

A Thesis Submitted for the Degree of PhD at the University of Warwick

Permanent WRAP URL:

<http://wrap.warwick.ac.uk/151181>

Copyright and reuse:

This thesis is made available online and is protected by original copyright.

Please scroll down to view the document itself.

Please refer to the repository record for this item for information to help you to cite it.

Our policy information is available from the repository home page.

For more information, please contact the WRAP Team at: wrap@warwick.ac.uk

Reflections on knowledge and belief

Author:

Simon Bastian WIMMER

*A thesis submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy in Philosophy*

in the

Department of Philosophy
University of Warwick

September 2019

Contents

Acknowledgements	ix
Declaration of Authorship	xi
Abstract	xiii
1 Introduction	1
1.1 Two generalizations	4
1.2 Denying the abductive argument's input data	7
1.2.1 Weaker theses	9
1.2.2 No counterexample yet	10
1.3 Arguments for doxasticism	13
1.4 Arguments against doxasticism	16
1.5 The plan	23
2 Knowledge is a factual attitude	27
2.1 A preliminary	29
2.2 Holton's argument for factualism	30
2.3 The data	32
2.4 The argument	35
2.5 Anti-factualist alternatives	37
2.5.1 Alternative I, Acquaintance	37
2.5.2 Alternative I, Theme	40
2.5.3 Alternative II, Type-shifter	42
2.5.4 Alternative II, Concealed question	44
2.6 Cross-linguistic data	49
2.7 Anti-factualism about belief	52
2.8 Conclusion	55
3 Against doxasticism	57
3.1 Preliminaries	58
3.2 Vendler and Hyman	58
3.3 Interlude	61

3.4	Minimal doxasticism	61
3.5	Definition-based doxasticism	62
3.6	Species-based doxasticism	64
3.7	Composition-based doxasticism	67
3.7.1	State composition-based doxasticism: some details	68
3.7.2	State composition-based doxasticism: an explanatory gap	69
3.7.3	Property composition-based doxasticism	73
3.8	Conclusion	74
4	Against epistemicism	75
4.1	Constraints	76
4.2	Outlook	79
5	Against meta-epistemic and no-attitude epistemicism	81
5.1	Meta-epistemic epistemicism	81
5.1.1	Credence-based meta-epistemic epistemicism	83
5.1.2	Acceptance-based meta-epistemicism	86
5.2	No-attitude epistemicism	89
5.3	Conclusion	92
6	Against Price, Miracchi, and Bird	93
6.1	Price: knowledge as evidence	93
6.1.1	Constraints C2, C3, and C4	95
6.1.2	Constraints C5 and C6	96
6.2	Miracchi: knowledge as aim	98
6.2.1	Constraints C3 and C4	99
6.2.2	Constraints C5 and C6	101
6.3	Bird: faculty with the function of supplying knowledge	102
6.3.1	The view	103
6.3.2	An alternative interpretation	106
6.4	Conclusion	107
7	As-if epistemicism and the unknowable	109
7.1	Regimentations	111
7.2	The initial challenge	113
7.2.1	Two assumptions	113
7.2.2	OLD overgenerates	114
7.2.3	Two responses	115
7.3	Rejecting the assumptions	116
7.3.1	The first assumption	117

7.3.2	The second assumption	118
7.4	A further challenge	120
7.4.1	Unrelativised OLD	120
7.4.2	Relativised OLD	122
7.5	A better alternative	124
8	Against as-if epistemicism	127
8.1	Preliminaries	127
8.2	The initial challenge	129
8.2.1	Illustrating the challenge	131
8.2.2	Generalizing the challenge	132
8.3	No restriction	134
8.4	Theory-driven restriction	138
8.4.1	Two fully specific ways	140
8.4.2	One alternative to similarity	142
8.5	Conclusion	143
9	Against plural epistemicism	145
9.1	Regimentation	145
9.1.1	Condition (iii)	147
9.1.2	Similarity	150
9.2	Belief does not entail a reasoning disposition	152
9.2.1	Step 1	154
9.2.2	Step 2	155
9.2.3	Step 3	155
9.2.4	Step 4	159
9.2.5	Concluding section 9.2	163
9.3	An alternative	164
9.4	Conclusion	165
10	Conclusion	167
	Bibliography	169

List of Tables

5.1	Constraints satisfied by views discussed in ch.5	92
6.1	Constraints satisfied by views discussed in ch.6	108
8.1	William III and n , no conceptual resources	137
8.2	William III and n , knowledge of n	137

Acknowledgements

This thesis benefited immensely from the support of my supervisors Guy Longworth and Johannes Roessler. I thank them both for supervising me. Thanks also go to

- the academics at Warwick and elsewhere, who have inspired and helped me along during my graduate studies: in particular, Jennifer Nagel and Timothy Williamson who supervised me at Toronto and Oxford, but also Sven Bernecker, John Broome, Quassim Cassam, Naomi Eilan, Mark Jago, Hemdat Lerman, Peter Poellner, Martin Smith, and Jonathan Weisberg.
- fellow students and early career researchers at Warwick and elsewhere, in particular Tristan Kreetz for his enduring friendship, David Strohmaier for questioning whether any of my work is of any interest to anyone, and Jack Blaiklock for proof-reading the entire thesis.
- audiences in Aurich, Cologne, Durham, Edinburgh, Ghent, London, Munich, Nottingham, Oxford, Toronto, Tübingen, St.Andrews, and Warwick for comments and questions.
- anonymous referees for the Oxford graduate conference in Philosophy and the journals *Analysis*, *Australasian Journal of Philosophy*, *Philosophical Quarterly*, *Synthese*, and *Thought*.
- the Faculty of Arts at Warwick for its CADRE scholarship, the University of Toronto at Mississauga for a graduate research fellowship, and the DAAD for a short-term research grant.
- my parents, Brigitte Wimmer and Christian Kaiser, as well as my grandmother, Ernestine Wimmer, for their love and support.

I am most grateful, however, to my wife, Giulia Martina. With her kindness, she made me smile. With her strength, she helped me finish this thesis.

Declaration of Authorship

I, Simon Bastian WIMMER, declare that this thesis titled, “Reflections on knowledge and belief”, and the work presented in it are entirely my own. I confirm that:

- This work was done during my time as a doctoral candidate at this University.
- None of this work has previously been submitted for a degree or other qualification at this University or elsewhere.
- With the exception of chapter 7, the material in this thesis is unpublished. Chapter 7 is a slightly modified version of my article “Knowledge-first believing the unknowable,” which first appeared open access in *Synthese* in July 2019.
- Where I have consulted the work of others, this is always clearly attributed.
- Where I have quoted from the work of others, the source is always given.
- I have acknowledged all main sources of help.

Signed:

Date:

Abstract

This thesis defends egalitarianism about knowledge and belief, on which neither is understood in terms of the other, from what I call the abductive argument. This argument is meant to favour views opposed to egalitarianism: *doxasticism*, on which knowledge is understood in terms of belief, and *epistemicism*, on which belief is understood in terms of knowledge. The abductive argument turns on the idea that doxasticism and epistemicism, by contrast with egalitarianism, explain certain data about knowledge and belief, in particular the similarity of their downstream consequences and the entailment from knowledge to belief. I argue, however, that no versions of doxasticism and epistemicism currently on offer are preferable to egalitarianism on abductive grounds. Egalitarianism should thus remain our default view of the relation between knowledge and belief. As part of my argument, I also defend the claim that knowledge, by contrast with belief, is an attitude towards a fact and explore the implications of this claim for doxasticism and epistemicism.

Chapter 1

Introduction

I know, and believe, that it is raining. How are my knowledge and belief related?¹

The neutral starting point for answering this question is *egalitarianism*, the view that neither is understood in terms of the other.² Egalitarianism contrasts both with the orthodox view, *doxasticism*, on which knowledge is understood in terms of a non-circular, belief-involving, necessary, and sufficient condition for knowledge (Ichikawa and Steup, 2017)³, and with a view that recently gained traction, *epistemicism*, on which belief is understood in terms of a non-circular, knowledge-involving, necessary, and sufficient condition for belief.⁴

My central question in this thesis is whether we should move beyond the neutral egalitarian starting point for theorizing about the relation between knowledge and belief. My aim is to suggest that we have no reason for doing so.

Before I say more about why one might want to move beyond egalitarianism, let me comment on some of the choices one faces in interpreting egalitarianism, doxasticism, and epistemicism. Although we need not settle on precise interpretations just yet, it may be helpful for getting a better grip on the competing views to note two choice points.

The first concerns how to interpret the nouns ‘knowledge’ and ‘belief’, which I used to state the views. Following Grimm and McNally (2015), I’ll assume that nominalizations of ‘know’ and ‘believe,’ i.e. ‘knowledge,’ ‘knowing,’ ‘belief,’ and ‘believing,’ may be used to talk about kinds of states, properties of states, or states.⁵ Since egalitarianism, doxasticism and

¹ Unless otherwise noted, I use ‘knowledge’ and ‘belief’ to talk about the kind of knowledge/belief whose content may be specified by a ‘that’-clause.

² This view is endorsed in Cassam (2009b), Gerken (2017), Hetherington (2011), Hyman (1999; 2006; 2015), Kenny (2003), Lewis (1996), Millar (2007), Myers-Schulz and Schwitzgebel (2013), Prichard (1950), Roessler (2013), Ryle (2000), Vendler (1972), and White (1982).

³ As stated, doxasticism allows the relevant condition to be disjunctive.

⁴ Epistemicist views feature prominently in Williamson (2000; 2018b; 2018a), but can also be found in Baltag et al. (2017), Bird (2007), Bjorndahl and Özgün (2017), Holton (2017), Klein, Roy, and Gratzl (2018), Miracchi (2015), Nagel (2013), Price (1935), Robinson (1928), and Stalnaker (2006). Hyman (2017) advances an account much like epistemicism, though he does not claim that the necessary, and sufficient condition for belief he offers is non-circular.

⁵ Grimm and McNally (2015)’s view is that the nominalizations *denote* kinds of states. Utterances featuring

epistemicism are views about the relation between knowledge and belief, they may now be interpreted as views either of kinds of states, properties of states, or states themselves.

The second choice point concerns how to interpret the verb ‘understand’ as it occurs in the views. As I use it, this verb is a placeholder for some string denoting a metaphysical relation. The relevant relation may be modal equivalence, real definition, a species/genus relation, an identity relation on states or properties, a parthood relation on states or properties, or similar.

