p$  (for some proposition  $p$ ). The plan is to consider several candidate requirements for knowing that  $p$  and then show that there are cases where the requirements are not satisfied and yet the condition that one sees that  $p$  obtains in these cases. If this conclusion is true, and if any of these requirements is in fact a necessary condition for knowledge then *K-Entailment* is false.

This particular strategy for arguing against *K-Entailment* has an important drawback. There are certain conditions that uncontroversially must be satisfied in order for one to know that  $p$ : the two obvious ones are the condition that one believes that  $p$  and the condition that  $p$  is true. However, these are also generally thought to be conditions that must be satisfied in order for one to see that  $p$ .<sup>95</sup> On the other hand, there are certain other conditions that *need not* be satisfied in order for one to see that

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<sup>95</sup> In the case of the truth condition, this is trivially true by the Factivity requirement for FSAs. See (Dretske 1969) for a defense of the belief requirement. (Kvart 1993) and (Williamson 2000) also indirectly endorse the belief requirement.

$p$  or, so I will argue. But it is a controversial matter whether such conditions need to be satisfied in order for one to know that  $p$ . I plan to discuss two such conditions: what have come to be known in the literature as the *sensitivity* and the *safety* requirements for knowledge.

The most famous formulation of the sensitivity requirement is the one proposed by Robert Nozick (1981)<sup>96</sup>:  $S$  knows that that  $p$  only if, if  $p$  were not true,  $S$  would not believe that  $p$ . Nozick himself (1981: 179), and following him many others, have pointed out that the sensitivity requirement formulated in this way faces certain counterexamples. The following is a counterexample offered by John Hawthorne (2004: 34)<sup>97 98</sup>:

“*Cats and Dogs*”: Suppose a real dog and a fake cat are in a room, the former keeping the latter from view. I look at the dog and form the belief that there is a dog in the room. From this I infer there is an animal in the room. Suppose further that if there hadn’t been a dog in the room, I would have seen the fake cat and formed the belief that it was a (real) animal. Then my belief that there is a dog in the room passes the Nozick test, but my belief that there is an animal in the room does not.

Hawthorne’s belief that there is an animal in the room doesn’t pass Nozick’s test because the counterfactual, *if there were no animal in the room*, Hawthorne

<sup>96</sup> Nozick calls this the “variation” requirement for knowledge. He ultimately rejects this condition in his final analysis.

<sup>97</sup> Nozick offers a similar counterexample to the sensitivity requirement, the “grandmother” case quoted earlier in this chapter. The suggestion is that the variation condition is violated in this case: if the grandson were sick or dead, the grandmother would have still believed that he was well based on the testimony of others. Nozick, famously, appeals to methods to solve the problem: if the grandson was not well, and the grandmother were to use *the same* method (visual inspection) to come to a belief whether or not he was well, then she would not believe that he was well by that method. This solution has come under attack for reasons that I discussed earlier in this chapter: suffice it to say that Nozick’s way of individuating methods “from the inside” – “by the differences a person would notice” – faces further counterexamples. (Nozick 1981: 233) [See (BonJour 1984) (Brueckner 1984) and (Williamsons 2000: 154) for counterexamples to the solution involving Nozick’s way of individuating methods.]

<sup>98</sup> I am using Hawthorne’s counterexample instead of Nozick’s, because the former allows for modifications that go hand in hand with an attempt to fix the sensitivity requirement. I discuss this attempt below.

wouldn't believe there was one, is false. If there were no animal in the room, Hawthorne would have believed that there was an animal in the room after seeing the fake cat. Hence the sensitivity requirement, as formulated by Nozick, is violated in the case of Hawthorne's belief that there is an animal in the room, even though intuitively Hawthorne knows that there is an animal in the room. Conclusion: knowledge doesn't require the satisfaction of the sensitivity requirement as formulated by Nozick.

Fred Dretske tries to fix the sensitivity requirement by appealing to one's *reasons* for believing the proposition in question: *S* knows that *p* only if *S* has *conclusive reasons* for *p*. Reasons *R* are conclusive reasons for *p* if and only if (crudely) *S* wouldn't have reasons *R* unless *p* was true.<sup>99</sup> In summary, *S* knows that *p* only if *S* believes *p* based on reasons *R*, and *S* wouldn't have reasons *R* unless *p* was true. Dretske's version of the sensitivity requirement is consistent with the intuition that Hawthorne knows that there is an animal in the room in "cats and dogs": the requirement is not violated vis-à-vis the belief that there is an animal in the room. Here is Hawthorne's explanation of the advantage of Dretske's formulation of sensitivity:

Suppose one's reasons for believing that there is an animal in the room are one or both of: (a) doggish experiences; (b) the belief that there is a dog in the room. If there were no animal in the room one would not have had *those* reasons for believing there to be an animal in the room (though one might have had others). So, one has conclusive reasons for believing that there is an animal in the room. (Hawthorne 2004: 35)

We don't need to look very far to see that the advantage of Dretske's account might not be *that* significant. Consider the following case:

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<sup>99</sup> This is how Dretske's version of the sensitivity requirement is often interpreted in the literature. See (Fogelin 1994) and (Hawthorne 2004: 34-35) for this interpretation. I am going to go along with this interpretation for now, even though I am not fully convinced that it is the correct one.

*“Just Dogs”*: Just like Cats and Dogs, except what is kept from view by the real dog is a fake dog, indistinguishable from the real dog by visual inspection; and if there hadn’t been a dog in the room, Hawthorne would have seen the fake dog and inferred that there was an animal in the room.

I take it that just like in “cats and dogs”, in “just dogs”, Hawthorne’s reasons for believing that there is an animal in the room are one or both of: (a) doggish experiences; (b) the belief that there is a dog in the room. Yet, if there were no animal in the room, Hawthorne would have still had *those* very reasons for believing there was an animal in the room. (Remember, one’s experiences of seeing the fake dog would be “doggish experiences”, i.e., the same experiences Hawthorne has when he sees the real dog, for by the stipulation of the case the real and fake dogs are visually indistinguishable.) So, the sensitivity requirement as formulated by Dretske is violated. The question is whether the subject knows that there is an animal in the room in “just dogs”. The answer is not clear.

On the one hand, it would be strange if the replacement of a fake cat with a fake dog, neither of which Hawthorne can see, made a difference to whether or not he knows that there is an animal in the room. This consideration might lead one to conclude that, just like in “cats and dogs”, in “just dogs”, Hawthorne knows that there is an animal in the room. If this is so, then the sensitivity condition, as formulated by Dretske, is incorrect: one can know even if the sensitivity requirement is not satisfied.

On the other hand, there is an asymmetry between “cats and dogs” and “just dogs”. Intuitively, one knows that there is a dog in the room in “cats and dogs.” It is not so clear whether this is true in “just dogs”. One might argue that with regard to the belief that there is a dog in the room “just dogs” is similar to “barn façade”: the subject’s knowledge that there is an *F* here (where *F* stands for barn/dog) is

undermined by the presence of fake *F*s in the vicinity.<sup>100</sup> If one doesn't know that there is a dog in the room, one's belief that there is an animal in the room, in so far as the latter is based on the former, might fall short of knowledge as well.

If the sensitivity requirement as understood by Dretske is correct, and if, as argued earlier, "back-up" cases are cases of successful seeing that *b* is *P*, then *K-Entailment* is false; for one's belief in a "back-up" case is not Dretske-sensitive. To see why, consider again the subject in Kvat's case. It is false that the subject in Kvat's case has conclusive reasons (in Dretske's sense) for believing that *b* is shivering: if *b* weren't shivering the back-up mechanism would have kicked in and the subject would have had the same reasons for believing that *b* is shivering. In other words, there are cases where one sees that *p* but the belief one forms is not Dretske-sensitive. Hence, if Dretske-sensitivity is in fact a requirement for knowing that *p*, *K-Entailment* is false, because there are cases where one sees but doesn't know that *p* for some proposition *p*.

But perhaps Dretske's sensitivity requirement is not correct. There is a growing suspicion among epistemologists that the modal requirement for knowledge is different from, though easily confused with, sensitivity. A new candidate requirement has been proposed, what has come to be known in the recent literature as the *safety* requirement for knowledge.<sup>101</sup> According to the *safety* requirement, if one knows that *p*, then "one could not *easily* have been wrong in a similar case."

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<sup>100</sup> Gendler and Hawthorne (2005: 337) suggest a principle that draws a distinction between "barn façade" and "just dogs". They call it the "Gaze Principle": [c]andidate defeaters are relevant in cases where we leave the world as it is, altering the observer's perceptual orientation within it, and irrelevant in cases where we leave the observer's perceptual orientation as it is altering only features of the world around her. In the first sort of case, one might say, the defeaters are there, but the observer's gaze happens not to fall upon them; in the second sort of case, her gaze is there, but the defeaters on which it might have fallen happen not to be around." In "barn façade", Henry is driving and thus continuously changing his perceptual orientation while Hawthorne, in "just dogs", is (presumably) standing still, and thus not changing his perceptual orientation.

<sup>101</sup> See (Sosa 1999 and 2004), (Williamson 2000), (Pryor 2004), (DeRose 2005), (Cohen 2005) for discussions of different versions of the safety requirement.

(Williamson 2000: 147) (emphasis mine) Understood in this rough and ready way, *safety* seems to explain why one knows in “cats and dogs” but doesn’t know in “barn-façade”: Hawthorne could not *easily* have been wrong in believing that there is an animal in the room, but Henry could easily have been wrong in believing that the building was a barn.

Different epistemologists propose different ways of formulating the safety requirement. Here is a popular formulation proposed by Ernest Sosa (2004: 40): The belief that  $p$  “is *safe* [if and only if] it is based on an experiential reason  $\langle r \rangle$  such that  $r \rightarrow p$ . (Where  $x \rightarrow y$  is short for ‘It would be so that  $x$  only if it were so that  $y$ ’.)”<sup>102</sup>

It is not clear how to understand the safety condition as formulated by Sosa. One way to understand the conditional  $r \rightarrow p$  in the safety clause is as a counterfactual conditional with a true antecedent: the subject does in fact have reasons  $r$  for believing  $p$ . According to the standard semantics for counterfactuals (Lewis 1973: 26) “a counterfactual with a true antecedent is true if and only if the consequent is true.” So, according to the standard semantics for counterfactuals, the safety condition, thus understood, is satisfied every time the subject believes something true. Sosa and the other defenders of the safety requirement do not expect us to employ the standard semantics for counterfactuals in evaluating the conditional “ $r \rightarrow p$ ” in the safety clause. Otherwise, one’s belief that *George Bush is American*, when based on the reason  $r$ : *George Carlin is American*, will count as safe, and this is not the intended result. The intended result is the following: one’s belief that  $p$  (based on experiential reasons  $r$ ) is *safe* if and only if one has reasons  $r$ , and  $p$  is true not just in the actual

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<sup>102</sup> Sosa points out that the sensitivity requirement advanced by Dretske involves the contraposition of the conditional  $r \rightarrow p$ , that appears on the right hand side of the biconditional in the safety clause: the belief that  $p$  “is *sensitive* [if and only if] it is based on an experiential reason  $\langle r \rangle$  such that  $\sim p \rightarrow \sim r$ . He also suggests that the unfortunate attraction of the sensitivity requirement derives “from how easy it is to assume, falsely, that strong conditionals contrapose.” (Sosa 1999, 2004: 40)

world but “in a range of nearby possible worlds as well.”<sup>103</sup> As it stands the proposal is uninformative.<sup>104</sup> The question is what fixes the relevant range of nearby possible worlds.<sup>105</sup> This question doesn’t seem to have an answer independent of our intuitions about knowledge.

To summarize, the sensitivity requirement for knowledge as formulated by Dretske is both informative and plausible. But if it’s true then *K-Entailment* is false. The safety requirement, on the other hand, is too uninformative to be useful in disciplining our discussion of cases where the obtaining of the knowledge condition is in question. The next section sketches an important objection to the straightforward argument against *K-Entailment*.

**1.7 Summary of the straightforward argument.** The straightforward argument against *K-Entailment* tries to show that a particular factive, stative attitude—seeing that *p* (for some proposition *p*)—obtains in some cases where the corresponding knowledge condition doesn’t. The conclusion that there are such cases can be resisted. With regard to the first strategy (see Sections 1.2-1.5) one might argue that the condition uniquely characterized by our analysis of primary seeing is not identical to the condition that one sees that *b* is *P*. One way of motivating this objection has already been suggested: the distinction between early and late preemption is epistemically significant. Even though one both sees and knows that the relevant *b* is *P* in a “back-

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<sup>103</sup> The quote is from (Pryor 2004: 69).

<sup>104</sup> As far as I can see, the clearest account (though perhaps not the most plausible) is that offered by Nozick. According to Nozick when dealing with counterfactual conditionals with true antecedents the “remedy [is to say that]... $p \rightarrow q$  is true if and only if  $q$  is true in all the  $p$  worlds closer (by the metric) to the actual world than is any not- $p$  world.” (1981: ) But as Pryor (2004: 69-70) has argued this response seems to render the safety requirement very weak; in some plausible similarity metrics Henry’s belief that the object is a barn satisfies this requirement in the “barn-façade” case.

<sup>105</sup> For sophisticated discussions of this issue see (Sainsbury 1997), (Williamson 2000: 123-128), (Pryor 2004) and (Sosa 2004: especially footnotes 4 and 5).



up” case, one falls short of both achievements in a “barn-façade” case, for in the former case the belief one forms on visual grounds couldn’t have easily been false: the back-up process by which one would have formed a false belief is cut off way before the normal visual process produces the relevant true belief. Things are different in a “barn-façade” case: there the *fall-back* process that would have produced a false belief is cut off much later by the *actual* process’s production of the true belief. In this later case the belief one forms on visual grounds could have easily been false, because it could have easily been the product of a causal process involving a barn façade rather than a barn. In fact the objector might suggest that the distinction between early and late preemption is a useful way of capturing the safety requirement for knowledge in cases of primary seeing.

As with regard to the second strategy, the defender of *K-Entailment* might very well concede that Dretske-sensitivity is not a requirement for knowledge. So, even though one sees that the relevant *b* is *P* in a “back-up” case, one also knows that fact, despite it being the case that one’s belief is not Dretske-sensitive.

This objection is plausible: it concedes that “back-up” cases are cases of successful seeing (and knowing) that the relevant *b* is *P*. But it rejects our analysis of primary seeing on the grounds that it is too weak: the analysis classifies as cases of primary seeing, “barn-façade” cases where one neither knows nor sees that the relevant *b* is *P*.

Let’s suppose that our account is incorrect as an analysis of primary seeing. Is the condition uniquely characterized by our account—call it condition  $\Psi$ —nonetheless a factive, stative attitude? In order to answer this question we need a formal account that would give substance to the category of factive, stative attitudes.

**2.1 A formal account of the FSA category.** A formal account of FSAs is provided by

Timothy Williamson<sup>106</sup> (2000: 34-37). According to Williamson “we can give substance to the category of factive, stative attitudes by describing its realization in a natural language,” in our case English. (2000: 34) FSAs are expressed by what Williamson calls “a factive mental state operator” (FMSO). FMSOs have the following four characteristics:

- **Factivity.** FMSOs are factive in the sense that for every FMSO, *A*, the inference from “*S* As that *p*” to “*p*” is deductively valid. (Williamson 2000: 35)
- **Stativity.** FMSOs are stative in the sense that “they are used to denote (mental) *states*.” (Williamson 2000: 35)
- **Propositional Attitude Ascription.** For every FMSO, *A*, “*S* As that *p*” entails “*S* grasps the proposition that *p*.”<sup>107</sup>
- **Semantic Unanalysability.** An FMSO is *semantically unanalysable* in the sense that “it is not synonymous with any complex expression whose meaning is composed of the meanings of its parts.” (Williamson: 34-35).