Setting aside how exactly we interpret egalitarianism, doxasticism, and epistemicism for now, why might one want to move beyond egalitarianism? The argument for doing so which I focus on in this thesis turns on broadly abductive grounds.

Using abduction, we first formulate versions of competing views that allow deduction of their consequences. Subsequently, we judge those theories based, partly, on their simplicity, elegance, and the fit between their consequences and what is independently known. That fit has at least two dimensions. First, theories should not entail anything we are in a position to falsify. Second, the more they explain of what we are in a position to verify independently, the better.⁶

Doxasticists and epistemicists may argue that abductive grounds favor their theories. On its own, egalitarianism is silent about knowledge, belief, and their relation. Although this insulates the theory from being falsified by data about the relation between knowledge and belief, it also bars egalitarians from explaining that data. On abductive grounds, then, egalitarianism on its own fares poorly. Doxasticism and epistemicism, by contrast, their defenders may say, fare better on abductive grounds, and so are preferable to egalitarianism on its own. Call this the *abductive argument*.

The abductive argument, as I discuss it in this thesis, takes two generalizations about knowledge and belief as its input data: what I call the entailment and similarity theses.⁷ According to the first, knowing that ϕ strictly entails believing that ϕ . The second says that necessarily, knowing that ϕ and believing that ϕ have very similar downstream consequences. I introduce both of these theses in more detail in the next section and discuss how doxasticists and epistemicists may try to explain them in chs.3 to 9. For now, I want to consider how an egalitarian may reply to the abductive argument.

Roughly speaking, egalitarians have two options. They may either (a) deny the abductive argument’s input data, i.e. the entailment and similarity theses, or (b) argue that doxasticism and epistemicism fare no better on abductive grounds than egalitarianism.

their occurrences that concern properties of states or states do so only because of certain type-shifting operations. The details of Grimm and McNally’s view will not matter here.

⁶ This paragraph draws on Williamson (2013, pp.423-29)’s discussion of abduction.

⁷ Here, I draw inspiration from Hyman (2017), who emphasizes the role of these theses in motivating doxasticism.

Option (b) may in turn be pursued in one of two ways. First, egalitarians may (b.i) supplement egalitarianism on its own with further claims about knowledge, belief, and their relation. The conjunction of egalitarianism and these claims may then rival doxasticism and epistemicism on abductive grounds. Or, second, they may (b.ii) argue that doxasticists and epistemicists mistakenly insist on the abductive benefits of their views; in fact, these views fare poorly in explaining the abductive argument's input data or entail things we are in a position to falsify. I pursue option (b.ii) in this thesis.

I support my reply to the abductive argument in two steps. First, I argue that any knowledge state takes a fact as content but no belief state does. This difference in content between any pair of a knowledge state and a belief state, I suggest, falsifies various versions of doxasticism and epistemicism. Moreover, versions not falsified by it do not fare better on abductive grounds than egalitarianism, as they either fail to explain the entailment and similarity thesis or entail things we are in a position to falsify. I conclude that, given that any knowledge state takes a fact as content but no belief state does, abductive grounds do not favor doxasticism or epistemicism over egalitarianism.

Strictly speaking, my reply only shows that the abductive argument does not work given the entailment and similarity theses as its starting points. This conclusion leaves open the possibility that other data provide abductive grounds favoring doxasticism or epistemicism over egalitarianism. However, I take it that the burden lies on doxasticists and epistemicists to present such data.

What about the remaining two possible replies to the abductive argument? On option (b.i), we undermine the abductive argument by supplementing egalitarianism. Although I do not develop this reply in detail here, outlining it in abstract helps to see its promise as a fallback option in case my argument here is unsuccessful.

The core observation driving this reply is that the abductive argument compares egalitarianism *on its own* with doxasticism and epistemicism. However, egalitarianism is consistent with many views of knowledge, belief, and their relation other than doxasticism and epistemicism. Thus, with an eye to explaining the entailment and similarity thesis, egalitarians may supplement their core claim, that neither knowledge nor belief is understood in terms of the other, with further claims about knowledge, belief, and their relation.

The following is a non-exhaustive list of egalitarian-friendly views. Egalitarians may be (i) primitivists about both knowledge and belief; they may (ii) understand knowledge in terms of a non-circular, necessary, and sufficient condition for knowledge involving some entity e distinct from belief, whilst being primitivist about belief; they may (iii) understand belief in terms of a non-circular, necessary, and sufficient condition for belief that involves some entity e distinct from knowledge, whilst being primitivist about knowledge; they may (iv) understand knowledge in terms of a non-circular, e -involving, necessary, and sufficient condition for knowledge and belief in terms of a non-circular, e' -involving, necessary, and sufficient condition for belief; they may (v) understand both knowledge and belief in terms

of non-circular, necessary, and sufficient conditions for knowledge and belief respectively, which involve some entity e distinct from both knowledge and belief; and so on.

For all we know, explaining data about the relation between knowledge and belief such as the entailment and similarity theses does not require taking one of knowledge and belief to be first. Nor should we take for granted that doxasticism and epistemicism are simpler or more elegant than the conjunction of egalitarianism with an egalitarian-friendly view. Thus, many such conjunctions, with suitable entities filled in for e (and e) may fare as well as doxasticism and epistemicism on abductive grounds.⁸ Consequently, even if, contrary to what I argue in this thesis, doxasticism and epistemicism had the abductive benefits their defenders insist on, egalitarians would not need to worry just yet. For they need not be *mere* egalitarians.

On reply (a) to the abductive argument, we deny the abductive argument's input data, viz. the entailment and similarity theses. Section 1.2 shows that this reply suffers from two defects. First, even if we reject the entailment and similarity theses, there are corresponding weaker theses that may fuel the abductive argument. Second, rejecting the two theses is, in any case, unmotivated.

After considering reply (a) to the abductive argument, this chapter considers arguments other than the abductive argument meant to bear on which of egalitarianism, doxasticism, and epistemicism we should adopt. Section 1.3 surveys and finds inconclusive extant arguments for doxasticism. Section 1.4 considers extant arguments against doxasticism and argues that they are too weak to exclude doxasticism from consideration. Concluding the introduction, section 1.5 summarizes the chapters to come.

1.1 Two generalizations

It is time to say more about the entailment and similarity theses. Start with the *entailment thesis*:

1. Necessarily, if one knows that ϕ , then one believes that ϕ .⁹

⁸ To illustrate this reply, suppose egalitarians held that to know that ϕ is to be able to act, think and feel for the reason that ϕ , following Hyman (1999; 2006; 2015), and that to believe that ϕ is to be able to take the proposition that ϕ as one's reason for acting. (For a similar view of belief see Hunter (2019).) Given suitable bridge principles, linking possession of the two abilities, this combination of views may explain not only data about knowledge and belief on their own, but also data about their relation such as the entailment and similarity theses.

⁹ In the first half of the 20th century, several Oxford realists (e.g. Cook Wilson, 1926; Robinson, 1928; Prichard, 1950) held the opposed *exclusion* thesis: necessarily, if one knows that ϕ , then one does *not* believe that ϕ . One motivation for the Oxford Realists were utterances like 'I don't believe that the ice is deceptively thin, I know it!' But see Grice (1989, p.52) for an account of these utterances compatible with the entailment thesis. Another motivation was that they took believing that ϕ to entail knowing that one has inconclusive evidence for ϕ . (Cook Wilson, 1926) If knowing that ϕ entails having conclusive evidence

Although this thesis is rarely argued for, it commands widespread support.¹⁰ To motivate it, we may generalize from normal cases. Normally, if one knows, one also believes. For instance, I know and believe that it is raining. Absent a counterexample, we generalize from normal to all cases and so get the entailment thesis.¹¹

A second generalization about knowledge and belief that calls out for explanation is the *similarity thesis*:

2. Necessarily, knowing that ϕ and believing that ϕ have very similar downstream consequences for what one does, thinks, and feels.

Roughly, the idea behind the similarity thesis is this. Suppose one is in a total psychological state. Adding to it a state of believing that ϕ , whilst changing as little else as possible about one's psychological state, one would act, think, and feel in some fully specific way F . Adding to it a state of knowing that ϕ instead, whilst, again, changing as little else as possible about one's psychological state, one would act, think, and feel in some fully specific way G . According to the similarity thesis, F and G are very similar.

The similarity thesis is, admittedly, somewhat imprecise. To begin with, we may wonder when two fully specific ways of acting, thinking, and feeling count as very similar. We may also wonder what a total psychological state is. For the purposes of this thesis, I do not address these questions and simply assume that some thesis in the similarity thesis' vicinity is true. As I hope will be clear, my discussion in the chapters to come generalizes to a variety of refinements of the similarity thesis.

Like the entailment thesis, the similarity thesis may be motivated by generalizing from normal cases. Begin by considering Ryle (2000)'s description of what seem to be some of the characteristic downstream consequences of believing and knowing that the ice is dangerously thin:

[...] to believe that the ice is dangerously thin is to be unhesitant in telling oneself and others that it is thin, in acquiescing in other people's assertions to that effect, in objecting to statements to the contrary, in drawing consequences from the original proposition, and so forth. But it is also to be prone to skate warily, to shudder, to dwell in imagination on possible disasters and

for ϕ , and knowing that ϕ entails ϕ , this view entails the exclusion thesis. However, not only has there been much debate about whether knowing that ϕ entails having conclusive evidence for ϕ (e.g. Benton, 2018; Littlejohn, 2011; Stanley, 2005; Worsnip, 2015), but it is also unclear what motivates the Oxford realists' initial claim that believing that ϕ entails knowing that one has inconclusive evidence for ϕ .

¹⁰ For arguments see Buckwalter, Rose, and Turri (2015, pp.756-7), Murray, Sytsma, and Livengood (2013, pp.85-7) and Rose and Schaffer (2013, p.S22).

¹¹ The qualification 'Absent a counterexample' is important as many putative counterexamples to the entailment thesis have been suggested. See, e.g., Radford (1966), Cohen (1992), Myers-Schulz and Schwitzgebel (2013), Murray, Sytsma, and Livengood (2013), Farkas (2015), and Tebben (2019). Section 1.2 discusses some of these examples.

to warn other skaters. [...] A person who knows that the ice is thin, and also cares whether it is thin or thick, will, of course, be apt to act and react in these ways too. (p.118)¹²

Ryle seems to suggest that, at least in normal cases, if we hold fixed one's psychological state as much as possible (in Ryle's example, that one cares whether the ice is thick), knowledge has all the downstream consequences of belief. Admittedly, Ryle's wording is neutral on whether knowledge also has downstream consequences belief does not have. But, as it is hard to identify any such downstream consequences, we may conclude that necessarily, knowledge has the same downstream consequences as belief.

This conclusion is strictly stronger than the similarity thesis—we might call it the sameness thesis. For my purposes, it does not matter too much whether we accept the similarity or sameness thesis. Both the sameness thesis and the similarity thesis are difficult to explain for doxasticists and epistemicists. However, a pair of cases inspired by Williamson (2000) suggests that the sameness thesis is too strong, and that we should accept the similarity thesis instead.¹³

Consider a burglar who wants to steal a diamond. In case 1, we add a state of knowing that there is a diamond in your house to her total psychological state. She goes on to ransack the house all night. In case 2, we add a state of mere believing that there is a diamond in your house to the burglar's initial total psychological state. Since this is a *mere* belief, the burglar's psychology or environment somehow prevents her from knowing. In case 2, this is because the burglar based her belief on the false lemma that the diamond is under the bed. Now, she does not ransack the house all night, as she ceases to believe that there is a diamond in the house upon discovering that the diamond is not under the bed.

Cases 1 and 2 form a pair of cases in which knowledge and (mere) belief, added to the same total psychological state, yield different downstream consequences. Similar pairs of cases can be obtained by considering other factors that may prevent the burglar from knowing. For each such factor, we can imagine a case in which the burglar discovers that this factor obtains and consequently stops ransacking the house. Notably however, the burglar still exhibits very similar downstream consequences across these cases. Thus, the similarity thesis is preferable to its stronger counterpart.

¹² Strictly speaking, Ryle's wording suggests that he holds that necessarily, if one believes that ϕ , one is unhesitant in acquiescing in other people's assertions to that effect, etc. However, most of the consequences Ryle mentions may be absent, even if one believes. For instance, one might believe that the sexes are equal, but, to avoid being labeled a contrarian, not object to statements to the contrary. (See Schwitzgebel (2002) for further discussion.) Ryle's description of belief's downstream consequences thus does not generalize to all cases; for similar reasons, neither does his description of knowledge's downstream consequences. Notice, however, that this does not impugn the motivation for the similarity thesis. Ryle's description not only fails to generalize for both knowledge and belief, but also fails to do so for similar reasons.

¹³ Prior to Williamson (2000), the sameness thesis was orthodoxy (e.g. Noonan, 1993; Stich, 1978). Williamson's arguments spurred much discussion. See fn.22 for references.

1.2 Denying the abductive argument's input data

May we reply to the abductive argument by denying its starting points, viz. the entailment and similarity theses? Both theses are motivated via generalizing from normal cases. But perhaps, there are counterexamples to the theses that undermine the generalizing step. Given such examples, neither of the theses would call out for explanation. Consequently, if no other data about the relation between knowledge and belief called out for explanation, abductive grounds would not favor doxasticism and epistemicism over egalitarianism. However, in section 1.2.1, I will argue that, even if there were counterexamples to the entailment and similarity theses, the antecedent of this conditional would be false: corresponding weaker theses would still call out for explanation. Moreover, in section 1.2.2, I will suggest that the putative counterexamples are merely putative.

Radford (1966) put forward the classic example meant to falsify the entailment thesis. Jean is sure that he does not know any English history. But, asked to date certain events in English history, like William the Conqueror's arrival in England, he answers correctly in several cases despite taking himself to be guessing. Jean is surprised by how many answers he gets right and, upon reflection, concludes that he must have learned, and so knows, some English history, including that William the Conqueror landed in 1066.

Cases like Jean's were widely discussed following the publication of Radford's paper (see e.g. Lehrer, 1968; Armstrong, 1973), but philosophers failed to reach a consensus about whether the cases involved knowledge but not belief. To obtain additional data, Myers-Schulz and Schwitzgebel (2013) extended Radford's discussion by querying undergraduate students about cases like Jean's. Their results suggested that the majority of their participants judged subjects like Jean to know but not believe.

It is not easy to say how this data about the judgements of laypeople bears on the dispute about whether there are cases of knowledge without belief. For present purposes, however, let us grant that, if a significant proportion of laypeople do not endorse the entailment thesis, this falsifies or provides evidence against the thesis. Even granting this, however, Rose and Schaffer (2013) found that Myers-Schulz and Schwitzgebel's data did not falsify or provide evidence against the entailment thesis. Once Rose and Schaffer clarified Myers-Schulz and Schwitzgebel's queries, Rose and Schaffer's study participants ascribed both knowledge and belief to subjects like Jean.¹⁴

Murray, Sytsma, and Livengood (2013) offer four other examples meant to falsify the entailment thesis. The most interesting of these, and the one I focus on, runs thus:¹⁵

¹⁴ More precisely, Rose and Schaffer (2013) found that their subjects ascribed both knowledge and *dispositional* belief (as opposed to occurrent belief).

¹⁵ The example is the most interesting because the other three cases Murray, Sytsma, and Livengood offer provide less support for their argument against the entailment thesis. These three cases involve non-human entities, namely a cash register, a dog, and God. Considering a cash register and God especially introduces

Karen is a first-year student at a prestigious university. She is a good student and has been doing very well in her classes. One of the classes she is taking is introduction to physics. One of the topics covered in this class is the place of the earth in the solar system. For example, one of the things that Karen has been taught is that the earth revolves around the sun. Prior to starting at the university, however, Karen was homeschooled by her parents. Karen's parents taught her that the earth is at the center of the universe. Karen accepts what her parents have taught her. In particular, despite what she has been taught in her physics class, she holds that the earth does not revolve around the sun. One of the questions on the final exam in Karen's physics class is the following: "True or false: The earth revolves around the sun." Karen answers "true" on this question. She gets the question correct and ends up scoring 100% on the exam.

Murray, Sytsma, and Livengood also queried undergraduate students. In a within-subjects design, they asked participants two questions: 'Does Karen know that the earth revolves around the sun?' and 'Does Karen believe that the earth revolves around sun?' 46% of participants answered that Karen knows, but does not believe, that the earth revolves around the sun. Of those who ascribed knowledge, 85% did not ascribe belief. This is the opposite of what we would predict if participants endorsed the entailment thesis. Perhaps then, Karen's case is a counterexample to the entailment thesis.

If so, Karen's case also falsifies the similarity thesis. Karen knows, but it seems that, adding to her total psychological state a belief that the earth revolves around the sun (whilst changing as little else as possible), she would act, think, and feel very differently. Except in very restricted settings, e.g. an exam, she currently is not just hesitant but unwilling to tell herself and others that the Earth revolves around the sun, to acquiesce in other people's assertions to that effect, to object to statements to the contrary, and to draw consequences from the original proposition. With a belief added to her total psychological state, however, she would be unhesitant to tell herself and others that the Earth revolves around the sun, etc.

complications, as the psychology of these entities is hard to compare to that of humans. In addition, the dog case raises delicate issues: while Murray, Sytsma, and Livengood found that 28% of their participants ascribed knowledge but not belief to the dog, Buckwalter, Rose, and Turri (2015) found that only 16% percent of theirs did, given the exact same probe. This puts in question whether the initial results replicate. Moreover, the significance of the result is unclear as Buckwalter, Rose, and Turri found that roughly the same proportion of their subjects ascribed belief but not knowledge to the dog.

1.2.1 Weaker theses

Suppose, for the sake of argument, that Karen is a counterexample to the entailment and similarity theses. Does this suffice to undermine the abductive argument against egalitarianism? That depends on what other generalizations involving knowledge and belief hold. To begin with, we may weaken the entailment thesis to get the *normal entailment thesis*:

3. Normally, if one knows that ϕ , one believes that ϕ .

Importantly, since Karen's case is an abnormal case of knowledge, it is no counterexample to the normal entailment thesis. Yet that thesis calls out for explanation just as the entailment thesis did. And, whilst the combination of the normal entailment thesis and the negation of the entailment thesis is inconsistent with some versions of doxasticism and epistemicism, others are available.

Hyman (2017, p.285) suggests a version of epistemicism that seems to entail only the normal entailment thesis.¹⁶ On this view, to believe that ϕ is to be disposed to act, think, and feel as one normally would if one knew that ϕ . Assuming that normally, if one knows that ϕ , one is disposed to act, think, and feel as one normally would if one knew that ϕ , Hyman's proposal entails, and promises to explain, the normal entailment thesis. Moreover, since Karen is not disposed to act, think, and feel as she normally would if she knew that the earth revolves around the sun, the view does not predict Karen to believe that the earth revolves around the sun. Thus, Hyman's proposal does not entail the entailment thesis.

For doxasticism to entail the normal entailment thesis but not the entailment thesis, doxasticists may revise their view so that they understand normal cases of knowledge in terms of a belief-involving, non-circular, necessary, and sufficient condition for normal cases of knowledge. Doxasticists would then have to say something about abnormal cases of knowledge. But this is no difficult task. They may simply characterize these cases as deficient in some respect, perhaps insofar as they involve knowledge without belief.

Karen's case may also move us to endorse a thesis corresponding to, but weaker than, the similarity thesis, e.g. the *normal similarity thesis*:

4. Normally, knowing that ϕ and believing that ϕ have very similar downstream consequences for what one does, thinks, and feels.

This thesis still calls out for explanation. An explanation, defenders of doxasticism and epistemicism may insist, which doxasticism and epistemicism provide.

¹⁶ Though he does not claim that the knowledge-involving, necessary, and sufficient condition for belief he endorses is non-circular, and so is not, strictly speaking, an epistemicist.

In sum, the case for doxasticism and epistemicism does not depend on the specific modal strength of the entailment and similarity theses. Weaker alternatives like the normal entailment and normal similarity theses also call out for explanation. Since suitably revised versions of doxasticism and epistemicism promise to explain them, by contrast with egalitarianism on its own, we may still try to run the abductive argument.

Admittedly, some theses corresponding to the entailment and similarity theses may be so weak as to not call out for explanation. If knowledge and belief were not subject to generalizations like the entailment and similarity or normal entailment and normal similarity theses, doxasticism and epistemicism would not even seem preferable to egalitarianism on abductive grounds. But, none of the examples that opponents of the entailment and similarity theses offer support such a radical claim.

Until now, I supposed Karen's case to be a counterexample to the entailment and similarity theses. I now turn to whether that supposition is correct.