A quick word about the first three characteristics. According to Williamson (2000: 35), if “*A*” is an FMSO, “*S* As that *p*” has “*p*” as a deductive consequence, “not merely as a cancelable presupposition.” In other words, the sentence “*S* falsely As that *p*” (where “*A*” is an FMSO) expresses a contradiction.

FMSOs denote mental *states*. Certain linguistic tests are meant to capture the contrast between expressions denoting states and those denoting other “eventualities”<sup>108</sup>—events and processes. The distinction between states and processes

<sup>106</sup> This paragraph consists in a summary of Williamson’s account.

<sup>107</sup> As indicated earlier, the distinction between the two constructions is also pointed out by Dretske (1969). For Dretske the two constructions express two different cognitive achievements; in the case of *seeing*, *epistemic* and *non-epistemic* seeing. Epistemic seeing requires Betty to grasp (in Dretske’s case also *believe*) the proposition that the barn is red.

<sup>108</sup> The generic term “eventualities” was introduced by Bach (1986) to cover events, states and processes.

is marked by the impropriety of using progressive tenses for expressions denoting states. Compare:

(a) Betty is seeing that the building is a barn. (State)

(b) Betty is proving a difficult theorem. (Process)

Sentence (a) is deviant because unlike “proving”, the construction “sees that” denotes a state.<sup>109</sup>

But as Terence Parsons points out, the contrast between states and all other “eventualities” is perhaps best marked by the impropriety of using *pseudo-clefts* in state-sentences. Compare:

(a) What John did was know the answer. (State)

(b) What John did was run. (Process)

(c) What John did was make a birthday cake. (Event)<sup>110</sup>

Sentence (a), unlike (b) and (c), is deviant.

The qualification “mental” is also important: FMSOs in Williamson’s account do not denote conjunctions of mental and non-mental conditions, even when the latter happen to be states. Here we encounter the first wrinkle: it is not entirely clear whether the verb “believes truly” denotes a *mental* state. This is in part because the condition it denotes passes the test that Williamson uses for arguing that knowledge is a mental condition (2000: chap.3).<sup>111</sup> Suppose that believing truly that *p* is a non-mental condition: the conjunction of a mental and a non-mental component. Then there is some mental condition *C* such that for every case  $\alpha$  if *C* obtains in  $\alpha$ , then there is a case  $\beta$  where one is in the same mental state as in  $\alpha$  and one truly believes *p*. The most plausible candidate for *C* is the condition that one believes *p*. But even this condition doesn’t seem to work in cases where one’s belief is about a particular mental

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<sup>109</sup> See Williamson (2000: 35) and Parsons (1990: 34-35) for further discussion.

<sup>110</sup> The examples are from Parsons (1990: 37).

<sup>111</sup> See the previous chapter, “The Conjunctive Account of Knowing,” for a discussion of Williamson’s test as it applies to the knowledge condition.

condition, for example the condition that one is in pain. Suppose one (falsely) believes that one is in pain in  $\alpha$ . Then there is no case  $\beta$  where one is in the same mental state as in  $\alpha$  and one believes truly that one is in pain, for then one would have to be in pain in  $\alpha$  since one is in the same mental state in both  $\alpha$  and  $\beta$ . But by the stipulation of the case one is not in pain in  $\alpha$ .<sup>112</sup>

It is also crucial to distinguish between two different constructions that use verbs like “see” and “smell” that can be used in FMSO constructions. For example, we must distinguish between “Betty sees *that* the barn is red” and “Betty sees the red barn.” Betty *can* see the red barn, without seeing *that* the barn is red. This is the possibility that the third characteristic calls our attention to. To see *that* the barn is red, Betty’s conceptual repertoire must include the concepts “barn” and “red”. More specifically, Betty must be able to grasp the proposition that the barn is red. The next section discusses the fourth requirement in more detail and raises an objection against it.

**2.2 An objection to the formal account.** The fourth characteristic is both crucial and controversial. It is crucial to the plausibility of an important claim that Williamson makes about FMSOs:

**K-Inference.** For every FMSO,  $A$ , the inference from “ $S$  As that  $p$ ” to “ $S$  knows that  $p$ ” is valid.

Here is why. The verb “believe truly” has the first three characteristics: it is factive, stative, and it passes the test that for every subject  $S$  and proposition  $p$ , “ $S$  believes truly that  $p$ ” entails “ $S$  grasps the proposition that  $p$ .” If the first three characteristics were sufficient for a verb to count as an FMSO then  $K$ -Inference would

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<sup>112</sup> We can certainly decide to dismiss the test as telling, but that just weakens the case for the thesis that knowledge is a mental condition. Conversely, it strengthens the case for the thesis argued in this dissertation: knowledge is a conjunction of a mental and a non-mental component. I am inclined to think that the test is relevant; but if it isn’t, the case for the conjunctive account of knowing is even stronger.

be false: the inference from “S believes truly that *p*” to “S knows that *p*” is not valid. “The condition of semantic unanalysability ensures that ‘believe truly’ does not count as an FMSO.” (Williamson 2000: 39)

Is the fourth requirement correct? There is no obvious reason for thinking that there is a connection between semantic unanalysability and an expression being a FMSO.<sup>113</sup> This is in stark contrast with the other requirements. The other three requirements are metaphysically anchored in the sense that they track certain natural distinctions that we believe exist in the world: the distinction between bearing a relation to a true as opposed to a false proposition; the distinction between states, events and processes; and that between the condition that one grasps, or understands a proposition and the condition that one fails to do so. What is the metaphysical distinction marked by semantic unanalysability?

As we saw earlier, the requirement doesn’t seem to track the distinction between *mental* and *non-mental* conditions: factive, stative attitudes expressed by constructions that are (allegedly) semantically *unanalysable* are *mental*, but then so it seems is the condition expressed by the semantically analyzable expression “believing truly that *p*.” Does the requirement track the distinction between *prime* and *composite* conditions?<sup>114</sup> Again the answer seems to be “no”. Factive, stative attitudes expressed by constructions that are (allegedly) semantically *unanalysable* are *prime* but so it

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<sup>113</sup> See Reed (forthcoming) for a full discussion of this point.

<sup>114</sup> I want to quickly remind the reader of the distinction between prime and composite conditions. For Williamson a case  $\alpha$  is *internally* like a case  $\beta$  if and only if the total physical state of the agent in  $\alpha$  is exactly the same as the total physical state of the agent in  $\beta$ . A condition is *narrow* if and only if for any two cases  $\alpha$  and  $\beta$ , where  $\alpha$  is internally like  $\beta$ , the condition obtains in  $\alpha$  if and only if the condition obtains in  $\beta$ . On the other hand a case  $\alpha$  is *externally* like a case  $\beta$  if and only if the total physical state of the external environment in  $\alpha$  is exactly the same as the total physical state of the external environment in  $\beta$ . A condition is *environmental* if and only if for any two cases  $\alpha$  and  $\beta$ , where  $\alpha$  is externally like  $\beta$  the condition obtains in  $\alpha$  if and only if the condition obtains in  $\beta$ . A condition is *composite* if and only if it is the conjunction of some narrow and some environmental condition. A condition is *prime* if and only if it is not composite. The distinction is introduced by Williamson (2000). It is also summarized in Chapter 2.

seems is the condition expressed by the semantically analyzable expression “believing truly that  $p$ ”: the condition that one believes truly that  $p$  passes Williamson’s test for primeness. The argument is sketched below.

According to Williamson (1998: 392, 409) we can show that a condition  $C$  is prime “simply by exhibiting three cases  $\alpha$ ,  $\beta$ , and  $\gamma$  such that  $\gamma$  is internally like  $\alpha$  and externally like  $\beta$  and  $C$  obtains in  $\alpha$  and  $\beta$ , but not in  $\gamma$ ...Conversely  $C$  is composite if no such triple of cases exists.” Williamson shows that the relevant triple of cases exists for the condition that one believes that  $p$ , (for some proposition  $p$ ). (1998: 394): For some case  $\alpha$  and some case  $\beta$ , one believes that  $p$  in both  $\alpha$  and  $\beta$ , but not in a case  $\gamma$ , where  $\gamma$  is internally like  $\alpha$  and externally like  $\beta$ . The argument assumes content externalism, but clearly doesn’t depend on the choice of  $p$ , or the fact that one *falsely* believes  $p$  in  $\alpha$  and  $\beta$ . So, one can very well believe truly that  $p$  in the  $\alpha$  and  $\beta$  that Williamson describes and fail to truly believe  $p$  in  $\gamma$ , by failing to believe  $p$  in  $\gamma$ . The existence of a triple of cases  $\alpha$ ,  $\beta$ , and  $\gamma$ , such that one believes truly that  $p$  in  $\alpha$  and  $\beta$ , but not in  $\gamma$  (where  $\gamma$  is internally like  $\alpha$  and externally like  $\beta$ ) guarantees, according to Williamson’s test, the status of true belief as a *prime* condition. But perhaps the requirement of semantic unanalysability tracks a slightly different distinction. I try to develop this distinction below.

Suppose we define *internal likeness* slightly differently from Williamson: internal likeness doesn’t require sameness in the total internal physical state of the agent, but sameness in one’s representational states. So, two cases  $\alpha$  and  $\beta$  are *internally\** alike if and only if one has the same *non-factive* mental states (to the same degree) in both cases: the same beliefs, experiences, apparent memories and so on.<sup>115</sup> Say that a condition  $C$  is *internal\** if and only if for every pair of cases  $\alpha$  and  $\beta$  such

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<sup>115</sup> The subjects in these two cases are what Nico Silins (2005) calls “internal twins”. See also Wedgwood (2002)

that  $\alpha$  is internally\* like  $\beta$ ,  $C$  obtains in  $\alpha$  if and only if  $C$  obtains in  $\beta$ . Two cases  $\alpha$  and  $\beta$  are *externally\** alike if and only if they are the same in all non-representational respects (including certain physical conditions obtaining within the subject's skin). Say that a condition  $C$  is *external\** if and only if for every case  $\alpha$  and  $\beta$  such that  $\alpha$  is externally\* like  $\beta$ ,  $C$  obtains in  $\alpha$  if and only if  $C$  obtains in  $\beta$ . A condition is *composite\** if and only if it is the conjunction of an internal\* and an external\* condition. A condition is *prime\** if and only if it is not composite\*. The suggestion is that the requirement of semantic unanalysability tracks the distinction between prime\* and composite\* conditions.

There is some initial plausibility to the suggestion that the requirement of semantic unanalysability tracks the distinction between prime\* and composite\* conditions. So, for example, the condition that one truly believes  $p$  is not prime\*. Proof<sup>116</sup>: Suppose there is a triple of cases  $\alpha$ ,  $\beta$  and  $\gamma$  (where  $\gamma$  is internally\* like  $\alpha$  but externally\* like  $\beta$ ) such that one truly believes  $p$  in both  $\alpha$  and  $\beta$ , but not in  $\gamma$ . Now,  $p$  is either about some internal\* condition, some external\* condition, or some composite\* condition in  $\gamma$ . So if  $p$  is false then some internal\*, or some external\*, or some composite\* condition  $C$  doesn't obtain in  $\gamma$ .  $C$  can't be an internal\* condition, for  $\gamma$  is internally\* like  $\alpha$ , and  $p$  is true in  $\alpha$ .  $C$  can't be an external\* condition, for  $\gamma$  is externally\* like  $\beta$  and  $p$  is true in  $\beta$ . Suppose  $C$  is a composite\* condition, the conjunction of the internal\* condition  $I$  and external\* condition  $D$ . Then  $I \wedge D$  obtains in both  $\alpha$  and  $\beta$ . But since  $\gamma$  is internally\* like  $\alpha$  then  $I$  obtains in  $\gamma$  and since  $\gamma$  is externally\* like  $\beta$  then  $D$  obtains in  $\gamma$  and since both  $I$  and  $D$  obtain in  $\gamma$  then their conjunction,  $I \wedge D$ , obtains in  $\gamma$ . So,  $C$  cannot be composite\* either. So, there is no condition  $C$  that can obtain in both  $\alpha$ ,  $\beta$  but not in  $\gamma$ . So, there is no proposition  $p$ , such

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The first thing to notice is that now we have to hold the belief condition steady in all three cases: if one truly believes that  $p$  in  $\alpha$  and  $\beta$ , then one believes that  $p$  in  $\gamma$ , for otherwise  $\gamma$  would be internally\* unlike both  $\alpha$  and  $\beta$ .

that one truly believes that  $p$  in both  $\alpha$ ,  $\beta$  but not in  $\gamma$ . Hence, the condition that one believes truly that  $p$  is composite\*.

But there is trouble down the road. Our semantically analyzable expression “ $\Psi$ ” turns out to denote a prime\* condition. Again, we can show that a condition  $C$  is prime\* if there is a triple of cases  $\alpha$ ,  $\beta$  and  $\gamma$  (where  $\gamma$  is internally\* like  $\alpha$  and externally\* like  $\beta$ ), and  $C$  obtains in both  $\alpha$  and  $\beta$  but not in  $\gamma$ . Now suppose that in  $\alpha$  Henry is again in barn façade country looking at the only barn,  $b$ , once with his left eye and once with his right eye. His left eye is in good working order, but a strange brain lesion blocks him from processing the visual input from the right eye, as anything other than “ $x$  is a barn” for every object  $x$  that Henry sees through the right eye. Henry trusts the information he receives from his left eye, but not his right eye, and thus comes to believe that  $b$  is a barn. In  $\beta$  Henry is again in barn façade country looking at the only barn,  $b$ , once with his left eye and once with his right eye. In  $\beta$  his right eye is in good working order, and a strange brain lesion blocks him from processing the visual input from the left eye, as anything other than “ $x$  is a barn” for every object  $x$  that Henry sees through the left eye. Henry trusts the information he receives from his right eye, but not his left eye, and thus comes to believe that  $b$  is a barn. Case  $\gamma$  is internally\* like  $\alpha$  (it looks to Henry through both eyes as if  $b$  is a barn and Henry trust his left eye rather than his right eye) but externally\* like  $\beta$ : it is his right eye that is in good working order, and it is his left eye that is impacted by the brain lesion.

This case shows that the condition uniquely characterized by our four requirements—condition  $\Psi$ —is prime\*. The four conditions are satisfied in both  $\alpha$  and  $\beta$ , but they are not all satisfied in  $\gamma$ : condition (3\*) is violated in  $\gamma$  with regard to the way things look to Henry through the left eye (the way that  $b$  looks to Henry in  $\gamma$  through the left eye is not caused by  $b$  being a barn, but by the brain lesion affecting



the processing of information from the right eye<sup>117</sup>); condition (4\*) is violated in  $\gamma$  with regard to the way things look to Henry through the right eye (Henry doesn't believe that the way that  $b$  looks to Henry in  $\gamma$  through the right eye is caused by  $b$  being a barn, for he doesn't trust the right eye in  $\gamma$ ). But, then this shows that the requirement of semantic unanalyzability doesn't track the distinction between prime\* and composite\* conditions: “ $\Psi$ ” is semantically analyzable but also prime\*. Absent some metaphysical grounding, the requirement of semantic unanalyzability seems rather *ad hoc*, a useful way of ruling believing truly out of the category of factive, stative attitudes.