1.2.2 No counterexample yet

Buckwalter, Rose, and Turri (2015) try to show that Karen does believe that the earth revolves around the sun. Although I now argue that their results do not show what they are meant to, I also suggest that this need not worry defenders of the entailment thesis. Murray, Sytsma, and Livengood's study is, in any case, subject to two potential confounds that undermine the claim that Karen knows that the earth revolves around the sun.

Buckwalter, Rose, and Turri (2015) distinguish *thin* from *thick* belief.¹⁷ Thinly believing p is a "bare cognitive pro-attitude", and "involves representing p as true" or "storing p as information." (p.749) Thinly believing p does not require "to like it that p is true, [...] to explicitly avow or assent to the truth of p , or to actively promote an agenda that makes sense given p ." (ibid.) Thickly believing p , by contrast, is "more than a bare cognitive pro-attitude", and "involves emotion or conation." (ibid.) Thick belief entails thin belief, but not vice versa.

Buckwalter, Rose, and Turri argue that Karen thinly believes that the earth revolves around the sun and so does not falsify the *thin entailment thesis*, which they take to capture the intuitions underlying the original entailment thesis:

5. Necessarily, if one knows that ϕ , then one thinly believes that ϕ

Buckwalter, Rose, and Turri re-ran Murray, Sytsma, and Livengood's studies using probes designed to elicit thin belief. They presented their participants with Karen's case,

¹⁷ Buckwalter and Turri (2016) also draw the distinction. My comments in the body of the text apply to the discussion in Buckwalter and Turri (2016) just as they apply to the discussion in Buckwalter, Rose, and Turri (2015).

but then asked: 'At least on some level, does Karen think that the earth revolves around the sun?' To ensure that occurrences of the adverbial phrase 'at least on some level' in their belief probe did not bias the results, they also amended the knowledge-related question to read: 'At least on some level, does Karen know that the earth revolves around the sun?' The majority of participants now ascribed both thin belief (81%) and knowledge (80%) to Karen. Moreover, of those who ascribed knowledge, 92% ascribed thin belief. This, Buckwalter, Rose, and Turri argue, is what we would expect if laypeople generally endorsed the thin entailment thesis. It seems that Karen's case is no counterexample to the thin entailment thesis.

One question for Buckwalter, Rose, and Turri is how to understand the thin/thick belief distinction. What is a bare cognitive pro-attitude? And, what is it to represent p as true whilst neither explicitly avowing or assenting to the truth of p nor actively promoting an agenda that makes sense given p ? Absent answers to these questions, we may doubt whether the thin/thick belief distinction is intelligible and, relatedly, whether doxasticists and epistemicists would want to frame their view in terms of thin belief.

Another question is whether substituting 'believe' with 'think,' as Buckwalter, Rose, and Turri do in revising Murray, Sytsma, and Livengood (2013)'s probe, is legitimate. Although it is widely assumed that 'believe' and 'think' are synonymous (Hawthorne, Rothschild, and Spectre, 2016), and so likely that Buckwalter, Rose, and Turri's opponents accept their substitution, this by itself does not show that it is legitimate.¹⁸

Setting these questions aside, the issue I want to press concerns Buckwalter, Rose, and Turri's use of the adverbial phrase 'at least on some level.' Occurrences of this phrase in their belief probe may impact how their test subjects interpret 'think.' It may incline them to construct a novel interpretation of 'think' on the fly that involves knowledge. More precisely, 'think' may be interpreted so as to denote the property of being either a knowledge state or a belief state. If so, Buckwalter, Rose, and Turri's results would not rescue the entailment thesis. We would now expect their subjects to judge Karen to, at least on some level, think that the earth revolves around the sun if she knows it. Thus, Buckwalter, Rose, and Turri's results do not entail that their participants took Karen to, in any sense, believe.

A similar, though distinct, worry is raised by Myers-Schulz and Schwitzgebel (2013). Myers-Schulz and Schwitzgebel's initial results, since cast into doubt by Rose and Schaffer (2013), suggested that laypeople did not endorse the entailment thesis. But, with their probes slightly amended by substituting 'think' for 'believe', more of their participants endorsed the entailment thesis. They then hypothesized that "some respondents may have interpreted 'think' [...] as something like guess or suspect rather than believe." (p.378)

¹⁸ For reasons why it may be illegitimate see Heiphetz, Landers, and Van Leeuwen (2018).

Buckwalter, Rose, and Turri (2015, pp.766-7) address this worry in another study, using the following case:

Sloan is a real slacker. He enrolled in Astronomy 101 this semester but he never attended a single class and he never did any of the assigned reading. Sloan is completely unfamiliar with the course material, but the final exam is multiple-choice and he's hoping that he can get lucky and pass. Question 72 on the exam asks, "Which of the following best approximates the value of the gravitational constant?" The options are:

- A. $6.7 \times 10^{21} m^3/kg s^2$
- B. $6.7 \times 10^{11} m^3/kg s^2$
- C. $6.7 \times 10^{12} m^2/kg s^3$
- D. $6.7 \times 10^{11} m^2/kg s^3$
- E. $6.7 \times 10^{10} m^3/kg s^2$

Sloan randomly selects option B, which is the correct answer.

Buckwalter, Rose, and Turri asked participants three questions: 'Does Sloan know that $6.7 \times 10^{11} m^3/kg s^2$ is the best approximation?', 'At least on some level, does Sloan think that $6.7 \times 10^{11} m^3/kg s^2$ is the best approximation?', and 'Does Sloan believe that $6.7 \times 10^{11} m^3/kg s^2$ is the best approximation?' Responses to all three questions were significantly below chance. 17% of participants answered that Sloan knows, 23% that he believes, and only 28% that he at least on some level thinks that $6.7 \times 10^{11} m^3/kg s^2$ is the best approximation. These results suggest that 'at least on some level, Karen thinks' is not interpreted as Myers-Schulz and Schwitzgebel hypothesize.

Importantly however, they leave the confound I point out untouched. Buckwalter, Rose, and Turri's results are consistent with, and may even confirm, my hypothesis that, following the adverbial phrase 'at least on some level,' the verb 'think' is interpreted so as to denote the property of being either a knowledge or a belief state. Since Sloan neither knows nor believes that $6.7 \times 10^{11} m^3/kg s^2$ is the best approximation, my hypothesis explains why only 28% of Buckwalter, Rose, and Turri's participants answered that Sloan at least on some level thinks that $6.7 \times 10^{11} m^3/kg s^2$ is the best approximation.

Since Buckwalter, Rose, and Turri's results are subject to a confound, they do not rescue the entailment thesis from Murray, Sytsma, and Livengood's challenge. However, we nonetheless need not reject that thesis. For Murray, Sytsma, and Livengood's challenge itself faces two potential confounds.

One is that Murray, Sytsma, and Livengood (2013)'s test subjects may have failed to keep track of the distinction between knowing that the earth revolves around the sun and knowing that the required or correct answer on the exam is that the earth revolves around the sun. If so, their positive responses to the question whether Karen knows that the earth

revolves around the sun do not suggest that she knows this, but only that she either knows this or knows that this is the required or correct answer on the exam.

Another potential confound is that test subjects may have failed to keep track of the distinction between knowing and merely being in a position to know, i.e. satisfying all epistemic, as opposed to psychological, conditions for knowing, that the earth revolves around the sun.¹⁹ If so, their responses merely suggest that Karen either knows or is in a position to know that the earth revolves around the sun.

Given either confound, Murray, Sytsma, and Livengood (2013)'s results do not suggest that laypeople fail to endorse the entailment thesis and so also do not give us grounds for questioning the similarity thesis. Since Murray, Sytsma, and Livengood (2013) do not show that their test subjects keep track of the relevant distinctions, they fail to remove both potential confounds. Thus, their results are inconclusive.

In future work, one may address both potential confounds in various ways. For instance, one may first present participants with a case in which knowing that ϕ is distinguished from knowing that ϕ is the required answer on an exam (or being in a position to know that ϕ) and then present them with a comprehension question. Following the initial condition, one would then present test subjects with Karen's case, just as Murray, Sytsma, and Livengood (2013) did. Since the initial condition allows one to determine which test subjects keep track of the relevant distinctions, it allows one to focus only on the responses of test subjects who keep track of them. Thus, the initial condition may go some way toward eliminating the potential confounds. If Murray, Sytsma, and Livengood (2013)'s results were replicated given that condition, this may suggest that laypeople do not endorse the entailment thesis.

This section considered Murray, Sytsma, and Livengood (2013)'s challenge to the entailment thesis. Although Buckwalter, Rose, and Turri's response fails, the challenge does not succeed. More must be done to remove potential confounds. Thus, the examples I considered do not undermine the entailment and similarity theses. In fact, their failure to do so strengthens the inductive argument for the two theses. On closer inspection, even seeming counterexamples confirm the two generalizations. So, replying to the abductive argument by denying its input data, viz. the entailment and similarity theses, is unmotivated.

1.3 Arguments for doxasticism

Doxasticists may wonder why I focus on the abductive argument. Are there no extant arguments that settle the debate in favor of doxasticism? Here, I briefly survey and find

¹⁹ See Smithies (2012, p.268) for this account of being in a position to know.

inconclusive three such arguments.

The three arguments I have in mind are each driven by one of the following three claims:

6. Mental states are *transparent*: necessarily, for every mental state m , whenever one is suitably alert and conceptually sophisticated, one is in a position to know whether one is in m .²⁰
7. Mental states are *narrow*: necessarily, for every mental state m , whether one is in m does not depend on conditions external to one.
8. Necessarily, knowing that ϕ and believing that ϕ have the same (not merely very similar) consequences for what one does, thinks, and feels.

6 drives an argument for doxasticism because knowledge is not transparent. Consider N.N. who knew that Lincoln is President prior to Lincoln's assassination, but subsequently lost her knowledge, despite not hearing the news. However alert and conceptually sophisticated she may be, N.N. is not in a position to know that she does not know and thus not in a position to know whether she knows that Lincoln is president.

The *transparency argument* for doxasticism now goes as follows. Because knowledge makes a difference to one's psychological make-up, it is, at least partly, a mental state. But, since knowledge is not transparent, 6 entails that it is not itself a mental state. So, we need to identify some 'slice' of knowledge that makes it, at least partly, a mental state. As belief is a mental state, and knowledge entails belief, we identify that 'slice' with belief. Thus, we should understand knowledge in terms of a non-circular, belief-involving, necessary, and sufficient condition for knowledge.²¹

7 drives an argument for doxasticism because knowledge is not narrow. Consider N.N. again. Her loss of knowledge involved no change in her intrinsic make-up. So, whether she knows depends on conditions external to her. Substituting 7 for 6, the *narrowness argument* for doxasticism now goes just like the transparency argument.

8 drives an argument for doxasticism given three further claims. First, that necessarily, for every mental state m , attribution of m has an irreducible role to play in psychological explanation and prediction. Second, the claim that necessarily, if two states have the same downstream consequences for what one does, thinks, and feels, the attribution of at most one of them plays an irreducible role in psychological explanation and prediction. And

²⁰ Williamson attributes this assumption to Prichard (1950, p.86). Although Prichard does not explicitly accept it in full generality, he accepts versions of it restricted to knowledge and belief. Interestingly, Prichard nonetheless rejects doxasticism. Following Cook Wilson (1926), he takes it to be impossible to understand knowledge in other terms.

²¹ The move from identifying the mental 'slice' of knowledge with belief to doxasticism is non-trivial. To resist it, we may say that we have no reason to expect that we will be able to identify further slices of knowledge that, added to the belief slice, will feature in a non-circular, necessary, and sufficient condition for knowledge. Roughly, this is Williamson's *false expectations argument*, which I consider in section 1.4.

third, a suitable principle that ensures that if knowledge and belief attributions compete for the irreducible role, belief attributions win—for instance, a principle that emphasizes the importance of generality in explanation and prediction. Since one may believe without knowing but not vice versa, explanations and predictions that involve belief attributions are bound to be more general. Given these claims, 8 entails that knowledge is not a mental state. The remainder of the *sameness argument* then parallels the transparency and narrowness arguments.

Williamson (2000) argues that 6 to 8 are false. 8, Williamson argues, is false because cases like the burglar I discussed earlier show that knowledge and belief merely have very similar consequences for what one does, thinks, and feels. Thus, attribution of knowledge plays an irreducible role in psychological explanation.²² Moreover, belief must be a mental state, if the arguments for doxasticism are to succeed, yet (i) one is not always in a position to know whether one believes and (ii) whether one believes depends on conditions external to one.²³ If Williamson is right, then doxasticists cannot rely on 6 to 8 to argue for their view.

Moreover, even if Williamson's replies were unsuccessful, the doxasticist's arguments would be inconclusive. To illustrate this, let me highlight three possible replies. First, egalitarians and epistemicists may deny the intuition that knowledge is, at least partly, a mental state. Although doing so may be a cost to their theory, they may argue that the cost is outweighed by other benefits of their theories.

Second, they may insist that the mental 'slice' of knowledge be identified with a state other than belief. Some theorists (e.g. Schaffer, personal correspondence) identify the relevant state with acceptance or holding true, both of which are meant to be mental states.²⁴ In reply, the doxasticist must rule out appeal to these states. Whether this can be done remains to be seen. As the strict entailment from knowledge to belief does not imply that the mental 'slice' of knowledge must be identified with belief, the doxasticist may be tempted to appeal to the abductive benefits of identifying that slice with belief. But if so,

²² For criticisms of Williamson's argument to this conclusion see Jackson (2002), Jackson (2009), Leite (2005), Magnus and Cohen (2003), Molyneux (2007), Kaplan (2003), and Kipper (2017). For replies see Nagel (2013) and Yablo (2005). Williamson's argument depends on his *inductive argument* against doxasticism, which I discuss below, as he assumes that there is no non-circular, belief-involving, necessary, and sufficient condition for knowledge.

²³ (ii) follows from externalism about mental content, as defended by Burge (1979; 1986) for instance. For an overview of debates surrounding that view see Kallestrup (2012); see also Hawthorne and Yli-Vakkuri (2018) for a recent defense.

As Smith (2017) emphasizes, knowledge is more dependent on conditions external to one than belief. One may think that this fuels the argument previously driven by 7. However, the difference between knowledge and belief Smith points to seems to be merely a difference in degree, not in kind. Whether it aids doxasticists is thus unclear.

²⁴ They may then also deploy this state in understanding belief, and use the resultant connection between knowledge and belief to explain the entailment and similarity theses. Doing so would be consistent with egalitarianism.

her argument collapses into (a version of) the abductive argument.

The final reply I mention concerns the sameness argument only. That argument's first premise was the claim that for any mental state m , attribution of m has a distinctive role in psychological explanation and prediction. This premise may be challenged by pluralists about folk psychology, (e.g. McGeer, 2007; Zawidzki, 2013). They claim that mental state attributions play a role not only in explanation and prediction, but also in regulating and evaluating our own and others' behavior. This opens up the possibility of mental state attributions which only have a distinctive role in regulating and evaluating behavior. Pluralism about folk psychology thus suggests a weaker claim than the first premise of the sameness argument: for any mental state m , attribution of m plays a distinctive role in psychological explanation and prediction or regulation and evaluation. But the literature on knowledge-involving norms of assertion, belief, and practical reasoning, e.g. Smithies (2012), suggests that knowledge attributions probably do play such a regulating and evaluating role. If so, the sameness argument is undermined.

Although none of my replies to the transparency, narrowness, and sameness arguments are decisive, conjoined with Williamson's responses they suggest that the doxasticist's arguments are inconclusive. Egalitarianism and epistemicism therefore remain viable options.

1.4 Arguments against doxasticism

In addition to replying to arguments for doxasticism, Williamson develops three arguments against it. More precisely, his target is a claim about the concept KNOW. Yet his arguments still generalize to doxasticism, which is a metaphysical claim about knowledge. Besides Williamson, Hyman (2015; 2017), Nagel (2013) and Vendler (1972) have also suggested arguments against doxasticism. Individually or jointly, the arguments offered by Williamson, Hyman, Nagel, and Vendler may suggest that to support egalitarianism I need only argue against epistemicism. This conclusion would render part of my argument in this thesis—I target doxasticism as well—otiose. However, drawing that conclusion would be premature. In this section, I suggest that the arguments due to Williamson, Hyman (2015), and Nagel, are too weak to rule out doxasticism as a viable alternative to egalitarianism. I defer discussion of the arguments due to Hyman (2017) and Vendler (1972) until ch.3, as my own discussion of doxasticism is inspired by these arguments.

Let me start with Williamson's *distinct concepts argument*. It targets a claim of concept identity: that the concept KNOW is identical to some conjunctive concept involving the concept BELIEVE, e.g. the concept BELIEVE SAFELY. Williamson suggests that KNOW, but not the target conjunctive concept, is a mental concept. For the conjunction of a mental concept like BELIEVE with a non-mental concept like SAFE is not itself a mental concept,

since it has a non-mental concept as part. By Leibniz' law, that KNOW, but not the target conjunctive concept, is a mental concept suggests that the former is distinct from the latter.

This argument may be generalized to target a claim of property or state identity. On some versions of doxasticism, the property of knowing that ϕ is identical to a composite property involving the property of believing that ϕ , e.g. the property of safely believing that ϕ . On other versions, a knowledge state is identical to a composite state involving a belief state, e.g. a safe belief state. If the property of knowing that ϕ (a knowledge state) is mental, whilst the target composite property (state) is not, a higher-order analogue of Leibniz' law (or Leibniz' law itself) entails that the property of knowing that ϕ (a knowledge state) is distinct from the target composite property (state).

The distinct concepts argument and its analogues rely on two claims. First, that KNOW, the property of knowing that ϕ , and a knowledge state, respectively, are mental. Second, that the conjunction/fusion of a mental concept, state or property with a non-mental concept, state or property is non-mental. But doxasticists may reject either claim. Starting with the second claim, and focusing on the concept case, they may insist that the conjunction of BELIEVE and SAFE, BELIEVE SAFELY, is a mental concept because it has a mental concept as conjunct.

In reply, Williamson (2000, pp.29-30) suggests that BELIEVE SAFELY is, on any reasonable sense of 'mental,' a non-mental concept; such a sense may be expressed as 'purely mental.' This reply, however, makes the first claim on which the distinct concepts argument and its analogues rely suspect. That claim must now say that KNOW, the property of knowing that ϕ , and a knowledge state are purely mental. Yet doxasticists may insist that KNOW, the property of knowing that ϕ , and a knowledge state are only partly mental. (See Cassam 2009a; 2009b) This claim, they may argue, still accounts for intuitions supporting the stronger claim. For instance, it explains why knowledge makes a difference to one's psychological make-up. Moreover, given the importance of the mental belief-part, it explains why we naturally group knowledge amongst mental states like belief and desire. Yet the weaker claim does not license the distinct concepts argument or its analogues.

Another concern for the state analogue of the distinct concepts argument is that doxasticists may endorse versions of doxasticism that are not subject to that argument, even if it is sound. On one such version, doxasticists commit to the idea that any knowledge state is a belief state, rather than a composite state involving a belief state. On this view, a knowledge state is just as mental as a belief state. Thus, the state analogue of the distinct concepts argument fails.

Williamson also develops the *false expectations argument*. It says that there is no special reason to expect an analysis of KNOW that specifies non-circular, necessary, and sufficient conditions for knowledge. Since belief and truth are necessary for knowledge, "we might expect to reach a necessary and sufficient condition by adding whatever knowing

has which believing truly may lack.” (p.32) But that expectation is based on a fallacy: “although being coloured is a necessary condition for being red, we cannot state a necessary and sufficient condition for being red by conjoining being coloured with other properties specified without reference to [being] red.” (p.3)

Williamson’s choice of example suggests how this argument may be adapted to target doxasticism. His examples, being coloured and being red, are properties, not concepts. Thus, they show that for two properties F and G , the instantiation of one of which, say F , necessitates the instantiation of the other, G , there is no reason to expect an account of F in terms of non-circular, G -involving, necessary, and sufficient conditions for the instantiation of F . Moreover, it is easy to find parallel examples involving entities of other ontological categories, e.g. states.²⁵ The false expectations argument thus generalizes to doxasticism.

However, whilst the false expectations argument may show that we have no reason to expect an analysis of knowledge, its force is limited.²⁶ As Williamson admits, it does not show that no such analysis is possible. To further cast doubt on whether it is, Williamson gives the *inductive argument*. He notes that “no currently available analysis [of KNOW] in terms of belief is adequate.” (2000, p.4) Proposed analyses have succumbed to a “pattern of counterexamples and epicycles.” (p.31) This is so despite decades of research. Via induction, Williamson concludes that there is no analysis of KNOW in terms of non-circular, BELIEVE-involving, necessary, and sufficient conditions for the application of KNOW.²⁷ Generalizing the inductive argument to doxasticism is straightforward.