To summarize, there are three uncontroversial requirements on FMSOs: factivity, stativity, and the requirement of propositional attitude ascription. “ $\Psi$ ” satisfies all three of them: it is factive, for the relevant  $b$  must be  $P$ , in order for the condition denoted by “ $\Psi$ ” to obtain; it is stative in so far as the condition “ $\Psi$ ” denotes is a *state* of belief with a visual pedigree; and being in this condition requires one to believe that  $b$  is  $P$  and thus grasp the proposition that  $b$  is  $P$ . “ $\Psi$ ” doesn't satisfy the requirement of semantic unanalyzability but as I have tried to show the requirement is not metaphysically grounded: there is no reason to think that linguistic expressions satisfying all four requirements pick out a metaphysically important distinction.

A sensible fourth requirement on FMSOs might be the following: FMSOs

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Again let the binary variable  $B$  represent the condition that  $b$  is a barn.  $B = 1, 0$  depending on whether or not  $b$  is a barn. Let the binary variable  $L$  represent the condition that it looks to Henry as if the building is a barn (through his left eye).  $L = 1, 0$  depending on whether or not  $b$  looks to Henry as if it is a barn. Now, in  $\gamma$  a strange brain lesion blocks Henry from processing the visual input from the left eye, as anything other than “ $x$  is a barn” for every object  $x$  that Henry sees through the left eye. So, if  $b$  weren't a barn, it would have still looked to Henry as if it was. The following structural equation captures this fact of the case:  $L = 1 \wedge B$ . Since,  $L$  is the only endogenous variable in this case the equation  $L = 1 \wedge B$  is the only equation in our system of equations  $E$ . There is no active route from  $B$  to  $L$  because if we construct a new system of equations  $E^*$  by changing the value of  $B$  from 1 to 0 the value of  $L$ ,  $\min[1, B=0]$ , will remain the same, namely 1. Since the route  $\langle B, L \rangle$  is the only route from  $B$  to  $L$  in this system of equations then there is no active route from  $B$  to  $L$ . Given Hitchcock's analysis of causation the absence of an active route guarantees the lack of a causal connection between the condition represented by  $B$  and that represented by  $L$ .

denote conditions that are prime\*. As indicated earlier, “ $\Psi$ ” satisfies this requirement. But going back to Henry’s case above, we notice that the relation between the internal\* condition  $I$  (it looks to Henry as if  $b$  is a barn) and the external\* condition  $E$  ( $b$  is a barn) doesn’t have to be *causal* in order for us to be able generate a triple of cases where the relation is absent in  $\gamma$  even though it’s present in both  $\alpha$  and  $\beta$ . A different kind of relation between  $I$  and  $E$  would also work. So, though perhaps, necessary, the primeness\* condition when added to the other three doesn’t constitute a set of necessary and sufficient conditions for bearing a factive, stative attitude towards a proposition. The relation between  $I$  and  $E$  must be epistemically relevant. As Williamson (2000: 40) points out “factive stative attitudes are important to us as states whose essence includes a matching between mind and world...Of course something needs to be said about the nature and significance of this matching, but that is a further problem.” This problem is at the heart of this project. There is a strong intuition that the “matching” between  $I$  and  $E$  has to be non-accidental in some epistemically relevant respect. One might argue that the “matching” has to be non-accidental in a way that guarantees *knowledge*, and that’s what makes *K-Entailment* true. Arguing for *K-Entailment* by assuming a knowledge requirement for the category of factive, stative attitudes is as question begging as arguing against it by simply dismissing the requirement. A more plausible suggestion is that the “matching” between  $I$  and  $E$  has to be non-accidental in a way that is *evidentially* relevant. This suggestion is supported by the thought that paradigmatic factive, stative attitudes like seeing that  $p$ , hearing that  $p$ , smelling that  $p$ , are ways of collecting *evidence* about our world. This thought motivates another way for arguing against the thesis that  $\Psi$ —the condition uniquely characterized by our four requirements laid out in the first part of the paper—is a factive stative attitude. I will close by sketching this argument below.

**2.3 The final obstacle.** The argument goes like this:

1. For every factive, attitude  $\Phi$  and every proposition  $p$ , if one  $\Phi$ s that  $p$  then  $p$  is part of one's *evidence*.
2. For every proposition  $p$ , such that  $p$  is part of one's evidence, one knows  $p$ .
3. For some proposition  $p$  one  $\Psi$ s that  $p$  but one doesn't know that  $p$ .
4. Hence,  $\Psi$  is not a factive, stative attitude.

The crucial premise in this argument is premise 2. The next chapter will try to show that this premise is unmotivated. This is not to say that there is no connection between factive, stative attitudes and evidence, but rather that the epistemic threshold for both bearing a factive, stative attitude to a proposition and for that proposition to be part of one's evidence is lower than the epistemic threshold for knowledge.

## **Conclusion**

I have tried to argue that bearing a factive, stative attitude to a proposition doesn't guarantee knowing it. The first part of the argument was straightforward: I tried to show that a particular factive, stative attitude holds in certain cases where the corresponding knowledge condition doesn't. I still believe that these cases are genuine counterexamples, and that the chosen factive, stative attitude holds in these cases. The second part of the chapter considers the possibility that this belief results from a modal illusion: a condition easily confused with the chosen factive, stative attitude obtains in these counterexample cases. I try to show that even if this possibility is actual there are no *metaphysical* reasons for thinking that this condition is not a factive, stative attitude in its own right. I close by considering a certain epistemological argument for the conclusion that this condition is not a factive, stative attitude. The next chapter will explain why this argument is unsound.

## CHAPTER THREE

### Evidential Status

#### Introduction

A theory of evidence is concerned with at least two questions: that of *evidential relevance* (when does evidence *e* speak in favor of a hypothesis *h*?); and that of *evidential status*<sup>118</sup> (what kind of epistemic status must *e* enjoy in order to serve as evidence for other hypothesis?). This chapter addresses the question of evidential status. I start by arguing that a plausible theory of evidential status must satisfy two desiderata: what I call *accessibility* (one is, for the most part, in a position to know what one's evidence is) and *creditable epistemic standing* (a proposition must have a requisite degree of positive epistemic status vis-à-vis a subject in order to serve her as evidence for other propositions). Both desiderata flow from the theoretical function of our concept of evidence in its connection with that of *rational belief*.

In the second part of the chapter I discuss the E=K theory—one's evidence is all and only those propositions that one knows—as part of the attempt to decide on a theory of evidential status that satisfies both *accessibility* and *creditable epistemic standing*. Reflection on this theory reveals that the two desiderata pull us in different directions: conditions of a “lesser” epistemic standing than knowledge score better than it on the accessibility dimension; conditions of a “higher” epistemic standing than knowledge score even worse than knowledge on the accessibility dimension. The

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I borrow the terms “evidential relevance” and “evidential status” from Joyce (2004). The distinction between these two different parts of a theory of evidence is highlighted by Williamson (2000). Williamson proposes and defends both a theory of evidential relevance and a theory of evidential status. They are nicely summarized by Joyce (2004: 296-7):  
*Evidential Relevance*: “*e* is positively evidentially relevant to *h* for *S* just in case the objective evidential probability of *h* conditional on *e* and all of *S*'s other evidence exceeds the objective evidential probability of *h* conditional on *S*'s other evidence alone.”  
*Evidential Status*: “A proposition *e* has the status of evidence for a person *S* just in case *S* knows *e*.”

argument that  $E=K$  is the best compromise in weighting these desiderata is not trivial. The third part of the chapter argues that it is not persuasive either. The claim that knowledge is a requirement for evidence is undermined in the process. I close by proposing a theory of evidential status that offers a better compromise than  $E=K$  in weighting our two desiderata.

1.1 *Preliminaries*. In what follows, I assume a *propositional* view of evidence: one's evidence is a set of propositions that satisfies some further criteria. For example, a propositional theory might identify one's evidence with those propositions that one believes<sup>119</sup>, those propositions that one knows<sup>120</sup>, or those propositions that one knows directly by experience<sup>121</sup>. According to such views a bloody knife found next to the victim's body does not count as evidence, despite the ordinary usage of this term. By contrast, the *proposition* that a bloody knife was found next to the victim's body can potentially be evidence for other propositions—for example, the proposition that a knife was used in committing the crime.<sup>122</sup>

I also assume a *categorical* view of evidential status: for every proposition  $p$ ,  $p$  either is, or is not part of one's evidence in a particular case. According to the rival, *gradationalist* view, the evidential status of a proposition “falls along a spectrum that ranges from the best sort of evidence, through intermediate grades to [propositions]... that are not evidence at all.”<sup>123</sup>

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<sup>119</sup> Certain Subjective Bayesian views identify evidence with those propositions that one believes, where the latter are understood as propositions of subjective probability 1.

<sup>120</sup> See Williamson (2000: chap. 9) for a defense of this view.

<sup>121</sup> This seems to be the view proposed by Patrick Maher (1996). See Bird (2004) for a discussion and criticism of Maher's view.

<sup>122</sup> The distinction between propositional and non-propositional views of evidence is clear and substantive. I don't have anything new to offer in defense of the propositional view. I find the defense offered by Williamson (2000: 194-200) convincing and will not rehearse that argument here.

<sup>123</sup> The quote is from Joyce (2004: 299). The distinction between the categorical and the

These assumptions narrow the field of candidates for a theory of evidential status by default. The extent to which this is a drawback depends on how promising the prospects of non-propositional and gradationalist views are. I believe they are not very promising, but an argument in support of this claim goes beyond the scope of this chapter; suffice it to say that there are serious problems with non-propositional views<sup>124</sup>, and no gradationalist theory is (to my knowledge) available. So, the discussion here will focus on the relative strengths of theories that are both propositional and categorical. We ask, “what general desiderata must these theories

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gradationalist view is not quite clear, in part because there is no developed gradationalist account of evidence. If we assume a propositional view of evidence, a straightforward way of interpreting the gradationalist view is the following. For each subject  $S$ , there is an ordering of propositions by degrees of evidentiality into sets of propositions with degree of evidentiality  $d$ , where  $d$  is a number in the interval  $[0,1]$  (with 1 being the highest degree of evidentiality). Now, suppose that by some measure of relevance, the probability of  $p$  is 0.9 on the set of propositions with degree of evidentiality  $d$  but 0.1 on the set of propositions with degree of evidentiality  $d+\delta$ , for some subject in a particular case. What is the probability of  $p$  on the subject’s (total) evidence in that case? As Williamson (2004a: 317) indicates, there is no clear answer to this question on this interpretation of the gradationalist account. The answer is important in so far as how rational one’s degree of belief in  $p$  depends to a large extent on what the probability of  $p$  is on one’s (total) evidence: matching the former to the latter is often thought to be a requirement of rationality. In other words, it is not clear on this interpretation of the gradationalist view of evidential status what rationality would require of one in a particular case, and whether that requirement is satisfied. So, an important link between what evidence one has and what one is rational in believing on the basis of that evidence is left obscure. An important desideratum for a theory of evidential status is respecting the links between evidence and rationality; the fact that a theory obscures these links is a strike against that theory.

This is not a knock-down argument against the gradationalist view; it’s just a problem that plagues one of its interpretations. In fact, there is something correct about what the gradationalist proposes. To see why consider the following simple example. Suppose that a proposition  $p$  doesn’t fully satisfy the necessary and sufficient conditions for being part of a subject’s evidence, but it nevertheless comes very close. Doesn’t this subject have better evidence for a proposition  $q$  that  $p$  entails than another subject who is in a far worse epistemic position than her with regard to  $p$ ? A categorical theory of evidence must find ways to accommodate the difference between the subjects’ evidence in this and similar cases. A promising proposal is to appeal to propositions about first order probabilities. According to this proposal, the proposition “probably  $p$  to some degree  $\delta$ ” will be part of the first subject’s evidence and the proposition “probably  $p$  to some degree  $\gamma$ ” will be part of the second subject’s evidence (where  $\delta \gg \gamma$ ); the conditional probability of  $q$  on these two different propositions will be different, thereby explaining differences in the “quality” of the subjects’ evidence. See Joyce (2004: 298-300) for more discussion of the distinction between the two views. See Williamson (2004a) for further objections against the gradationalist view.

See Williamson (2000: 9.5) for an excellent discussion of problems that plague non-propositional views.

124

satisfy?” and “which propositional and categorical theory satisfies them better?”

The arguments in this chapter will often involve two important concepts: that of *believing*, and that of *being in a position to know* a certain proposition. It is appropriate to clarify the assumptions I make about the conditions picked out by these concepts upfront.

With regard to the condition picked out by the locution “one believes that  $p$ ” I make two assumptions.

- *B-Distribution*. For every pair of propositions  $p$  and  $q$  and every case<sup>125</sup>  $\alpha$ , if the condition that one believes that  $p \& q$  obtains in  $\alpha$ , then the conditions that one believes that  $p$ , and that one believes that  $q$  obtain in  $\alpha$ .
- *The B-K Principle*. For every proposition  $p$  and every case  $\alpha$ , if the condition that one believes that  $p$  obtains in  $\alpha$ , then the condition that one believes that one knows that  $p$  obtains in  $\alpha$ .<sup>126</sup>

I believe that in general both principles are true of the condition picked out by our ordinary uses of the verb “believes.” Distribution seems uncontroversial. The *B-K Principle* is problematic for reasons I am about to discuss, but before I do so I want to flag the important feature of believing that the principle is meant to reflect. When one believes a certain proposition, one not only believes something about the truth-value of that proposition, but also something about how strong one’s epistemic position is with regard to that proposition. If one thought that one’s epistemic position with regard to a proposition  $p$  was not good enough for knowledge, one would also refrain from believing  $p$  outright<sup>127</sup>; at most, one would believe that probably  $p$ , or something

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<sup>125</sup> A “case” is a centered world in the sense specified in the second chapter.

<sup>126</sup> This is what Halpern (1994: 2) calls “the (positive) certainty property.” See, Lamarre and Shoham (1994) for a defense of the principle. Williamson (2000: 47) comes barely short of endorsing the *B-K principle* when he suggests that “believing  $p$  is something like treating  $p$  as if one knows  $p$ .”

<sup>127</sup> Believing  $p$  outright is giving  $p$  credence 1 in the sense explained in the second chapter.

equally fitting to the doxastic hesitation the subject experiences in that kind of circumstance.