The inductive argument is sound only if no currently available version of doxasticism is adequate. What suffices for adequacy? Minimally, we want a non-circular, belief-involving, necessary, and sufficient condition for knowledge. Given advances in epistemology since *Knowledge and its Limits*, due to the study of modal notions like normality for instance, there may be versions of doxasticism that satisfy this adequacy condition. (Goodman and Salow, 2017; Beddor and Pavese, 2018)²⁸ For all we know, there are adequate versions of doxasticism, on this minimal understanding of adequacy. If so, Williamson’s induction base, and so his inductive argument, are undermined.

In reply, Williamson may propose a more demanding adequacy condition. Perhaps, we want not only a non-circular, belief-involving, necessary, and sufficient condition for

²⁵ I here assume that states are not property instantiations.

²⁶ See Cassam (2009b, p.109) for another response to the argument.

²⁷ Williamson (2009) suggests that the induction base may be extended by considering other domains, e.g. the concepts of MEANING and CAUSATION, in which an analysis in terms of non-circular, necessary, and sufficient conditions remains elusive. However, this move requires that the different domains saliently resemble one another. A doxasticist may challenge this assumption.

²⁸ For similar, though less sophisticated accounts of knowledge that appeal to normality see Ball (2013), Greco (2014b), and Stalnaker (2006).

knowledge, but a condition that also makes intelligible why knowledge is valuable.²⁹ Even if Goodman and Salow et al. may meet the minimal adequacy condition, they may fail to meet the value adequacy condition. However, Beddor and Pavese's proposal is explicitly designed to make intelligible why knowledge is valuable. They analyse knowledge in terms of maximally skilful belief, and then develop a normality-based account of the property of being maximally skilful. If a maximally skilful belief is valuable, as seems plausible, then, for all we know, Beddor and Pavese's account satisfies also the more demanding adequacy condition. Yet again, Williamson's induction base, and so his inductive argument, are undermined.³⁰

Another line of reply to the false expectations and inductive argument is more concessive. The doxasticist may concede that the letter of her view is false, and refrain from relying on a non-circular, belief-involving, necessary, and sufficient condition for knowledge. Yet, she may insist that the spirit of her view remains viable. To do so, she may, much like Williamson, draw inspiration from the relation between the properties of being coloured and being red. The latter property is a determinate of the former; the former the determinable of the latter. Doxasticists may then follow Funkhouser (2006; 2014) and model the determination relation by appeal to a determination space. The whole space is identified with the determinable. The determinate is identified with some point or sub-region of the space. This view does not understand the determinate property in terms of a non-circular, determinable-involving, necessary, and sufficient condition for the instantiation of the determinate. But it nonetheless understands the determinate property in terms of the determinable; for the determinate property is understood as a subregion of the space used to model the determinable. Thus, although doxasticists would no longer appeal to a non-circular, belief-involving, necessary, and sufficient condition for knowledge, doxasticists may respond to Williamson by understanding knowledge as a determinate of the determinable belief. This view retains the in-egalitarian spirit of doxasticism, and yet avoids the charge of being based on a false expectation or an inductively falsified hypothesis.³¹

²⁹ For interesting parallels, see also Pautz (2018)'s significance argument against reductive materialism about consciousness.

³⁰ One may press the issue further by arguing that a reductive modal account of the property of being maximally skilful fails to make the value of that property intelligible. I think this is an interesting line of argument to explore, but leave that task for another occasion.

³¹ This view is, however, subject to my argument in ch.3, although I do not explicitly target the view there. The reason is that Funkhouser's model is meant to be a model of the relation denoted by 'is a kind of,' as it applies to properties. Ch.3.6 develops an argument against any version of doxasticism that appeals to the relation denoted by 'is a kind of'.

In sum, Williamson's three arguments against doxasticism remain inconclusive.³² Do the arguments suggested by Hyman (2015) and Nagel fare any better?

Hyman (2015, p.165) enlists data originally noted by Ryle (2000, p.117).³³ First, my belief, but not my knowledge, that it is raining may be foolish, passionate, obstinate, fanatical, or whole-hearted. Second, we can ask or urge someone to believe or not believe something, but we cannot ask or urge someone to know or not know something. Third, it is acceptable to ask why one believes that it is raining, but, special contexts aside, odd to ask why one knows, and acceptable to ask how one knows, but odd to ask how one believes. Finally, and here I add to Ryle's data, even in a context where it is appropriate to ask why one knows, the question must be read as asking for an explanatory reason,³⁴ this contrasts with the question why one believes, which is, special contexts aside, read as asking for a motivating reason instead. This suggests that one can believe, but cannot know, for a (motivating) reason. Call these four data points *Ryle's data*.

Unfortunately, neither Hyman nor Ryle are explicit about how Ryle's data are meant to undermine doxasticism. So, my reconstruction of Hyman's argument will be somewhat speculative. Perhaps, the argument is meant to go as follows. Doxasticism, the idea may be, is committed to thinking that any knowledge state is a belief state, albeit a particularly distinguished one. But, as Ryle's data shows, a belief state, by contrast with a knowledge state, can be foolish, etc. Given this, we get a contradiction.³⁵ So, we conclude that no knowledge state is a belief state. So, since doxasticism is committed to the claim that any knowledge state is a belief state, it is false.

However, not all versions of doxasticism are committed to the claim that any knowledge state is a belief state. To return to a position sketched earlier, consider a view on which a knowledge state is a composite partly composed out of a belief state. Since a composite need not inherit all properties of its parts, a knowledge state may thus not be

³² One may worry that I have left out another of Williamson's arguments, the argument that knowing is prime developed in chapter 3 of *Knowledge and its Limits*. However, as Williamson (2000, p.91) himself notes, the argument that knowing is prime is not meant as an argument against doxasticism, understood as an attempt to analyse knowledge or know, but as highlighting the explanatory role of what Williamson calls prime conditions such as knowing.

³³ See also Vendler (1972, p.116).

³⁴ Some readers wonder whether there are any contexts where it is appropriate to ask why one knows. Here is one from an English language corpus:

- After the 3rd time Ott chirps him, we will hear Hall talking with Penner on the bench, "Who is that guy, and why does he know so much about me, my family and that episode at Oil City?" Penner just looks at him and says, "Don't let your friends post pictures of you on facebook. Ott has 18 different facebook profiles and he is probably one of your friends, and you don't even know it." (<https://oilernation.com/2011/01/11/gdb-410-halfway-to-the-future/>)

³⁵ Proof. Let k be a knowledge state. Via the commitment, k is a belief state. Via Ryle's data, and k being a knowledge state, k cannot be foolish, etc. Via Ryle's data, and k being a belief state, k can be foolish, etc. It follows that k can and cannot be foolish. Contradiction.

whole-hearted or held for a (motivating) reason, even if the belief state that partly composes it is. Ryle's data do not lead this view to contradiction.

In reply, Hyman may suggest that Ryle's data argue against doxasticism on broadly abductive grounds: doxasticism, the idea may be, cannot explain Ryle's data. To fully defuse this argument, we must look carefully at all of Ryle's data. I do not have space to do that here. Instead, I briefly sketch explanations of three of the data to illustrate that the case against doxasticism remains inconclusive.

First, some of the properties Ryle discusses, e.g. being foolish and being fanatical, diminish a belief state's epistemic status. Thus, because knowledge has a particularly high epistemic status, doxasticists may claim, these properties are, as Ryle's data says, incompatible with knowledge.

Second, doxasticists may suggest that a knowledge state (a composite partly composed out of a belief state) can be acquired via a range of methods, but not via basing on (motivating) reasons. This explains why it is appropriate, in normal contexts, to ask via what method one knows. Since that is just what the question how one knows asks, it is appropriate to ask that question in such contexts. In addition, assuming that it is common knowledge amongst competent speakers of English that a knowledge state cannot be acquired via basing on (motivating) reasons, the doxasticist's suggestion explains why we cannot get a reading of the question why one knows on which it asks for a motivating reason. By contrast, the doxasticist may continue, since it is common knowledge amongst competent speakers of English that one typically believes for a (motivating) reason, the question why one believes is read as asking for a motivating reason, and asking how one believes is odd.

Third, doxasticists may suggest that one can ask or urge someone to believe or not believe something because belief states may be acquired or extinguished for (motivating) reasons and one's asking or urging may, in some way, provide or make salient certain (motivating) reasons. In this way, asking or urging them to believe or not believe something may be a sensible thing to do. By contrast, doxasticists may continue, knowledge states cannot be acquired for (motivating) reasons. Assuming that this is common knowledge among semantically competent speakers of English, this explains why one cannot ask or urge someone to know something. Moreover, although knowledge states can be extinguished for (motivating) reasons because their belief parts can be, asking or urging someone not to know is incoherent. By doing so, one would acknowledge that they are right. Thus, if by asking or urging them to know one were to, in some way, provide or make salient certain (motivating) reasons that favour not believing, one would knowingly provide or make salient certain reasons that are misleading.³⁶

³⁶ Jack Blaiklock suggests that we can ask or urge someone to forget something. But if forgetting just is

In sum, arguments based on Ryle's data remain inconclusive, as doxasticists may well be able to explain all the data. Before closing this section, I turn to two final arguments against doxasticism suggested by Nagel (2013). The first turns on the claim that infants acquire the concept KNOW prior to the concept BELIEVE and some primates acquire only KNOW.³⁷ The second turns on the claim that infants' ability to ascribe beliefs presupposes their ability to ascribe knowledge.³⁸ These claims are meant to support the idea that the concept KNOW is more basic than BELIEVE. This, in turn, may be used to support the idea that knowledge cannot be understood in terms of a non-circular, belief-involving, necessary, and sufficient condition for knowledge.

Nagel cites a wide range of data, drawn from developmental and comparative psychology, to support the two claims on which her argument rests. The interpretation of these data is highly contested territory.³⁹ However, even if the data supports Nagel's claims, it is unclear whether they argue against doxasticism.⁴⁰

First, the order in which one acquires two concepts does not entail claims about the nature of the entities that fall under those concepts. Consider the concepts WATER and H₂O. Plausibly, infants acquire the first prior to the latter. Moreover, infants who acquire the first may never acquire the second, if they lack access to basic scientific knowledge. Yet water is to be understood in terms of a particularly simple, non-circular, H₂O-involving, necessary, and sufficient condition for water: water just is H₂O.