However, *the BK-Principle* is problematic for in its simple, stated form it involves certain idealizations. For example it is only true of subjects whose conceptual repertoire includes the concept “know.”<sup>128</sup> It also entails that for every proposition *p*

128

Not everybody agrees that the principle is true even of those subjects who possess the concept of knowledge. For example, Carl Ginet (1970: 164-167) argues for a principle that, given certain uncontroversial assumptions, is inconsistent with the BK-Principle. The principle Ginet defends is the following: “it is not necessarily true that: if a person knows that *p* and understands the proposition that he knows that *p*, then he believes that he knows that *p*.” (1970: 64). (This is thesis (2) in Ginet’s article.) If this principle is true then it is possible for one to know, and thus—on the assumption that knowledge entails belief—believe that *p*, but fail to believe that he knows that *p* even if one understands the proposition that one knows that *p*, i.e., even if one possesses the concept of knowledge. Ginet admits that “this possibility is not likely to be realized very often,” but he argues that “such an unreasonableness, though unlikely is not impossible.” (1970: 167) According to Ginet, “the unreasonable” but “possible” situation where one knows and thus believes that *p*, but doesn’t believe that one knows that *p* arises in those cases where one due to “carelessness, confusion, inattention or sluggishness or paralysis of the understanding...fail[s] (at least temporarily) to recognize that his position (as it must be if one knows that *p*) justifies confident belief [that one] know[s] that *p*.” (1970: 166) Suppose that one considers whether one believes that one knows *p* and due to some confusion concludes that she doesn’t: does she still believe (let alone know) that *p* in that case? It’s difficult to say for—paraphrasing Williamson—the difference between believing *p* outright and believing that probably *p* depends to some extent on one’s dispositions to practical reasoning and “action manifested in counterfactual circumstances.” (2000: 24) However, reflection on those cases where one fails to believe that one knows a certain proposition displays a feature of believing that supports the *B-K Principle*. If one believes *p* then one believes that *p* is true; this much seems uncontroversial. So, when one believes *p* one can’t believe that one doesn’t know *p* because *p* is false. So, one must believe that he doesn’t know *p* for some other reason—for example one might think that one is not justified in believing *p*. But can one believe that *p* is true, while at the same time believing that one is not epistemically justified in believing *p*? In my opinion the answer is “no.” That is because our epistemic position with regard to a proposition is our only guide to truth—a fallible guide to be sure, but indispensable nonetheless. If I am in a deserted island and can tell exact atmospheric pressure only by looking at a barometer, can I be sure about the exact value of atmospheric pressure, while having doubts about the reliability of my barometer? I believe the answer is “no.” Similarly if I have doubts about my justification as to whether or not *p*, I also have doubts about whether or not *p*. Believing *p* while at the same time believing that one is not justified in believing *p*, is not just unreasonable, it is impossible. This is not to deny that in certain contexts, for the purpose of calling attention to one’s dogmatism, one might openly claim that one is not justified in believing *p*, but does believe *p* nonetheless. One might even be sincere in such avowals, and thus really believe that he is in this condition. However, such assertions and beliefs do not show that the condition is possible: both the assertion and the belief in these cases can be false. As Williamson’s anti-luminosity argument shows one is not always in a position to know whether one is in a certain mental condition. (This might be the case with certain avowals of religious belief—where one thinks one lacks epistemic justification for what one believes. But this is not the case with all religious beliefs—especially those that are explicitly colored with perceptual language. As John Greco points out “Jesuits claim to see



that a subject believes not only does she believe that she knows  $p$ , but also that she knows that she knows  $p$ , and that she knows that she knows that she knows  $p$ , and so on for an infinite number of iterations of “know.” One can object that the entailment is false on the grounds that most subjects are unable to even grasp propositions involving more than a certain number of iterations of “know”—let alone believe them.

Both concerns are legitimate. In response, we can explicitly restrict the principle to apply only to subjects who can grasp the concept of knowledge and to propositions that involve no, or at least a restricted number of, iterations of “know.” It’s hard to see how one can accomplish this—especially in the case of the second restriction—in a way that is not *ad hoc*. Alternatively, we can leave the principle as is and use the formalizing power it provides to gain certain insights about the relation of knowledge to other epistemic conditions in central cases at the cost of sacrificing some descriptive detail about the ordinary use of the verb “believes” in the more marginal ones. The trade-off proposed by the second strategy is as rewarding as the insights it allows us to gain. Section 2.2 uses this strategy to elucidate the ranking of knowledge in the accessibility dimension relative to other epistemic conditions. The picture that the principle helps generate confirms and explains our intuitive judgments about the relatively low ranking of knowledge in this dimension.

Pace Williamson (2000: 95), I use the locution “one is in the position to know  $p$ ” in the sense that “no obstacle blocks one’s path” to knowing  $p$  when the former condition obtains. With regard to the condition picked out by this locution I make four assumptions.

- *PK-K Principle*. For every proposition  $p$  and every case  $\alpha$ , if one knows that  $p$  in  $\alpha$ , then one is in the position to know that  $p$  in  $\alpha$ .

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God in all things,” and their claim is not meant to be understood metaphorically. See Greco’s “Catholics vs. Calvinists on Religious Knowledge” [1997:13-34] for more discussion.)

- *PK-Distribution*. For every pair of propositions  $p$  and  $q$  and every case  $\alpha$ , if the condition that one is in the position to know that  $p \& q$  obtains in  $\alpha$ , then the conditions that one is in the position to know that  $p$  and that one is in the position to know that  $q$  obtain in  $\alpha$ .
- *P-K Closure*. For every pair of propositions  $p$  and  $q$  and every case  $\alpha$ , if the conditions that one is in the position to know  $p$  and that one is in the position to know that  $p$  entails  $q$  obtain in  $\alpha$ , then the condition that one is in the position to know  $q$  obtains in  $\alpha$ .
- *Safety*. For every proposition  $p$  and every case  $\alpha$ , one is in the position to know that  $p$  in  $\alpha$  if and only if one is *safe* from error in believing that  $p$  in  $\alpha$ . One is safe from error in believing that  $p$  in  $\alpha$  if and only if there is no case *close* to  $\alpha$  in which one falsely believes that  $p$ .

The first assumption is rather trivial: one cannot know that  $p$  unless one is, at least, in the position to know that  $p$ . I also take the second principle to be uncontroversial. *P-K Closure* is more plausible than the analogue closure principle about knowledge: if one is in the position to know both  $p$  and that  $p$  entails  $q$ , (and one is equipped with the cognitive powers to perform the simple deduction) then, intuitively, nothing blocks one's path from knowing  $q$ , and thus one is in the position to know  $q$ . This is not so with knowledge: one can both know  $p$  and that  $p$  entail  $q$ , (and be equipped with the relevant cognitive powers of deduction) and yet fail to know  $q$  for the simple reason of not having performed the deduction due to disinterest, or inattention. The fourth assumption attempts to provide a rigorous framework for our discussion by formalizing the kind of reliability that is required for one to be in a position to know a certain proposition.<sup>129</sup> I do not assume that we can specify which cases count as *close*

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<sup>129</sup> See Williamson (2000: 100-101) for a discussion and defense of this way of cashing out the reliability relevant to knowledge.

to a case  $\alpha$  for the purposes of determining whether one is safe from error in believing  $p$  in  $\alpha$ , independently of the concept of knowledge. So, the safety requirement is not offered as a heuristic device for effectively deciding in which cases the knowledge condition doesn't obtain. As I argued in the previous chapter, the requirement is not an elucidating guide when used for that purpose.

The only assumption I make about the closeness relation is that it is not transitive. This is a plausible assumption. In the simplest case we judge the closeness of cases based on how they differ along some parameter  $x$ , for example the length of a stick, or the duration of a frown. A case  $\alpha$  is close to a case  $\beta$  if and only if the difference between the value of some parameter measured by  $x$  in  $\alpha$  and the value of the same parameter measured by  $x$  in  $\beta$  is less than some non-negative real number  $d$  [ $x(\alpha) - x(\beta) < d$ ]. The closeness relation understood in this way is not transitive, for it is possible for  $x(\alpha) - x(\gamma) > d$ , even if  $x(\alpha) - x(\beta) < d$  and  $x(\beta) - x(\gamma) < d$ .

With these preliminaries out of the way, the next two sections introduce what I take to be two desiderata that a plausible theory of evidential status must satisfy.

1.2 *Accessibility*. Evidence must be sufficiently accessible, in the sense that, for the most part, one must be in the position to know what one's evidence is. The requirement is central to the theoretical function of our concept of evidence in connection to that of rationality. Consensus has it that rational subjects respect their evidence. The platitude is often spelled out as a rationality constraint on degrees of belief: rationality requires subjects to proportion their degree of belief in a proposition to the support it receives from their evidence.<sup>130</sup> Call this the *rationality injunction*. A theory of evidential status must assume that one is usually, at least, in a position to

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<sup>130</sup> The idea goes back to David Hume: "[a] wise man, therefore, proportions his belief to the evidence." See (Williamson 2000: chaps. 8-12) for a sophisticated discussion. See Christensen (forthcoming) for certain reservations.

comply with the injunction. But how can one be in a position to comply with the injunction unless one is, for the most part, in the position to know what one's evidence is? Less rhetorically, one's evidence must be sufficiently accessible to subjects, in the sense that for the most part, if  $p$  is part of one's evidence, then one is in a position to know that  $p$  is part of one's evidence.

Different theories of evidential status propose different propositional attitudes as necessary and sufficient conditions for possessing evidence that  $p$ : believing  $p$ , justifiably believing  $p$ , being certain that  $p$ , knowing  $p$ , or knowing  $p$  directly through experience. If bearing a certain attitude to a proposition is what's necessary and sufficient for that proposition to count as part of one's evidence, then being in the position to know that a certain proposition is part of one's evidence requires being in the position to know that one bears the relevant attitude towards that proposition. So, crucial to evaluating theories of evidential status that offer a propositional attitude  $C(p)$  as a necessary and sufficient condition for possessing evidence that  $p$ , is inquiring into whether the proposed attitude is sufficiently accessible, in the sense that, for the most part, when  $C(p)$  obtains one is in the position to know that  $C(p)$  obtains.

Accessibility comes in degrees: some conditions are more accessible than others.<sup>131</sup> For any two conditions  $C$  and  $C^*$ ,  $C^*$  is *more accessible* than  $C$ , if and only if,

- (i) For every case  $\alpha$ , where both  $C$  and  $C^*$  obtain, if one is in the position to know that  $C$  obtains in  $\alpha$ , then one is in the position to know that  $C^*$  obtains in  $\alpha$ .
- (ii) For some case  $\beta$ , where both  $C$  and  $C^*$  obtain, one is in the position to know that  $C^*$  obtains in  $\beta$ , but one is not in the position to know that  $C$  obtains in  $\beta$ .

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<sup>131</sup> As I will try to show below, this point is often missed.

We evaluate a theory of evidence that offers a propositional attitude  $C(p)$  as a necessary and sufficient condition for possessing evidence that  $p$ , in part by deciding where  $C(p)$  stands in the accessibility scale. I earlier suggested that the condition must be sufficiently accessible to allow for genuine compliance with the rationality injunction. But we lack a pre-theoretical sense of what counts as sufficiently accessible for this purpose. Instead of positing arbitrary cutoff points, we can appeal to assessments of comparative accessibility to render the accessibility criterion workable.

Let  $T_\Phi$  and  $T_\Psi$  be two candidate theories proposing, respectively,  $\Phi(p)$  and  $\Psi(p)$  as necessary and sufficient conditions for possessing evidence that  $p$ . If  $\Psi(p)$  is sufficiently accessible but less accessible than  $\Phi(p)$ , then  $\Phi(p)$  is sufficiently accessible. Lacking a clear sense of what counts as sufficiently accessible, for any two candidate conditions one is a more plausible candidate than the other if one is more accessible than the other *and all else is equal*. The italicized clause is not trivial: accessibility is only one of the dimensions along which we evaluate theories of evidential status. Let,  $D_1 \dots D_n$  be the others. If  $\Phi(p)$  ranks higher than  $\Psi(p)$  in the accessibility dimension, but equally well along the other dimensions,  $D_1 \dots D_n$ , then  $T_\Phi$  is a more plausible theory of evidential status than  $T_\Psi$ . So stated the criterion affirms the probative value of accessibility in choosing among competing theories of evidential status, while recognizing that the ranking along this dimension is only a defeasible guide in this choice. The next section discusses a second desideratum, and thus a second criterion for evaluating theories of evidential status.

1.3 *Creditable Epistemic Standing*. Evidence must have a high degree of creditable epistemic standing, in the sense that one's epistemic position with regard to the

propositions constituting one's evidence must be sufficiently strong in order for these propositions to count as evidence for other propositions.

Different epistemic conditions (knowing, knowing that one knows, justifiably believing, truly believing, believing, grasping a proposition, and so on) enjoy different degrees of creditable epistemic standing: intuitively, some are—epistemically speaking—better to be in with regard to a proposition than others. One way of cashing out the notion of creditable epistemic standing is by way of the more familiar notion of “relative strength of epistemic position.”<sup>132</sup> Let  $\Phi(p)$  and  $\Psi(p)$  be two epistemic conditions that a subject can be in with regard to the proposition  $p$ .  $\Phi(p)$  enjoys a higher creditable epistemic standing than  $\Psi(p)$  if and only if: if one  $\Phi$ s that  $p$  then one is in a stronger *epistemic position* with regard to  $p$ , than one who *merely*  $\Psi$ s that  $p$ .

How do we determine the relative strength of epistemic position among different epistemic conditions? I don't have a formal test to offer for this purpose. The only current option is to rely on our considered judgments about the relative epistemic strength of the conditions involved in particular cases.<sup>133</sup>

Going back to the main point of this section: what epistemic standing must a condition enjoy in order for it to be a necessary and sufficient requirement on evidence? In other words, how strong must one's epistemic position be with regard to those propositions that constitute one's evidence? The rationality injunction suggests that there is a lower limit: if one is to proportion one's degree of belief to the support it receives from one's evidence, then the propositions that constitute one's evidence need to be to some degree *psychologically available*<sup>134</sup> to the subject. So, certain propositions that are, intuitively, psychologically unavailable to the subject at a time

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<sup>132</sup> The term is introduced by DeRose (1995).

<sup>133</sup> Many thanks to Tamar Gendler for helping me see the inadequacies of a familiar test that I had tried to put to use.

<sup>134</sup> I borrow the term from Feldman (2004: 226).

are excluded from her evidence at that time. Writing on this topic Richard Feldman (2004: 226) proposes that,

[t]hings that one has never learned about, even if they are known by others, are excluded. Things that one once knew but could not recall with any amount of prompting are also excluded. And finally, things that one does not yet believe, but would first come to believe as a result of prompting are also excluded...I exclude these items from consideration because the topic here is the evidence a subject *has* at a time, and I assume that facts which are completely out of one's cognizance, as these things are, are plainly not part of the evidence one has. (emphasis mine)

But as Feldman (2004: 227) goes on to point out psychological availability is not sufficient for securing the kind of epistemic strength with regard to a proposition that is necessary for rendering that proposition part of one's evidence.

[Some] might hold that anything that is [psychologically] available is part of the evidence one has. Some simple examples suggest that this view is incorrect. If I believe for no good reason, that P and infer (correctly) from this that Q, I don't think we want to say that I 'have' P as evidence for Q. Only things that I believe (or could believe) rationally, or perhaps, with justification, count as part of the evidence I have. It seems to me that this is a good reason to include an *epistemic acceptability* constraint on evidence possessed, but I will not pursue the point here. (emphasis mine)

Feldman proposes that evidence propositions must not be merely psychologically available, but also, to use his term, *epistemically acceptable*<sup>135</sup> for the subject. We can think of Feldman's notions of psychological availability and epistemic acceptability as marking different points in the scale of "strength of epistemic position" that a subject is in with regard to a

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<sup>135</sup> See Feldman (2004: 227).

proposition. If a proposition is not psychologically available to a subject—for example, if a subject cannot even grasp the proposition—then her epistemic position with regard to that proposition is weak. Viewed this way, psychological availability is a necessary condition for epistemic acceptability but not vice-versa. But a version of the original question still remains: how strong must one’s epistemic position be with regard to a proposition that is psychologically available in order for that proposition to count as epistemically acceptable for a subject in a particular case?

As in the case of accessibility, we don’t have a pre-theoretical grasp of the relevant “cutoff” point: Feldman’s suggestion that rational, or justified, belief is the appropriate limit, though intuitively in the right track, seems arbitrary. So, as in the case of accessibility, we will have to rely on comparative judgments to make the creditable epistemic standing criterion workable.

Let  $T_\Phi$  and  $T_\Psi$  be two candidate theories proposing, respectively,  $\Phi(p)$  and  $\Psi(p)$  as necessary and sufficient conditions for possessing evidence that  $p$ . If  $\Psi(p)$  has a sufficiently high creditable epistemic standing for guaranteeing that  $p$  is part of one’s evidence but a lower creditable standing than  $\Phi(p)$ , then  $\Phi(p)$  has a sufficiently high creditable epistemic standing for guaranteeing that  $p$  is part of one’s evidence. Lacking a clear sense of what counts as sufficiently high for this purpose, for any two candidate conditions one is a more plausible candidate than the other if one has a higher epistemic standing than the other *and all else is equal*. As in the case of accessibility, the italicized clause is not trivial: epistemic standing is only one of the dimensions along which we evaluate theories of evidential status—we have seen in the previous section that accessibility is another. If  $\Phi(p)$  ranks higher than  $\Psi(p)$  in the epistemic standing dimension, but equally well along the other dimensions,  $D_1 \dots D_n$ , then  $T_\Phi$  is a more plausible theory of evidential status than  $T_\Psi$ . So stated the criterion



affirms the probative value of epistemic standing in choosing among competing theories of evidential status, while recognizing that the ranking along this dimension is not the decisive consideration in this choice.

2.1  $E=K$ . One's evidence is all and only those propositions that one knows.<sup>136</sup> This theory of evidence is both propositional and categorical in the sense explained in Section 1.1. Is it plausible? This depends, in part, on how well the condition that one knows a certain proposition scores on the accessibility and the creditable epistemic standing dimensions compared to other candidate conditions. The next two sections try to show that conditions of a "lesser" epistemic standing than knowledge score better than it on the accessibility dimension and conditions of a "higher" epistemic standing than knowledge score even worse than knowledge on this dimension.<sup>137</sup> The two desiderata pull us in different directions. An argument that knowledge is the optimal theoretical compromise is needed. I will argue in the third part of this chapter that the arguments offered are not convincing.

2.2 *True belief and knowledge*. This section argues that *some* conditions of a "lesser" epistemic standing than knowledge score better than it on the accessibility dimension: we will use the condition that one truly believes  $p$  to motivate this conclusion. The results generalize to other factive conditions that entail true belief and are entailed—but don't entail—knowledge.

Knowledge scores higher than true belief in the scale of creditable epistemic standing: one is in a stronger epistemic position with regard to a proposition  $p$  if one knows that  $p$  than one who (merely) truly believes that  $p$ .

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<sup>136</sup> As indicated earlier, Timothy Williamson (2000: chap. 9) defends this theory of evidence.  
<sup>137</sup> Joyce 2004: 304 makes a similar claim.

As indicated earlier, in order to show that a condition  $C^*$  is more accessible than a condition  $C$  we need to show two things:

- (i) For every case  $\alpha$ , where both  $C$  and  $C^*$  obtain, if one is in the position to know that  $C$  obtains in  $\alpha$  then one is in the position to know that  $C^*$  obtains in  $\alpha$ .
- (ii) For some case  $\beta$ , where both  $C$  and  $C^*$  obtain, one is in the position to know that  $C^*$  obtains in  $\beta$ , but one is not in the position to know that  $C$  obtains in  $\beta$ .

The case that interests us here is that where  $C$  and  $C^*$  are respectively the condition that one knows  $p$  and the condition that one truly believes  $p$ . So, in order to show that the latter is more accessible than the former we need to show that the relevant instances of (i) and (ii) hold:

- (iii) For every case  $\alpha$ , where one both knows and (thus trivially) truly believes that  $p$  in  $\alpha$ , if one is in the position to know that one knows  $p$  in  $\alpha$  then one is in the position to know that one truly believes  $p$  in  $\alpha$ .
- (iv) For some case  $\beta$ , where one both knows and (thus trivially) truly believes that  $p$  in  $\beta$ , one is in the position to know that one truly believes  $p$  in  $\beta$  but one is not in the position to know that one knows  $p$  in  $\beta$ .

The argument for (iii) goes something like this. The conditions that one knows that  $p$  and one truly believes that  $p$  are “snug” in a sense to be specified below. All “snug” conditions satisfy the relevant instance of (i). Hence the conditions that one knows that  $p$  and that one truly believes that  $p$  satisfy the relevant instance of (i), namely (iii).

The argument for (iv) is straightforward: we describe a model in which (iv) is true. We start by defining “snugness” and proving the general conclusion about “snug” conditions indicated above.

Let an ordered pair of conditions  $\langle C, C^* \rangle$  be “snug” for a subject  $S$  if and only

if (1)  $C$  entails  $C^*$ ; and (2) for every case  $\alpha$  if  $S$  believes that  $C^*$  obtains in  $\alpha$  than  $S$  believes that  $C$  obtains in  $\alpha$ . The following is true of snug conditions. For any ordered pair of snug conditions  $\langle C, C^* \rangle$  if one is in the position to know that  $C$  obtains in  $\alpha$ , then one is in the position to know that  $C^*$  obtains in  $\alpha$ .<sup>138</sup>

The conditions that one knows that  $p$  and that one truly believes that  $p$  are snug for subjects like us. First, the former entails the latter: this much is for, the most part, uncontroversial. They also satisfy the second requirement for snugness: if one believes that one truly believes that  $p$ <sup>139</sup> then one believes that one knows that  $p$ . The result follows from the two assumptions we made about the condition that one believes that  $p$ , in Section 1.1. Suppose that in some case  $\alpha$ , one believes that one truly believes that  $p$ . Then, trivially, what one believes in  $\alpha$  is the proposition,  $p \ \& \ I \ believe \ that \ p$ . By *Distribution*, one believes that  $p$  in  $\alpha$ . By the *B-K Principle*, one believes that one knows that  $p$  in  $\alpha$ . So, if one believes that one truly believes that  $p$  in  $\alpha$ , then one believes that one knows that  $p$  in  $\alpha$ . Since the conditions that one knows that  $p$  and the condition that one truly believes that  $p$  are “snug,” they satisfy the relevant instance of (i), namely (iii).

To show that the two conditions also satisfy (iv) we need to describe a model in which in some case  $\alpha$ , where one both knows and (thus trivially) truly believes that

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<sup>138</sup> Proof. Suppose one is in the position to know that  $C$  obtains in  $\alpha$ , but one is not in the position to know that  $C^*$  obtains in  $\alpha$ . By the second conjunct and *Safety* there is a case  $\beta$  that is close to  $\alpha$ , such that one falsely believes that  $C^*$  obtains in  $\beta$ . If one falsely believes that  $C^*$  obtains in  $\beta$ ,  $C^*$  doesn't obtain in  $\beta$ . If  $C^*$  doesn't obtain in  $\beta$ , then by the entailment of conditions,  $C$  doesn't obtain in  $\beta$ . By the definition of snugness, one believes that  $C$  obtains in  $\beta$ , for one believes that  $C^*$  obtains in  $\beta$ . Given that  $C$  doesn't obtain in  $\beta$ , one falsely believes that  $C$  obtains in  $\beta$ , which by *Safety* contradicts the supposition that one is in the position to know that  $C$  obtains in  $\alpha$ . Conclusion: if one is in the position to know that  $C$  obtains in  $\alpha$ , then one is in the position to know that  $C^*$  obtains in  $\alpha$ . Hence, for any ordered pair of conditions  $\langle C, C^* \rangle$  if the pair is snug, then  $C$  and  $C^*$  satisfy (i).

<sup>139</sup> The expression “one believes that one truly believes that  $p$ ” has two readings: (1) one believes that one believes that  $p$  and that his first-order belief that  $p$  is true; and (2) one believes that one *really* believes that  $p$ . It's the first reading that I am concerned with here. Thanks to Gail Fine for calling this to my attention.

$p$ , one is in the position to know that one truly believes that  $p$  but one is not in the position to know that one knows that  $p$ . The following simple model will do. Let  $\alpha$ ,  $\beta$ , and  $\gamma$  be three cases such that the only cases that are close to  $\alpha$  and  $\beta$  are respectively  $\alpha$ ,  $\beta$  and  $\alpha$ ,  $\beta$ ,  $\gamma$ .<sup>140</sup> The following is true of the three cases: one knows  $p$  in  $\alpha$ ; one believes  $p$  in  $\beta$  and  $\gamma$ ;  $p$  is false in  $\gamma$ . Since one knows  $p$  in  $\alpha$ , one truly believes that  $p$  in  $\alpha$  (by the fact that knowledge entails true belief) and in  $\beta$  (by *Safety*, and the stipulations that one knows  $p$  in  $\alpha$  and believes  $p$  in  $\beta$ ). Since  $\alpha$  and  $\beta$  are the only cases close to  $\alpha$  and one truly believes that  $p$  in both cases, then there are no cases close to  $\alpha$  where one falsely believes that one truly believes  $p$ . Hence, one is in the position to know that one truly believes  $p$  in  $\alpha$ . However, one is not in the position to know that one knows  $p$  in  $\alpha$ . Here is why. One falsely believes  $p$  in one of the close cases to  $\beta$ , namely  $\gamma$ . Hence, by *Safety*, one is not in the position to know  $p$  in  $\beta$ , and hence by the *P-K principle* one doesn't know  $p$  in  $\beta$ . But, since one believes  $p$  in  $\beta$ , by the *B-K principle*, one believes that one knows  $p$  in  $\beta$ . So, one falsely believes that one knows  $p$  in  $\beta$ . Since one falsely believes that one knows  $p$  in  $\beta$ , and  $\beta$  is close to  $\alpha$ , then one is not in the position to know that one knows  $p$  in  $\alpha$ .

In the simple model I have just described one is not in the position to know that one knows  $p$  in  $\alpha$ , even though one is in the position to know that one truly believes  $p$  in  $\alpha$ . The model shows that the two conditions—one knows that  $p$  and one truly believes that  $p$ —satisfy requirement (iv). Since they also satisfy (iii), the condition that one truly believes that  $p$  is more accessible than the condition that one

<sup>140</sup>

In this model  $\gamma$  is not close to  $\alpha$ , even though  $\gamma$  is close to  $\beta$  and  $\beta$  is close to  $\alpha$ . As indicated in Section 1.1 I assume that the closeness relation is not transitive. The model reflects this assumption. The closeness relation in this model is reflexive and symmetrical, to stay loyal to the simple picture of closeness introduced in Section 1.1 (i.e., that according to which closeness is determined by the difference in the numerical value of a single parameter). The argument doesn't depend on the relation being reflexive and symmetrical: the model would work even if the only case close to  $\alpha$  was  $\beta$ , and the only case close to  $\beta$  was  $\gamma$ , i.e., even if the closeness relation was neither reflexive nor symmetrical.

knows that  $p$  in the relevant sense of accessibility specified in Section 1.2. The result generalizes. The same can be shown for any other epistemic condition  $C(p)$  that entails true belief and is entailed—but doesn't entail—knowledge, and for which the following inference rule is valid: If one believes that  $C(p)$  obtains in a case  $\alpha$ , then one believes that  $p$  is true in  $\alpha$ . As an example, the condition that one truly and justifiably believes  $p$  is condition that satisfies all three requirements.

To summarize, this section has argued that *certain* conditions of a lesser creditable epistemic standing than knowledge score better than it in the accessibility dimension. The next section shows that conditions of a higher epistemic standing than knowledge score even worse than it on the accessibility dimension.

*2.3 Knowledge and knowledge that one knows.* Knowledge that one knows scores higher than knowledge in the scale of creditable epistemic standing: one is in a stronger epistemic position with regard to a proposition  $p$  if one knows that one knows  $p$  than one who (merely) knows  $p$ . But though enjoying a higher creditable standing, knowledge that one knows is less accessible than knowledge in the sense specified above. First we show that the conditions are snug and thus satisfy the relevant instance (i)—for every case  $\alpha$  (where both  $KKp$  and  $Kp$  obtain) if one is in the position to know that one knows that one knows  $p$  then one is in the position to know that one knows  $p$ . Then, we give a model which shows that they also satisfy the relevant instance of (ii)—for some case  $\beta$  (where both  $KKp$  and  $Kp$  obtain) one is in the position to know that one knows  $p$ , but one is not in the position to know that one knows that one knows  $p$ .

The two conditions are snug. On the one hand, knowing that one knows entails knowing, for knowledge is factive. On the other hand if one believes that one knows that  $p$  then by the *B-K principle* one also believes that one knows that one knows  $p$ . So

the  $\langle \text{KK}p, \text{K}p \rangle$  pair satisfies the two requirements for snugness. That means that the conditions satisfy the relevant instance of (i): for every case  $\alpha$  and proposition  $p$ , if one is in the position to know that one knows that one knows  $p$  then one is in the position to know that one knows  $p$ .

They also satisfy the relevant instance of (ii). The following model shows that this is so. Let  $\delta$ ,  $\alpha$ ,  $\beta$ , and  $\gamma$  be four cases such that the close cases to  $\delta$ ,  $\alpha$  and  $\beta$  are respectively  $(\delta, \alpha)$ ,  $(\delta, \alpha, \beta)$  and  $(\alpha, \beta, \gamma)$ .<sup>141</sup> The following is true of the four cases: one knows that one knows  $p$  in  $\delta$ ; one knows  $p$  in  $\alpha$ ; one believes  $p$  in  $\beta$  and  $\gamma$ ;  $p$  is false in  $\gamma$ . Since one knows that one knows  $p$  in  $\delta$ , one knows  $p$  in  $\delta$ . Since  $\delta$  and  $\alpha$  are the only close cases to  $\delta$ , then by *Safety* one is in the position to know that one knows  $p$  in  $\delta$ . However, one is not in the position to know that one knows that one knows  $p$  in  $\delta$ . Here is why. One falsely believes  $p$  in one of the close cases to  $\beta$ , namely  $\gamma$ . Hence, by *Safety*, one is not in the position to know  $p$  in  $\beta$ , and hence by the *P-K principle* one doesn't know  $p$  in  $\beta$ . But since one believes  $p$  in  $\beta$ , by the *B-K principle*, one believes that one knows  $p$  in  $\beta$ . So one falsely believes that one knows  $p$  in  $\beta$ . Since one falsely believes that one knows  $p$  in  $\beta$ , and  $\beta$  is close to  $\alpha$ , then one is not in the position to know that one knows  $p$  in  $\alpha$ . So, by the *P-K principle* one doesn't know that one knows  $p$  in  $\alpha$ . But by the *B-K principle*, one believes that one knows that one knows  $p$  in  $\alpha$ , for one knows and thus believes  $p$  in  $\alpha$ . So, by *Safety* and the fact that  $\alpha$  is close to  $\delta$ , one is not in the position to know that one knows that one knows  $p$  in  $\delta$ .

To summarize, this section has argued that conditions of a higher creditable epistemic standing than knowledge—the condition that one knows that one knows a certain proposition—score even worse than it in the accessibility dimension.

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<sup>141</sup> We are, again, assuming that the closeness relation is not transitive. In this model the relation is reflexive and symmetrical, but as in the model described in the previous section, the same can be shown without making these assumptions.

3.1 *E=K and Luminosity*. The arguments in the previous two sections exploit the snugness of certain epistemic conditions to show that their relative rankings in the accessibility and epistemic dimensions are inversed. More specifically, with regard to the three conditions investigated— in obvious symbolism, TB, K and KK—we have a first-to-last ranking in the accessibility dimension and a last-to-first ranking in the creditable epistemic standing dimension. The picture undermines a potentially straightforward argument for the E=K thesis:

1. Knowledge scores equally with all other candidate conditions along one dimension.
2. Knowledge scores better than all other candidate conditions along the other dimension(s).
3. Therefore, E=K is a more plausible theory of evidential status than other candidate theories.

The picture makes vivid the conclusion that no such argument can be sound: no matter what dimension(s) of evaluation are appealed to in the first and second premises, both premises are false.

A particularly tempting version of this argument is generated by substituting accessibility for the dimension appealed to in the first premise, and epistemic standing for the dimension appealed to in the second premise.

4. Knowledge scores equally with all other candidate conditions along the accessibility dimension.
5. Knowledge scores better than all other candidate conditions along the epistemic standing dimension.
6. Therefore, E=K is a more plausible theory of evidential status than other candidate theories.