Second, that the ability to apply a concept presupposes the ability to apply another one also does not entail claims about the nature of the entities that fall under those concepts. For instance, in ordinary humans without a spectrometer to hand, the ability to categorize

ceasing to know, this may seem to amount to asking or urging someone to cease to know something. I am not sure what the doxasticist should say about this data and leave the issue for future work.

³⁷ This line of argument was initially suggested in Williamson (2000, p.33). Holton (2017, p.253-5) and Reynolds (2017, pp.56-8) suggest a parallel claim about the genealogy of the concepts KNOW and BELIEVE. My comments below about why Nagel's claim does not argue against doxasticism generalize to Holton's and Reynolds' claim.

³⁸ The argument for this presupposition turns on the idea that ascribing knowledge is computationally much less demanding. For Nagel, knowledge, but not belief, necessarily has a true propositional content. So, the range of knowledge states (individuated partly by their contents) one may attribute to an agent, given certain information about the environment, is more restricted than the range of belief states, given that same information. This makes the former task easier than the latter. Moreover, Nagel (2017, p.538) argues that success on the former task also enables success on the latter: "the mindreader who attributes a false belief does so on the basis of witnessing an observed agent's interaction with reality and needs to start his calculations about the character of this belief by representing what that agent has learned about reality. The project of calculating the observed agent's false belief is then carried forward by representing the agent's ignorance, or the aspects of reality which are blocked for her."

³⁹ See Butterfill (2013), Dudley (2018), McGlynn (2017), Roessler (2013), and Rose (2015) for criticisms of Nagel. And see Dörrenberg, Rakoczy, and Liszkowski (2018), Dörrenberg et al. (2019), Kulke et al. (2018a), Kulke et al. (2018b), Poulin-Dubois et al. (2018), Proft, Dieball, and Rakoczy (2018), and Rakoczy (2017) for recent data favourable to Nagel.

⁴⁰ See also Gerken (2017) and Jenkins Ichikawa and Jenkins (2017).

a parcel of stuff as H_2O presupposes the ability to categorize it as water.⁴¹ But this does not undermine the claim that water just is H_2O .

One may worry that WATER is a natural kind concept and water a natural kind, whilst KNOW and knowledge are not.⁴² However, I do not require that KNOW is a natural kind concept and knowledge a natural kind. My examples show that the onto-genetic primacy of some concept over another does not entail the absence of a metaphysical primacy in the other direction. The burden, then, is on those who attempt to infer, from the onto-genetic primacy of KNOW over BELIEVE, the absence of a metaphysical primacy of belief over knowledge.

This section briefly surveyed extant arguments against doxasticism. I argued that, as far as these arguments are concerned, doxasticism remains a viable option. Thus, to defend egalitarianism, the chapters to come consider both epistemicism and doxasticism.

1.5 The plan

Let me now summarize the remaining chapters of this thesis.

Ch.2 argues for two claims: factualism about knowledge and anti-factualism about belief. The first says that any knowledge state takes a fact as content, whilst the second has it that no belief state takes a fact as content. My argument for factualism about knowledge starts from the observation that utterances like ‘John knows the fact that it is raining’ and ‘John knows that it is raining’ are equivalent. I sketch a treatment of such utterances that, on plausible assumptions, entails factualism and argue against four alternative treatments. My argument for anti-factualism about belief begins from the observation that belief states may misrepresent and that, as a result, they need to have some content that is not a fact. I then argue that there is no need to also attribute factual content to belief states.

Ch.3 argues that the conjunction of factualism about knowledge and anti-factualism about belief is in tension with doxasticism’s explanatory ambitions. To explain the entailment and similarity thesis, doxasticism must be formulated in one of a small range of specific ways. My aim is to show that, given factualism about knowledge and anti-factualism about belief, no such formulation works. Given these claims, versions of doxasticism strong enough to explain the entailment and similarity theses lead to contradiction or an explanatory gap. Moreover, weaker formulations, which avoid the difficulties

⁴¹ In humans with a spectrometer to hand, the presupposition may not apply. But, something similar may hold for Nagel’s presupposition. For one may argue that her presupposition applies only because of the limited computational power of human cognitive systems. If so, if that limitation were removed, the ability to ascribe belief would not presuppose the ability to ascribe knowledge.

⁴² Though Kornblith (2002; 2007; 2011) and Kumar (2014) argue that KNOW is a natural kind concept and knowledge, if it is a kind, a natural kind. See Kusch (2005), Pernu (2009), Millar (2007), Reynolds (2017), and Hannon (2019) for alternative views.

arising from factualism about knowledge and anti-factualism about belief, not only fail to explain the similarity thesis but also either fail to explain the entailment thesis or rely on a controversial metaphysics to do so. In light of these results, doxasticism is not preferable to unsupplemented egalitarianism on abductive grounds.

Ch.4 begins my case for the claim that epistemicism too is not preferable to unsupplemented egalitarianism on abductive grounds. The chapter outlines six constraints and suggests that a version of epistemicism must satisfy sufficiently many of these constraints to be preferable to unsupplemented egalitarianism on abductive grounds. My strategy in the following chapters is then to argue that no extant version of epistemicism satisfies sufficiently many of the constraints.

Ch.5 considers two epistemicist views. The first has it that to believe that ϕ is to hold that one knows that ϕ , where ‘hold’ is a placeholder for a suitable attitude verb (Koutras, Moyzes, and Zikos, 2017). According to the second, to believe that ϕ is to not know that one does not know that ϕ (Lenzen, 1979; Stalnaker, 2006). I consider two implementations of the first view. Both predict that we believe too few propositions and fail to explain the entailment and similarity theses. I then argue that, although the second view explains the entailment thesis, it undergenerates in some cases, and fails to explain the similarity thesis because it overgenerates in others.

Ch.6 argues against three versions of epistemicism. First, Price (1935)’s view that to believe that ϕ is to be in a state of assenting to ϕ and to know that ϕ is made likely by some fact(s) one knows. Second, Miracchi (2015)’s claim that to believe that ϕ is to be in a state of commitment to the proposition that ϕ which aims at knowing. And, finally, a view inspired by Bird (2007), according to which to believe that ϕ is to be in a state which takes the proposition that ϕ as content and for whose production, revision, and extinction the faculty of belief, which has the function of supplying knowledge for the purposes of practical reasoning, is responsible. I argue that none of these views has an abductive advantage compared to unsupplemented egalitarianism with respect to the entailment and similarity theses; in addition, I suggest that Price’s view is subject to several kinds of counterexample.

Ch.7 turns to the most widely suggested epistemicist view, on which to believe that p is to treat p as if one knew it (see, e.g., Hyman, 2017; Nagel, 2017; Williamson, 2000). The chapter first develops a challenge for the view that turns, primarily, on unknowable propositions. I argue that, depending on what further commitments we take on, the view either under- or overgenerates, predicting that we believe either too few or too many unknowable propositions. By way of conclusion, the chapter then sketches a sharpened version of the view which avoids under- and overgenerating in the way the unsharpened view does.

Yet even the sharpened view does not escape counterexamples. Ch.8 first develops a challenge for the view from ch.7, which turns on its appeal to context. This challenge generalizes to a variety of related views that hold fixed appeal to context. I then consider

two alternative ways of developing the view from ch.7, which abandon appeal to context. However, as things stand, views of neither sort satisfy sufficiently many of my constraints to be preferable to unsupplemented egalitarianism on abductive grounds.

Ch.9 argues against Williamson (2000)'s proposal that to believe p is to treat p in ways similar to the ways in which subjects treat propositions which they know. The chapter first regiments the view and suggests that, at least as Williamson develops it, the view is committed to the claim that believing p strictly entails being disposed to rely on p as a premise. I then develop counterexamples to that claim, which feature individuals suffering from what I call complete severe anhedonia and show that Williamson's proposal is not preferable to unsupplemented egalitarianism on abductive grounds. The chapter concludes by rejecting a reply to the counterexamples inspired by Lewis (1980)'s discussion of mad pain.

Chapter 2

Knowledge is a factual attitude

What kind of attitude is my knowledge that it is raining? The standard answer, endorsed by Williamson (2000) for instance, is that it is a propositional attitude, much like belief. Minimally, a propositional attitude is an attitude bearing some significant relation to a proposition. Here, I think of that relation as the relation of taking a proposition as content. Beliefs, then, because they are propositional attitudes take propositions as contents. By the standard answer, the same goes for knowledge states.

This *propositionalism* about knowledge comes in a strong and a weak form. Strong propositionalism makes a uniqueness claim. It says that any knowledge state takes a proposition as its *unique* content. By contrast, weak propositionalism only says that any knowledge state takes a proposition as content, where this is consistent with some or even all knowledge states taking something else as content *in addition* to a proposition.¹

Strong propositionalism is inconsistent with my answer to the question ‘what kind of attitude is my knowledge that it is raining?’ On my view, *weak factualism*, my knowledge that it is raining is a *factual* attitude—an attitude taking a fact as content. Any knowledge state, I will suggest, takes a fact as content. Just as with propositionalism, weak factualism about knowledge also has a strong counterpart. Strong factualism says that any knowledge state takes a fact as its *unique* content. By contrast, weak factualism is consistent with some or even all knowledge states taking something else as content *in addition* to a fact. I defend weak factualism in this chapter. For convenience, though, I will use ‘factualism’ to abbreviate ‘weak factualism,’ unless otherwise noted.²

¹ Another version of propositionalism may claim that a knowledge state takes a number of propositions as contents, but does not take any entities of other kinds as contents. This view resembles strong propositionalism more closely than its weak counterpart, for it makes a uniqueness claim regarding the *kinds* of entities that can feature as contents of knowledge states and so bars knowledge states from taking facts as contents. The corresponding view that more closely resembles weak propositionalism would reject the uniqueness claim. My argument below also undermines the uniqueness claim regarding *kinds* of contents. So, for ease of exposition, I set aside both views mentioned in this footnote.

² Historically, some version of factualism is not uncommon; starting with Vendler (1972), several linguists and philosophers of language (e.g. Ginzburg, 1995; Moffett, 2003; Holton, 2017; Hyman, 2017) accepted versions of it. None of them distinguish between weak and strong factualism, so they are not explicit about which of the two they would adopt. My suspicion is that most of them would endorse strong factualism.

If factualism about knowledge is true, we may wonder whether any belief states take facts as content. I will argue that none of them do and so defend *anti-factualism* about belief. The conjunction of factualism about knowledge and anti-factualism about belief will play an important role in my response to the abductive argument against egalitarianism. So, although the argument of the current chapter is self-contained, its conclusion will figure prominently in the chapters to follow.