Premise (4) gains a certain plausibility from the *anti-luminosity* thesis defended by

Williamson (2000: chap. 4). This section tries to explain why this plausibility is spurious.

A condition is perfectly accessible if and only if one is always in a position to know that it obtains when it does in fact obtain. More rigorously, a condition is perfectly accessible if and only if “for every case  $\alpha$ , if in  $\alpha$   $C$  obtains, then in  $\alpha$  one is in the position to know that  $C$  obtains.” (Williamson 2000: 95) A perfectly accessible condition is what Williamson calls a *luminous* condition. Williamson’s anti-luminosity argument purports to show that no *non-trivial* condition<sup>142</sup> is luminous. (Williamson 2000: 106-109) Since epistemic conditions (such as true belief, knowledge, and knowledge that one knows) are non-trivial in the relevant respect, no epistemic condition is luminous, or perfectly accessible, in the sense specified above. It is this corollary of the anti-luminosity argument that might mislead one into thinking that (4) is plausible, in so far as with respect to perfect accessibility all epistemic conditions are on a par: neither is perfectly accessible, or luminous in Williamson’s sense.

Williamson’s anti-luminosity argument is controversial, but for the purposes of this chapter I have assumed that its conclusion is correct. Nonetheless, the move from the corollary of the anti-luminosity argument to premise (4) is fallacious: certain epistemic conditions might be more accessible than others, even if none of them is perfectly accessible, or luminous in Williamson’s sense. Thus the anti-luminosity conclusion, even if true, cannot be used to motivate (4), the thesis that knowledge scores equally well with other candidate conditions on the accessibility scale. The discussion in Sections 1.2 and 2.1 tried to show that this thesis is in fact false: certain factive conditions score better than knowledge on the accessibility dimension. Since the anti-luminosity thesis doesn’t entail (4), this conclusion is compatible with the

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<sup>142</sup> To a first approximation, a trivial condition is one that obtains in all cases or none. See (Williamson 2000:107-108) for more details.



thesis.

However, a more subtle appeal to the anti-luminosity thesis might help generate support for premise (4). Williamson (2000) often gestures at such an argument in his defense of the E=K thesis.<sup>143</sup> Here is a quote from the *Introduction* of his (2000):

To complain that we are not always in a position to know whether we know something is to bankrupt the notion of evidence, for only luminous conditions meet that more stringent constraint and luminous conditions are trivial. Although the constraint might drive us to suppose that one's evidence consists of appearances to oneself, the discrimination argument [this is the anti-luminosity argument in Section 4 of Williamson (2000)] shows that not even the condition that things appear to one in a given way is luminous.... *Once the standard for the epistemic accessibility of evidence is set at an attainable level, knowledge meets the standard.*" (2000: 15) (emphasis is mine.)

According to Williamson the anti-luminosity argument shows that perfect accessibility is an unattainable standard no matter what epistemic condition one offers as a necessary and sufficient requirement for evidence: theories identifying evidence with what one believes (E=B), what one truly believes (E=TB), or what it appears to one to be the case (E=A), like E=K, fail to meet the standard. This calls into question the correctness of perfect accessibility as the standard for a theory of evidence. It also motivates the thought that the standard must be at a lower, more reasonable level. According to Williamson, knowledge meets the standard, when set at this lower, more reasonable level. The important point about this argument is that knowledge, perhaps like other candidate conditions—true belief, appearances, and so on—meets the relevant standard for accessibility required for possessing evidence. So, any differences

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<sup>143</sup> See especially Sections, 8.7, 9.3 and pp. 222-223 in Section 10.3.

between knowledge and other epistemic conditions in the accessibility dimension are ones that don't end up making a difference: the low ranking of knowledge along the accessibility scale relative to rival conditions is insignificant in so far as knowledge ranks above the threshold of accessibility sufficient for possessing evidence. Even if the other conditions rank above the threshold, that just puts all candidates in equal footing as far as accessibility is concerned: premise (4) still stands.

Obviously the question, "where should the standard be set?" must be answered at least in a preliminary fashion, prior to making the assessment as to whether or not knowledge meets the standard. Williamson suggests that the standard must be set at a level where it allows for genuine compliance with (what in Section 2.1 I called) the rationality injunction. Earlier we used the following rough and ready way to give substance to this requirement: one must be *for the most part* in a position to know that the candidate condition obtains, when it does in fact obtain. Does knowledge satisfy this requirement? It depends on how often we are in a situation in which we know a proposition without being in a position to know that we know it: if this happens a lot, then knowledge ranks below the threshold of accessibility required for evidence.

It's interesting to notice that we can never be in a position to know that we are in such a situation when we are in it: one cannot be in a position to know the proposition, *I know p, but I am not in a position to know that I know p*. If the case were possible, then by *PK-Distribution* one would be in a position to know that one knows *p* and be in a position to know that one doesn't know that one knows *p*. Since, "being in a position to know" is factive, one would be in a position to know that one knows *p* and not be in a position to know that one knows *p*, which is impossible. If we are never in a position to

know that such a situation obtains when it does obtain, how can we be sure that it doesn't obtain very often?

Perhaps we can reassure ourselves by reflecting on our previous epistemic condition at a later time. But even then, the results are not quite reassuring. As argued by Gilbert Harman (1973: 143-144; 1980: 164-165) and others (Goldman 1976: 772-3; Williamson 2000: 79), one's knowledge can be undermined by evidence one doesn't possess. Assuming that one is always in the position to know (a priori) this analytic truth about knowledge and also, for the most part, in the position to know that one knows a certain proposition, then (by *P-K Closure*) one is, for the most part, in a position to know with regard to such propositions that no undermining evidence exists against them.

A modification of one of Harman's cases can be used to illustrate the point. Suppose I saw Tom stealing a book from the Cornell library and reported him to the campus police in Ithaca. The next day, I flew out of town and am now sitting on a beach in Durrës considering whether I knew yesterday, while sitting on the airplane, that Tom stole a book from the library. We stipulate that the relevant conditions for the acquisition of knowledge in this case are all in place: I have 20/20 vision, the weather is clear, I have known Tom for many years, and his mother hasn't testified anywhere about Tom's kleptomaniac twin brother while I am in the plane. So, by most accounts, I know that Tom stole the book. Was I in a position to know that there is no undermining evidence to my knowledge, while on the plane? In particular, was I in a position to know that his mother hadn't testified on the existence of a kleptomaniac twin brother? If not, how could I have been in a position to know that I knew that Tom stole the book?

A Moorean response is available in this case, as in the case of first

order knowledge: you were in a position to know that his mother hadn't testified to the existence of a kleptomaniac twin brother by merely being in a position to know that you knew that Tom stole the book. Despite the merits of the Moorean response to skepticism about first-order knowledge, this type of response in the case of second-order knowledge strikes me as shallow. In this case, as in many others where we come to know things about our environment, I have no evidence one way or another as to the existence of any undermining evidence which I don't possess. But then, how can I be in the position to know that there is no such undermining evidence? And if I am not in a position to know that there is no such evidence, how can I be in the position to know that I know that Tom stole the book? My answer is that I don't, and that this is not an exception, but the rule when it comes to most of the items in our inventory of knowledge.

In summary, an argument that one is for the most part in a position to know that one knows a certain proposition, when one knows it, is needed to motivate the claim that knowledge can meet a demanding standard of accessibility. I have tried to give some reason for thinking that the claim is non-trivial and seemingly implausible. An argument in its support is both necessary and unavailable.

Suppose that such an argument can be given to motivate premise (4) in the argument considered above. By the results of the previous sections the argument for (6) is still unsound, for premise (5) is false: certain conditions enjoy a higher creditable standing than knowledge, for example the condition that one knows that one knows a certain propositions. Furthermore, it is not clear that they do not satisfy the standard of accessibility when it's set at the lower, reasonable level suggested by Williamson. More specifically, if one is,

for the most part, in a position to know that one knows that one knows a certain proposition when one in fact does, and if knowledge that one knows has a higher creditable standing than knowledge, then knowledge that one knows is a more plausible candidate for a theory of evidential status than knowledge, for it satisfies the demand of accessibility just like knowledge does, while outranking the latter in the creditable epistemic standing dimension.

*3.2 Tradeoffs.* Different candidate conditions offer different trade-offs of accessibility and creditable epistemic standing. A theory that identifies evidence with those propositions that one truly believes trades off creditable epistemic standing for higher accessibility. The E=K theory does the opposite: it trades off lower accessibility for higher creditable epistemic standing. Section 2.2. argued that it is not the only theory that is in a position to do so: a theory that identifies evidence with those propositions that one knows that one knows (E=KK) offers a similar tradeoff. Which of these trade-offs most accurately captures the main theoretical functions of our ordinary concept of evidence is a vexed matter. A more subtle, but less direct (and perhaps less convincing), argument for the E=K thesis would be one that shows knowledge to be a unique tradeoff in the following important respect: for every other rival condition *C* knowledge outranks *C* by a large margin in one dimension of evaluation, while scoring sufficiently close to it in the other dimension. More specifically, the argument would need to show that there is an important difference between knowledge and true belief in creditable epistemic standing, but an insignificant difference between the two in accessibility, while at the same time showing that there is little difference between knowledge and

knowledge that one knows in creditable epistemic standing, but a significant difference between them in accessibility, with knowledge being far more accessible than knowledge that one knows. No theoretical argument along these lines has been attempted. My suspicion is that even if attempted, such an argument would ultimately fail for reasons hinted at in the previous section: despite its higher creditable epistemic standing the gap between knowledge and other candidate conditions of a lower epistemic standing as far as accessibility is concerned, is quite significant.

The next section considers and tries to undermine a more direct argument for the  $E=K$  thesis; one that ultimately appeals to our intuitions about particular cases. The argument is unconvincing, but the cases to which it appeals illustrate an important connection between evidence propositions and *objective chance*. I will suggest that the connection sheds light on the nature of the category of conditions discussed in the previous chapter: *factive, static attitudes*.

3.3  $E \Rightarrow K$ . Williamson (2000: 193) advances the following argument for the  $E=K$  thesis:

1. All evidence is propositional.<sup>144</sup>
2. All propositional evidence is knowledge ( $E \Rightarrow K$ )
3. All knowledge is evidence. ( $K \Rightarrow E$ )<sup>145</sup>
4. All and only knowledge is evidence. ( $E=K$ )

This section challenges the conclusion by calling into question premise (2). I will try

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<sup>144</sup> See the section titled *Preliminaries*.

<sup>145</sup> See (Bird 2004) and (Weatherson ms.) for arguments respectively for and against this premise.

to show that the support for (2) is weak. Williamson tries to motivate premise (2) by way of an example:

**Bag**

Suppose that balls are drawn from a bag, with replacement. In order to avoid issues about the present truth-values of statements about the future, assume that someone else has already made the draws; I watch them on film. For a suitable number  $n$ , the following situation can arise. I have seen draws 1 to  $n$ ; each was red (produced a red ball). I have not yet seen draw  $n+1$ . I reason probabilistically and form a justified belief that draw  $n+1$  was red too. My belief is in fact true. But I do not know that draw  $n+1$  was red. Consider two false hypothesis:

$h$ :        Draws 1 to  $n$  were red; draw  $n+1$  was black.

$h^*$ :      Draw 1 was black; draws 2 to  $n+1$  were red.

It is natural to say that  $h$  is consistent with my evidence and that  $h^*$  is not. In particular it is consistent with my evidence that draw  $n+1$  was black; it is not consistent with my evidence that draw 1 was black. Thus my evidence does not include the proposition that draw  $n+1$  was red. Why not? After all by hypothesis, I have a justified true belief that it was red. The obvious answer is that I don't know that draw  $n+1$  was red; the unsatisfied necessary condition for evidence is knowledge.

(Williamsons 2000: 200-201)

Williamson's explanation of the asymmetry between  $h$  and  $h^*$  is questionable. In what follows, I consider two different arguments against this explanation. The first is advanced by Brian Weatherson. It tries to show that in a case structurally similar to **Bag**, a knowledge asymmetry cannot explain the asymmetry in evidential status of two different propositions. Weatherson's conclusion relies on the assumption that we can have knowledge of propositions believed on probabilistic grounds, where the probability of the proposition being true is short of 1. The argument is as plausible as

the assumption it makes. In the second part of this section I consider a rival explanation for the asymmetry highlighted in **Bag**, that also explains the asymmetry in Weatherson's case; this explanation doesn't support premise (2) and doesn't rely on Weatherson's controversial assumption. In so far as my explanation of the asymmetry of evidence works for both **Bag** and Weatherson's case, it is superior to the knowledge explanation provided by Williamson. If Williamson's explanation is not required for explaining the alleged asymmetry in these cases, premise (2) remains unmotivated. The next section uses these results to draw certain conclusions about the nature of factive, stative attitudes. We start with Weatherson's argument against premise (2).

Consider the following case<sup>146</sup>:

#### **Movie**

Suppose that the movie *Ronin* is still in theatres. I have seen it twice; once on Monday and once on Wednesday; I have not seen it on any other day of the week. The movie is screened with the same ending on both occasions: it ends with the Robert DeNiro character saying "good bye" to the Jean Reno character in a coffee shop in Paris. Call this the "good bye" ending. Today is Saturday. Now consider the following false hypotheses:

*h*:        The movie was not screened with the "good bye" ending on Friday.

*h*\*:       The movie was not screened with the "good bye" ending on Monday.

Just like in **Bag**, it is natural to say that *h* is consistent with my evidence, but *h*\* is not. Again the question is why not? Weatherson argues in the following way. Williamson's explanation involving a knowledge asymmetry on the part of the subject—I do know

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<sup>146</sup> This is an adaptation of a case given by Brian Weatherson (ms.).



that the movie was screened with the “good bye” ending on Monday, but I don’t know that the movie was screened with the “good bye” ending on Friday—is of doubtful plausibility in the **Movie** case. Why don’t I know that the movie was screened with the “good bye” ending on Friday? Movie theatres do not screen movies with alternate endings on different days. Williamson’s answer, if correct, requires a strong skepticism about the *unobserved* that goes against our ordinary intuitions about the correct application of the concept “knows”; according to Weatherson, that the movie was screened with the “good bye” ending on Friday is one of those things we take ourselves to know. If Weatherson is correct, then the knowledge asymmetry doesn’t explain the asymmetry with regard to evidence in **Movie**. However, Weatherson’s argument depends on the crucial assumption that in **Movie**, one has knowledge of the proposition concerning what one hasn’t observed, namely that the movie was screened with the “good bye” ending on Friday. It is unclear whether one can have knowledge of such propositions given that one believes them on probabilistic grounds on which the probability of the relevant proposition is short of 1.<sup>147</sup>

My argument will not rely on this assumption. As indicated earlier, I will offer a different explanation for the evidential asymmetry between  $h$  and  $h^*$ --one that doesn’t support premise (2). We start with a few definitions. A *branching possibility* of a case  $\alpha$ ,  $\langle i, t \rangle$ , is any world  $\beta$  that shares the entire history and laws of nature with  $\alpha$  until time  $t$ . A proposition  $p$  has a nonzero objective chance in  $\alpha$  at  $t$  if and only if there is some branching possibility  $\beta$  of  $\alpha$  where  $p$  is true. Let a propositional attitude  $C(p)$  be *truth guaranteeing* if and only if for every case  $\alpha$  if one bears  $C$  to a proposition  $p$  in  $\alpha$  at  $t$ , then  $\text{not-}p$  doesn’t have a nonzero objective chance in  $\alpha$  at  $t$ .

Obviously, non-factive attitudes are not truth-guaranteeing. I can guess that a coin that’s about to be flipped will land tails even if the objective chance of it landing

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<sup>147</sup> See (Williamson 2000: 117 & chap 11.2) for more discussion of this issue.

heads is nonzero. The same is true of other non-factive conditions: believing, conjecturing, predicting, and so on. Some factive attitudes are not truth-guaranteeing either: I can truly and justifiably believe that the coin will land tails based on the reliable but faulty information that it is biased towards tails, even if the objective chance of it landing heads is nonzero. Obviously the same holds of true belief.

However, certain propositional attitudes satisfy the schema: paradigmatic factive, stative attitudes like seeing that  $p$  or remembering that  $p$  are truth-guaranteeing in the sense specified above. The sentence “one sees that  $p$  in  $\alpha$  but not- $p$  has a nonzero objective chance in  $\alpha$ ”, expresses a contradiction; the same is true for remembering and other factive stative attitudes. Condition  $\Psi$  (discussed in the previous chapter) exemplified by the condition obtaining when one comes to believe of a real barn that it is a barn in the middle of barn-façade country, also satisfies the requirement for being truth-guaranteeing. Since  $\Psi$ , as argued in the previous chapter, doesn’t entail knowledge, bearing a truth-guaranteeing attitude towards a proposition doesn’t entail knowing it.

Going back to the cases discussed earlier in this section, the evidential asymmetry between the relevant instances of  $h$  and  $h^*$  in both **Bag** and **Movie** can be explained by the distinction between truth-guaranteeing and non-truth guaranteeing conditions. In both cases the subject bears a truth-guaranteeing attitude towards the negation of  $h^*$ --the subject remembers not- $h^*$ . What about the negations of the two relevant instances of  $h$ ? In the **Bag** case the answer is a compelling “no”: one has a true justified belief in the negation of  $h$ , but, as indicated earlier, true, justified belief is not truth-guaranteeing. The same is true of the subject in the **Movie** case. The following argument tries to motivate this conclusion.

1. If the subject bears a truth-guaranteeing attitude to not-  $h$  on Saturday, then he bears a truth-guaranteeing attitude to not- $h$  on Thursday.

2. If the subject bears a truth-guaranteeing attitude to not-  $h$  on Thursday, proposition  $h$  doesn't have a nonzero objective chance on Thursday.
3. Proposition  $h$  has a nonzero objective chance on Thursday.
4. Hence, the subject doesn't bear a truth-guaranteeing attitude to not- $h$  on Saturday.

The crucial premise here is (1). The thought behind this premise is that the epistemic position the subject occupies with regard to not- $h$  on Saturday is, *at best*, the same as the epistemic position the subject occupies with regard to not- $h$  on Thursday. After all, the subject gains no extra evidence in support of not- $h$  any time between Wednesday and Saturday. How then can his epistemic position change with regard to not- $h$  between Thursday and Saturday? The plausible answer is that it cannot. If this mini-argument convinces, then the subjects on **Bag** and **Movie** bear a truth-guaranteeing attitude to the negation of the relevant instance of  $h^*$ , but they fail to bear a truth-guaranteeing attitude to the negation of  $h$ . This, I submit, is what explains the asymmetry between  $h$  and  $h^*$  in the two cases.

This explanation is not equivalent with the knowledge explanation proposed by Williamson, for as we noted above, bearing a truth-guaranteeing attitude towards a proposition doesn't entail knowing it. If an asymmetry in knowledge is not required for explaining the evidential asymmetry between  $h$  and  $h^*$  in the cases under discussion, then Williamson's premise (2) is left unmotivated. If (2) is unmotivated, the  $E=K$  thesis which is the conclusion of the argument involving premise (2) sketched at the beginning of this section remains unsupported. So, Williamson's direct argument for the  $E=K$  thesis is ultimately unconvincing, as well.

3.4 *Factive, Stative Attitudes, Objective Chance, and Evidence.* Our explanation of **Bag** and **Movie** suggests that bearing a truth-guaranteeing attitude towards a

proposition is necessary for that proposition to be part of one's evidence in a particular case. We have also seen that paradigmatic factive, stative attitudes like *seeing that*, and *remembering that*, are truth-guaranteeing in the sense specified in the previous section: if one bears one of these factive, stative attitudes to a certain proposition at a certain time, then the objective chance of that proposition's negation is zero at that time. So, these attitudes satisfy the necessary condition for possessing evidence suggested by our discussion.

The "truth guaranteeing" requirement on possessing evidence sheds light on an issue that was left open at the end of last chapter. There we tried to give substance to the category of factive, stative attitudes by outlining the requirements satisfied by the expressions used to denote these attitudes in English: what Williamson (and we) referred to as factive, mental state operators (FMSOs). The fourth requirement I suggested for this category of expressions was that they denote conditions that are prime\*, in the technical sense explained in the previous chapter. I also cautioned that, though necessary, the primeness\* requirement when added to the other three conditions specified earlier—factiveness, stativeness, and propositional attitude ascription—doesn't constitute a set of necessary and sufficient conditions for being an FMSO. I suggested that the relation between the internal\* and external\* relata that the prime\* condition denoted by an FMSO involves must be epistemically relevant. The suggestion was backed up by the intuition that in the case of factive, stative attitudes the "matching" between the internal\* and external\* relata<sup>148</sup> is non-accidental in a way that guarantees evidence, for as I pointed out there, paradigmatic factive, stative attitudes like *seeing that*, *hearing that*, *smelling that*, are ways of collecting *evidence* about our world.

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<sup>148</sup> I am using "internal\*" and "external\*" here in the technical sense specified in the previous chapter.

By defending a knowledge requirement on possessing evidence, Williamson proposes that an evidence-securing “matching” between the internal\* and external\* relata has to be non-accidental in a way that guarantees *knowledge*. I have tried to show that the knowledge requirement on evidence is unmotivated; by the same token, so is a knowledge requirement on factive, stative attitudes. I have tried to argue that the relation between mind and world required for possessing evidence is one that only guarantees truth, in the sense specified earlier. There is no reason, then, to think that bearing a factive, stative attitude towards a proposition requires more than that. The difference between my proposal and Williamson’s is the following: for me the matching between the internal\* and external\* relata in the case of factive stative attitudes is non-accidental in a way that guarantees *truth*; for him, this matching is non-accidental in a way that guarantees knowledge.

If my proposal is correct then the following fifth, and final, requirement for an FMSO, when combined with the other four, discussed in the previous chapter, gives us a set of necessary and sufficient conditions for membership in the FMSO category.

*Chance:* For every FMSO  $\Phi$ , the expression “S  $\Phi$ s that  $p$  at  $t$ ” has the expression “the objective chance of not- $p$  at  $t$  is zero” as its deductive consequence.

These five requirements for being an FMSO give content to the category of factive, stative attitudes.<sup>149</sup>

3.5 Is “*knowing that*” an FMSO? This section explains why the “yes” and “no” answers are both plausible. The next section develops a theory of evidence that assumes the “yes” answer. I don’t have a knock-down argument for this theory of

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<sup>149</sup> In fact, *Chance* makes *Factivity* redundant for if one’s attitude to  $p$  in a case  $\alpha$  is truth-guaranteeing then  $p$  is true in  $\alpha$ .

evidence, in part because I don't have a knock-down argument for the claim that "knowing that" satisfies *Chance*: the argument from Hawthorne and Lasonen-Aarnio considered below might fail to convince. However the argument is powerful enough to allow us to tentatively offer a theory of evidence that relies on the assumption that "knowing that" satisfies *Chance*. In any case, let's start with the "no" answer to our title-question.

Ordinarily we think we have lots of knowledge about the future. But as Hawthorne and Lasonen-Aarnio remind us in a recent article, "contemporary wisdom has it that indeterminism prevails in such a way that just about any proposition about the future has a non-zero chance of being false." (ms.: 1) If for some case  $\alpha$ , one knows a proposition  $p$  (about the future) but  $\text{not-}p$  has a nonzero chance of being true in  $\alpha$ , then the expression "one knows  $p$  at  $t$ " doesn't have "the objective chance of  $\text{not-}p$  at  $t$  is zero" as its deductive consequence. By *Chance*, that means that "knowing that" is not an FMSO. So, assuming indeterminism and *Chance*, the possibility of having knowledge of propositions about the future, motivates the "no" answer to our question in the title, thus ruling knowledge out of the category of factive, stative attitudes.

However, there are theoretical reasons that support the "yes" answer as well, despite what ordinary speech might lead us to believe. In their article, Hawthorne and Lasonen-Aarnio offer a powerful argument for skepticism about knowledge of propositions about the future. I summarize their argument below<sup>150</sup>.

Let  $S$  be a set of subjects,  $\{s_1, s_2, \dots, s_n\}$  inhabiting a world  $w$ , and  $P$  be a set of propositions  $\{p_1, p_2, \dots, p_n\}$  about the future that the subjects respectively believe: for example, propositions of the form "the marble I am about to drop will not tunnel throughout the house leaving the matter it penetrates intact" (where "I" denotes the

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<sup>150</sup> This is the argument in Hawthorne and Lasonen-Aarnio (ms.: 6-9)

subject believing the proposition in question). Call these marble-propositions. We assume that the number of subject-proposition pairs is large enough to render the objective chance that the conjunction of all the propositions in  $P$ ,  $p_1 \& p_2 \& \dots p_n$ , in  $w$  at  $t$ , very low, and thus the objective chance of the negation of this conjunction,  $\sim p_1$  or  $\sim p_2$  or  $\dots \sim p_n$ , in  $w$  at  $t$ , very high. If any knowledge about the future is possible, these sorts of propositions are those we ordinarily take to know. Then we reason as follows.

1. For any world  $w$  and proposition  $p$ , if the objective chance of not- $p$  in  $w$  is high, then there is a close, branching world<sup>151</sup> to  $w$  in which not- $p$  is true. (HCCP)<sup>152</sup>
2. If one knows  $p$  in a world  $w$ , then there is no world close to  $w$  in which one falsely believes  $p$ .<sup>153</sup> (Safety)
3. Assume that for some world  $w$  for a large set of propositions  $P = \{p_1, p_2, \dots p_n\}$  (where  $p_i$  is a marble-proposition) there is a set of subjects  $S = \{s_1, s_2, \dots s_n\}$  such that for every  $s_i$  in  $S$ ,  $s_i$  knows  $p_i$  in  $w$  at  $t$ .
4. Assume that the number of subject-proposition pairs is large enough to render the objective chance that the conjunction of all the propositions in  $P$ ,  $p_1 \& p_2 \& \dots p_n$ , in  $w$  at  $t$ , very low, and thus the objective chance of the negation of this conjunction,  $\sim p_1$  or  $\sim p_2$  or  $\dots \sim p_n$ , in  $w$  at  $t$ , very high.
5. By (5) and *HCCP*, there is a branching world  $w'$  that's close to  $w$ , such that the conjunction  $\sim p_1$  or  $\sim p_2$  or  $\dots \sim p_n$  is true in  $w'$ .

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<sup>151</sup> A “branching world” is to be understood similarly to a “branching case” as the latter in the sense specified in the previous section.

<sup>152</sup> This is what Hawthorne and Lasonen-Aarnio call the High-Chance-Close-Possibility Principle.

<sup>153</sup> This is similar to the Safety Principle involving cases, which we have used earlier. I am setting up the argument in terms of “worlds” instead of “cases” to follow the terminology used by Hawthorne and Lasonen-Aarnio.

6. Assuming that for each subject  $s_i$ ,  $s_i$  believes  $p_i$  in  $w'$ , there is some subject  $s_i$  who falsely believes  $p_i$  in  $w'$ .<sup>154</sup>
7. By (6) and *Safety*, for some subject  $s_i$  and proposition  $p_i$ ,  $s_i$  fails to know  $p_i$  in  $w$ .

Now, if (7) is true, then one of our subjects doesn't know that his marble will not tunnel. Which one? Considering that the subjects are epistemically symmetrically situated, it is tempting to think that they either all know their respective propositions, or none of them does. Hawthorne and Lasonen-Aarnio's argument tries to show that the first option is untenable. In so far as the argument is successful, it motivates skepticism about propositions concerning the future. If the possibility of knowledge about the future is undermined, there is no reason to think that "knowing that" doesn't satisfy *Chance*. If "knowing that" satisfies *Chance* then the condition picked out by this locution is truth-guaranteeing in the sense specified above. Assuming that knowledge is truth-guaranteeing in the sense specified above, and it also satisfies the other conditions for being a factive stative attitude laid out in the previous chapter, knowledge is itself a factive stative attitude. Relying on this conclusion, the next section will try to show that a theory of evidence that makes bearing a factive, stative attitude towards a proposition both necessary and sufficient for evidence is more plausible than  $E=K$ .

3.6.  $E=FSA$ . Bearing a factive, stative attitude (FSA) towards a proposition is both necessary and sufficient for that proposition to count as part of one's evidence. This is the theory of evidential status I try to motivate in this concluding section. I do so by

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<sup>154</sup> Hawthorne and Lasonen-Aarnio motivate this assumption in the following way. Since the subjects know their respective propositions in  $w$ , they believe them there. Since they believe them in  $w$  at  $t$ , they will believe the same propositions in all branching worlds to  $w$ , for all branching worlds share the same history with  $w$  until time  $t$ , and "there is no reason to think that which content [one] entertain[s] [in a particular world] depends on the future." (ms. : 8)



showing that FSA is more accessible than K in the sense specified earlier, while the difference between the two conditions on the creditable epistemic standing dimension is sufficiently insignificant for it to matter. We start with the ranking of the two conditions in the accessibility dimension.

Bearing an FSA towards a proposition and knowing it are snug in the sense specified in the second part of this chapter. Assuming that knowledge is itself a FSA, knowing a proposition entails bearing an FSA towards it. On the other hand, if one believes that one bears a FSA towards a proposition, then trivially one believes that that proposition is true, and by the *B-K Principle* one believes that one knows that proposition. So, FSA and K satisfy the two conditions for snugness laid out earlier. That means that for every case  $\alpha$ , and proposition  $p$ , if one is in the position to know that one knows  $p$  in  $\alpha$ , then one is in the position to know that one bears an FSA to  $p$  in  $\alpha$ . But for some case  $\alpha$ , one can be in a position to know that one bears a FSA to  $p$  in  $\alpha$ , without being in the position to know that one knows  $p$  in  $\alpha$ . It's easy to see why. We just need to make a small modification to the model considered in Section 2.2: we need to stipulate that in that model one bears a FSA to  $p$  in  $\beta$ , without knowing  $p$  in  $\beta$ . This type of case is made possible by the mere existence of what in the last chapter we called condition  $\Psi$ . Since, the following two conditions are satisfied,

- For every case  $\alpha$ , and proposition  $p$ , if one is in the position to know that one knows  $p$  in  $\alpha$ , then one is in the position to know that one bears a FSA to  $p$  in  $\alpha$ ; and,
- For some case  $\alpha$ , one can be in a position to know that one bears a FSA to  $p$  in  $\alpha$ , without being in the position to know that one knows  $p$  in  $\alpha$ ,

then FSA ranks higher than knowledge in the accessibility dimension. How about the creditable epistemic standing dimension? There, FSA ranks lower than knowledge does: intuitively one is in a better epistemic position in a real barn case than in a barn-

façade case, even though one knows in one and merely bears an FSA to the relevant proposition in the other. But as I will try to show, the difference is insignificant when we consider why creditable standing matters for evidence. Consider Williamson's explanation:

If evidence required only justified true belief, or some other good cognitive status short of knowledge, then a critical mass of evidence could set off a kind of chain reaction. Our known evidence justifies true belief in various true hypotheses; they would count as evidence too, so this larger evidence set would justify belief in still more true hypotheses, which would in turn count as further evidence....The result would be very different from our present conception of evidence. (2000: 201)

The kind of chain-reaction that Williamson fears in the case of true, justified belief doesn't plague FSA. It's possible for one to bear a FSA towards a proposition *p*, and to justifiably believe a true proposition *q* on the basis of *p*, without bearing a FSA towards *q*, i.e., without *q* ending up as part of one's evidence. For example, I bore a FSA to the proposition, *the sun rose today*, on Tuesday, for I saw it rise. I justifiably believed the following true proposition *q*, on the basis of *p*, on Tuesday, *the sun will rise on Wednesday*. Yet, I didn't bear a FSA to *q* on Tuesday; thus, only *p* was part of my evidence on Tuesday. So unlike justified, true belief and other non-truth-guaranteeing conditions, other FSAs—like knowledge—don't face the "chain reaction" problem raised by Williamson. In other words, the higher epistemic standing of knowledge relative to FSA is not significant in a way that should affect our choice of a theory of evidence. In the meantime, FSA's superior ranking in the accessibility dimension might be enough to break the "tie" with E=K, for a theory of evidential status.

## **Conclusion**

This chapter has tried to show that having a proposition as part of one's evidence doesn't require knowing it. There are two different arguments that can motivate this thesis: one relies on the general desiderata for a theory of evidential status; and one is a direct argument that relies on our intuitions about evidence. I have tried to show that both arguments are unconvincing. A better understanding of the category of factive, stative attitudes is gained in the process. On the plausible assumption that knowledge is a member of this category, I have sketched an alternative theory of evidential status that equates one's evidence with those propositions towards which one bears a factive, stative attitude. The next, concluding section tries to summarize how these results bear on important questions in epistemology and philosophy of mind.

## CONCLUSION

**1.1** This concluding section summarizes and works out the implications of the discussion in the previous three chapters. It has three parts. The first provides a summary of the results and works out some of their epistemological implications. The second part explains how these results bear on an important issue in philosophy of mind. The third part discusses the relation between these philosophy of mind implications and a particularly appealing skeptical argument; it argues that the implications disarm the argument.

**1.2** Chapter One argued in a preliminary fashion for a conjunctive account of knowing. According to this account, the knowledge condition is the conjunction of a mental and a non-mental component. The chapter also sketched a theory of rational belief that renders this condition the most plausible candidate for playing the role of the mental component. It also fended off an attempt to argue that rational belief—so construed—is not a mental condition, but is itself, the conjunction of mental and non-mental constituents.

According to the minimal theory of rational belief sketched in Chapter One, the only propositions that can be rationally believed are those of *evidential probability* 1, i.e., those propositions that are entailed by one's evidence. The view has as one of its trivial consequences that evidence entails rational belief.<sup>155</sup>

We concluded by showing that rational belief—specified in the way suggested by this minimal sketch—clearly satisfies two of the four requirements for being the

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<sup>155</sup> This is because according to condition (3) in the minimal theory of rational belief developed in Chapter One, one rationally believes  $p$  in a case if and only if one's belief in  $p$  is non-accidentally proportionate to the probability of  $p$  conditional on one's evidence. Evidence propositions—which according to our theory are a subset of those propositions that are believed--trivially satisfy this requirement.

mental component of knowledge: it is mental; and it entails every mental condition that knowledge entails.<sup>156</sup> Whether it satisfied the other two requirements—requirement (b) that knowledge entails it, and requirement (d) that it doesn't entail knowledge—was left open. I argued that the answer depended on what counts as the correct theory of evidence. More specifically, if all knowledge propositions were part of one's evidence—in other words, if knowledge entailed evidence—then rational belief satisfied requirement (b). If having a proposition as part of one's evidence didn't require knowledge, rational belief also satisfied requirement (d).

The theory of evidence proposed and defended by Timothy Williamson—that according to which evidence propositions are all and only those propositions that one knows—collapses rational belief and knowledge. Given the E=K view of evidence, rational belief satisfies condition (b) but not condition (d): it entails knowledge. Chapters Two and Three argued against the left-to-right side of the equivalence defended by Williamson: I tried to show that evidence doesn't entail knowledge, and consequently that rational belief satisfied condition (d).

The first part of the argument went through the discussion of a category of conditions—which Williamson calls *factive, stative attitudes*. I started from the assumption that bearing one of these attitudes to a proposition is sufficient for having that proposition as part of one's evidence. Then I argued that bearing one of these attitudes to a proposition is insufficient for knowing it. If both the assumption and the argument were correct the conclusion that evidence doesn't entail knowledge follows. The argument was inconclusive, for if evidence did require knowledge, and the assumption about the relation between *factive, stative attitudes* and evidence was correct, then the condition featuring in my argument was not a *factive, stative attitude* after all, and my argument failed. Despite it being inconclusive, the argument in this

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<sup>156</sup> These are requirements (a) and (c) in our list. See Chapter One, Section 1.5 for more detail.

chapter identifies an important feature of the category of factive, stative attitudes—one that rules the problematic condition of true belief out of this category, without relying on the seemingly ad hoc requirement of *semantic unanalysability* proposed by Williamson.

The Third Chapter takes a closer look at the argument that evidence requires knowledge. I identify two ways one can argue for this thesis—one based on general desiderata that a theory of evidence must satisfy; another based on intuitions about evidence we have in particular cases. I try to show that neither is convincing. However, a better understanding of the category of factive, stative attitudes and their relation to questions of objective chance is gained in the process. More specifically, we identify a new necessary requirement for membership in the category of factive, stative attitudes, which combined with the other requirements gives us a set of necessary and sufficient conditions for membership in the category. I also try to show that knowledge meets all those requirements and thus is a member of the category of factive, stative attitudes.

I end this chapter by proposing a theory of evidence according to which bearing a factive, stative attitude towards a proposition is both necessary and sufficient for that proposition to be part of one's evidence ( $E=FSA$ ). I show that this theory does a better job than  $E=K$  in satisfying the two desiderata for a correct theory of evidence.

If the  $E=FSA$  theory is correct, knowing a proposition is sufficient for having it as part of one's evidence, and thus sufficient for rationally believing it. Consequently, rational belief satisfies condition (b) for being the mental component of knowledge: knowledge entails it. On the other hand, if the theory is correct, then certain evidential propositions are both rationally believed and not known. For example, the proposition that the building is a barn, in a barn façade case. So, rational belief also satisfies requirement (d) for being the mental component of knowledge: it doesn't entail

knowledge. Since rational belief satisfies all four requirements for being the mental component of knowledge this completes the argument for the conjunctive account of knowing commenced in Chapter One.

There is a lingering question one is left with at the end of the three chapters: if rational belief is the mental component, then what is the non-mental component of knowledge? Reflection on barn-façade cases, and other similar ones where one's knowledge is undermined by evidence one doesn't possess, suggest that in addition to rationally believing  $p$ , the subject must inhabit a world where there is no condition such that if the subject became aware of it, he would stop rationally believing  $p$  in that world. It helps if we phrase things more precisely in terms of propositions: the subject must inhabit a world where there is no true proposition  $q$  such that if  $q$  were added to the subject's evidence, the conditional probability of  $p$  on the subject's new evidence would drop to a number that's less than 1. Such a proposition  $q$  is commonly referred to in the epistemological literature as a *defeater*.<sup>157</sup>

Intuitively, a defeater is a proposition that the subject doesn't have as part of one's evidence, but which is *negatively relevant* to  $p$ , relative to the evidence the subject has. Here the question of relevance becomes important: when is  $q$  relevant to  $p$ ? Does the proposition that a fake barn exists in Albania defeat my knowledge that a particular building is a barn in Ithaca, New York? Seemingly not. But it is hard to decide where to draw the line<sup>158</sup>, or whether a line can be drawn in a way that doesn't involve the concept "of rational belief". This is a matter for further investigation.

The conjunctive account of knowing is not in jeopardy if we don't have a final definition of what counts as a *defeater*. However, getting clear about the non-mental component of knowledge is important for the project of analyzing knowledge in terms

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<sup>157</sup> See for example (Klein 1971) and (Neta forthcoming).

<sup>158</sup> See (Humberstone 1988) for an interesting discussion.

of concepts corresponding to its mental and non-mental components. I hope this chapter has provided us with a better grasp of the mental component: rational belief. In so far as this is so, we are a step ahead in the project of analysis. It's the nature of this component to which I now turn.

If evidence is constituted by all and only those propositions towards which one bears a factive, stative attitudes, then all one's evidence is true. A factive view of evidence renders rational belief a factive condition as well: if all the propositions that are rationally believed are those of evidential probability 1—i.e., those entailed by one's evidence—then all the propositions that are rationally believed are true. The view that rational belief is both factive and mental has important consequences for philosophy of mind.

**1.3** As indicated in the Preface, the correct boundary between mind and world is an important issue in philosophy of mind. The results of the previous three chapters show that a certain intuitively plausible view about this boundary is false.

Suppose we define *internal likeness* between two subjects in the way suggested in Chapter II.<sup>159</sup> So, two cases  $\alpha$  and  $\beta$  are *internally* alike if and only if the subject has the same *non-factive* mental states (to the same degree) in both cases: the same beliefs, experiences, apparent memories and so on.<sup>160</sup> Say that a condition  $C$  is *internal* in this sense, if and only if for every pair of cases  $\alpha$  and  $\beta$  such that  $\alpha$  is *internally* like  $\beta$ ,  $C$  obtains in  $\alpha$  if and only if  $C$  obtains in  $\beta$ .

A seemingly plausible version of internalism about mental conditions claims that one is in the same mental condition in two cases if and only if for every internal

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<sup>159</sup> This is what in Chapter Two I refer to as internal\* likeness.

<sup>160</sup> As indicated earlier the subjects in these two cases are what Nico Silins (2005) calls "internal twins".



condition C, C obtains in one if and only if C obtains in the other. This type of internalism is compatible with what in Chapter One, I called *concept externalism*—the view that the concepts constituting the contents of our representational attitudes are individuated in part by conditions obtaining outside the subject's skin. However, if the picture of evidence and rational belief developed in the previous chapters is correct, this version of internalism is also false.

If rational belief is both factive and a mental condition, then certain mental conditions are not internal in the sense specified above. More specifically, rational belief isn't: of two subjects in exactly the same internal state, one may rationally believe that the object in front of her is a cat, while the other staring at a fake, but visually indistinguishable replica of the cat, doesn't rationally believe that it is. This is because the first subject sees and the second doesn't that the object in front of her is a cat. Given our account of evidence, the first has the proposition, *that is a cat*, as part of one's evidence and the second doesn't. That means that the evidential probability of that proposition is different in the two cases: it's 1 for the first subject and less than 1 for the second. Consequently, the first subject rationally believes that proposition but the second subject doesn't. If rational belief is a mental condition, then there is a mental condition with regard to which the subjects differ. That means that they are in two different mental states even if they are internally in the same state. If this conclusion is true, the version of internalism sketched above is false. In short, the suggestion is that factive conditions can be states of mind, even if the boundary of the mental doesn't stretch far enough to include knowledge.

**1.4** Undermining the kind of internalism articulated above is important to epistemology.

If this kind of internalism is proven false, then certain skeptical arguments lose their

appeal. Consider the following general, skeptical argument:

- (1) If one is exactly in the same mental state in two situations, then one is in as strong an epistemic position in one as one is in the other.
- (2) One is exactly in the same mental state in the *good* and the *bad* case.<sup>161</sup>
- (3) So, one is in as strong an epistemic position in the *good* case as one is in the *bad* case.
- (4) One is in a very weak epistemic position in the *bad* case.
- (5) Therefore, one is in a very weak epistemic position in the *good* case.

One way of motivating (2) is by stipulating that the subjects in the two cases are internal twins, i.e., identical in all representational respects: they have the same beliefs, experiences and apparent memories in both cases.<sup>162</sup> When combined with the version of internalism sketched above this stipulation supports premise (2). By calling into question this kind of internalism, our theory of rational belief blocks the motivation for the second premise and the skeptical argument that premise helps support.

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<sup>161</sup> Again, here I am using “good case” and “bad case” to stand respectively for a case where things appear as they ordinarily do and are that way, and a case where things appear as they ordinarily do and are not that way.

<sup>162</sup> Suppose that the bad case is set up in a way that avoids worries about concept possession: one has the same concepts in the good case as in the bad case. Perhaps, one starts his life as a normal human being and then is transformed to a brain-in-a-vat.

## APPENDIX

*Assassin case.*  $T = 1, 0$  depending on whether or not the Trainee shoots.  $S = 1, 0$  depending on whether or not Supervisor shoots and  $V = 1, 0$  depending on whether or not Victim dies. The set of structural equations for this case is the following. E:  $T = 1$  (Trainee shoots);  $S = \neg T$  (If Trainee shoots, Supervisor doesn't) and  $V = T \vee S$  (If Supervisor and Trainee hadn't shot, Victim would not have died.) Solving the equations in E we get the following values:  $T = 1, S = 0, V = 1$ . The graph for this case is sketched in Figure 4 below.

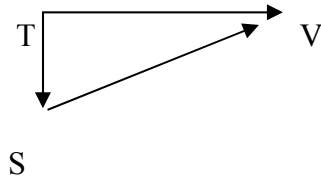


Figure 4

According to Hitchcock's analysis Trainee's shot caused Victim's death because one route from  $T$  to  $V$ , the direct route  $\langle T, V \rangle$ , is active: in a new system of equations  $E1$  where we change the value of  $T$  from 1 to 0, keeping the value of intermediate variables on other routes fixed—i.e., the value of  $S = 0$  along the  $\langle T, S, V \rangle$  route—the value of  $V$  ( $V = \max [S, T]$ ;  $V = \max [0, 0]$ ), changes from 1 to 0.

*The Back-up case.*  $S = 1, 0$  depending on whether or not  $b$  is shivering.  $V = 1, 0$  depending on whether or not the visual effect is on standby.  $L = 1, 0$  depending on whether or not  $b$  looks to the observer like he is shivering. In the example two counterfactuals are true: (1) if  $b$  were shivering the visual effect would not be activated to make  $b$  look like he is shivering; and (2) if  $b$  weren't shivering and the

visual effect didn't make him look like he was shivering,  $b$  wouldn't look to  $S$  like he was shivering. So, the set of structural equations for this case will be  $E$ :  $S=1$  ( $b$  was shivering),  $V=\neg S$  (the first counterfactual),  $L = V \vee S$  (the second counterfactual). The graphical representation of the case is depicted in Figure 5 below:

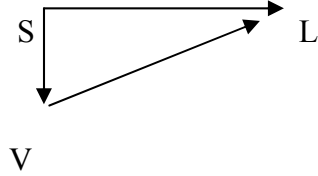


Figure 5

The values of our variables in  $E$  are the following:  $S = 1$ ,  $V = 0$ ,  $L = 1$ . The direct route from  $S$  to  $L$  is active because in a new system of equations where we change the value of  $S$  from 1 to 0 holding the value of  $V$  fixed—( $V = 0$ ) along the  $\langle S, V, L \rangle$  route—we get the following new set of equations  $E1$ :  $S = 0$ ,  $V = 0$ ,  $L = \max [S, L]$ , i.e.,  $L = 0$ . So,  $L$  counterfactually depends on  $S$  along  $\langle S, L \rangle$ , which according to Hitchcock's definition means that there is an active route from  $S$  to  $L$ . Assuming Hitchcock's analysis of causation, the existence of an active causal route from  $S$  to  $L$  guarantees that the condition that  $b$  is shivering causes the condition that  $b$  looks to  $S$  like he is shivering in Kvart's "back-up" case.

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