If facts are just true propositions, the distinction between propositionalism and factualism (whether weak or strong) may appear insignificant. But facts are not true propositions.³ Although defending this claim in detail is not my aim here, let me mention two reasons for accepting it.

First, substituting an occurrence of the phrase ‘the fact that ϕ ’ with an occurrence of the phrase ‘the true proposition that ϕ ’ may affect the truth-value of an utterance, even in seemingly extensional contexts. (Harman, 2003; Vendler, 1967) For instance, even if we suppose 1 to be true, 2 is false:

1. The fact that there was an explosion caused the fire.
2. The true proposition that there was an explosion caused the fire.

A natural explanation of this difference in truth-value is that the denotations of ‘the fact that there was an explosion’ and ‘the true proposition that there was an explosion’ are distinct.

A second reason for saying that facts are not true propositions is that substituting an occurrence of ‘the true proposition that ϕ ’ with an occurrence of ‘the fact that ϕ ’ may take one from a felicitous, to an infelicitous utterance. Consider:

3. Look, whatever else is the case, the true proposition that there was an explosion is true.
4. # Look, whatever else is the case, the fact that there was an explosion is true.

3 is felicitous, 4 is not. A natural explanation of this difference is that ‘the fact that there was an explosion,’ by contrast with ‘the true proposition that there was an explosion,’ denotes an entity which competent speakers of English recognize not to be “the sort of thing that might be false.” (Russell, 2010, pp.9-10)

I start this chapter with a preliminary about attitude ascriptions (section 2.1), then find wanting a recent argument for factualism due to Holton (2017). Section 2.3 presents the data driving my argument for factualism about knowledge. Sections 2.4 and 2.5 develop the argument and section 2.6 addresses an objection. Section 2.7 defends anti-factualism about belief. Section 2.8 concludes.

³ Fine (1982), Hossack (2007), Holton (2017), Hyman (2017), and Parsons (1993) hold that view. By contrast, Hornsby (1997) and Dodd (2008) defend the claim that facts are true propositions. Though see Hyman (2017) for extensive critical discussion of their defence.

2.1 A preliminary

Throughout this chapter, and the remainder of this thesis, I will assume a Neo-Davidsonian semantics of attitude ascriptions. (e.g. Parsons, 1990) On this approach, verbal predicates such as ‘know’ and ‘believe’ function not as dyadic predicates of persons and propositions or facts, as surface form might suggest, but as monadic predicates of eventualities, in the case of ‘know’ and ‘believe,’ of *states*. They thus denote properties of states.

For the Neo-Davidsonian, knowledge and belief ascriptions involve, in addition to the monadic predicates of states ‘know’ and ‘believe,’ existential quantification over states and dyadic predicates that encode the relationship between the relevant states, their bearer(s), and content(s). Staying neutral about what the content of the relevant state is, here is an example:

5. John knows that it is raining.
6. $\exists s[\mathbf{knowing}(s) \wedge \mathbf{bearer}(\text{John}, s) \wedge \mathbf{content}(?, s)]$

knowing is our metalanguage representation of the verbal predicate ‘knows’ and is satisfied by x just in case x is a knowing. **bearer** is a dyadic predicate satisfied by a pair $\langle x, y \rangle$ just in case x is in (or is the subject of) y . Finally, **content** is a dyadic predicate satisfied by a pair $\langle x, y \rangle$ just in case x is y ’s content. In English, 6 says that at least one state is such that it is a knowing, John is in it, and its content is ?.⁴ Terminology-wise, I call states that satisfy **knowing** *knowledge states* and states that satisfy **believing** *belief states*.

The Neo-Davidsonian semantics of attitude ascriptions allows us to formulate weak factualism about knowledge and anti-factualism about belief as follows:

7. For any state s , if **knowing**(s), then there is at least one fact f such that **content**(f, s).
8. For any state s , if **believing**(s), then it is not the case that there is at least one fact f such that **content**(f, s).

⁴ An alternative Neo-Davidsonian approach appeals to functions rather than dyadic predicates. (See, e.g., Uegaki, 2015a; Moulton, 2015) On this alternative, **bearer** is a partial function on the domain of eventualities (events, processes, states), defined for an eventuality e just in case e has a unique bearer, and, if defined, returns the individual in (or the subject of) e ; the partial function **content** is defined exactly analogously. 5 is then represented as:

6* $\exists s[\mathbf{knowing}(s) \wedge (\mathbf{bearer}(s) = \text{John}) \wedge (\mathbf{content}(s) = ?)]$

The function-based approach, contrary to the dyadic-predicate approach, implies that any state has at most one content (else the function **content** would be undefined) and so collapses the distinction between weak and strong factualism/propositionalism. However, we could draw a different, but related weak/strong distinction if we allow values returned by **content** to be composite, e.g. a composite of a proposition and fact.

2.2 Holton's argument for factualism

Holton (2017) develops an intriguing argument for factualism about knowledge. More precisely, Holton argues for the facts-for-factives conjecture, according to which “the *that*-complements of factive mental state operators refer to facts.” (p.251) This section finds Holton's argument wanting. The bulk of this chapter then develops a new argument for factualism.

Holton treats ‘know’ as a paradigm factive mental state operator (henceforth ‘factive’). Others include ‘discover,’ ‘regret,’ and ‘remember.’ ‘know’ is factive, as ‘*x* knows that ϕ ’ entails or presupposes that ϕ ; mental, as it denotes a property of mental attitudes; and stative, as it denotes a property of states. Finally, a factive mental state operator's denotation is unanalysable. ‘know’ may instantiate this property, though, as I argued in the introduction, the issue has not been decided. For present purposes, I waive this concern however. So, the claim that the ‘that’-complements of ‘know’ refer to facts is an instance of the facts-for-factives conjecture.

On minimal assumptions, this instance entails factualism about knowledge. For suppose the ‘that’-clause in 5 denotes the fact that it is raining. On a natural view, the denotation of ‘know’ then combines with this fact and with John to yield the proposition that is true just in case at least one state is such that it is a knowing, John is in it, and its content is the fact that it is raining. Since ‘John’ and the ‘that’-clause ‘that it is raining’ were arbitrarily chosen, we get the conclusion that any knowledge state that verifies an ascription like 5 takes a fact as content. If all knowledge states are such that they verify ascriptions like 5, then any knowledge state takes a fact as content.⁵

The facts-for-factives conjecture is motivated, according to Holton, because it helps to explain two data points. The first, due to Williamson (2000, pp.34-5), is that there is no factive such that being in a belief state whose content is denoted by a ‘that’-clause suffices (perhaps jointly with instantiating other properties associated with factives, e.g. deploring the relevant content) for satisfying that operator. Holton (2017, p.252) explains this datum via the idea that belief states may misrepresent and so do not generally take facts as contents. This idea entails that a mental state operator constructed out of ‘believe’ is not factive just in virtue of properties of ‘believe.’ Belief states must be combined with

⁵ We may object to the antecedent of this conditional on two grounds. First, certain occurrences of ‘know’ followed by a noun phrase receive an acquaintance reading, e.g. in ‘John knows Jess.’ The acquaintance states which ascriptions like ‘John knows Jess’ concern do not seem to verify any ascriptions like 5. In reply, I insist that ‘know’ when given an acquaintance reading should not be represented by **knowing** in our metalanguage. Consequently, acquaintance states are not knowledge states and do not falsify the antecedent of the conditional in the text.

A more interesting objection has it that certain utterances involving ‘know’ and an embedded question express propositions which do not concern knowledge states that at least possibly verify ascriptions like 5. For present purposes, I set aside this objection. But see Farkas (2015; 2016; 2017) for extensive discussion.

a truth requirement to secure the factivity of the constructed mental state operator. But this violates the unanalysability constraint on factive mental state operators. So, being in a belief state whose content is denoted by a 'that'-clause is not sufficient for satisfying a factive mental state operator.

The problem for this argument for the facts-for-factives conjecture is that the conjecture plays no essential role in the explanation. The idea that belief states may misrepresent suffices to get the claim that a mental state operator constructed out of 'believe' will not be factive just in virtue of properties of 'believe.' A factive does not allow any states in its extension to misrepresent. 'Believe' does.

The second datum Holton uses to motivate the facts-for-factives conjecture is that in English, and other Indo-European languages, there are clear-cut cases of factives, such as 'know,' but no clear-cut cases of *contrafactive* mental state operators (henceforth 'contrafactive'). Contrafactive resemble their factive siblings except insofar as '*x contrafactive that ϕ* ' entails or presupposes that $\neg\phi$, rather than that ϕ .

Holton (2017, p.251) notes that, given two claims, the facts-for-factives conjecture explains the absence of contrafactive. This role in the explanation motivates the conjecture. The first of the two claims says that the denotations of 'that'-clauses following contrafactive would be of the same type as the denotations of 'that'-clauses following factives; the second that things of the same type as facts correspond to true sentences only.⁶ Since the entities denoted by 'that'-clauses following contrafactive would have to correspond to false sentences, the second claim entails that they cannot be of the same type as facts. So, via the facts-for-factive conjecture and the first claim, we get the conclusion that there are no contrafactive.

Hyman (2017) challenges both of Holton's claims. Why, he asks, may the denotations of 'that'-clauses following contrafactive not be false propositions, even if the denotations of 'that'-clauses following factives are facts? And, why should things of the same type as facts correspond to true sentences only? The challenge for Holton is that, if either of the two claims is false, his explanation of the absence of contrafactive fails. If it does, however, the facts-for-factives conjectures has, for all we know, no role to play in explaining the absence of contrafactive and so remains unmotivated.

The problem for Holton I want to press concerns the second claim he relies on. A crucial question in interpreting this claim is how we should understand the correspondence relation. Holton seems to allow that relation to obtain between things and true sentences *as well as* between things and false sentences. Perhaps then the relation is that of things

⁶ Holton says little about what it is for two things to be of the same type. In assessing his arguments, I will thus rely on an intuitive grasp of when two things are of the same type.

determining the truth values of sentences. If so, however, and determination just is necessitation, there are several concerns for the claim that entities of the same type as facts correspond to true sentences only.

Hyman (2017, p.273) suggests that several views of facts falsify this claim. For instance, if facts are true propositions, there are entities of the same type as facts—false propositions—which necessitate the truth-value of the false sentences that express them and so correspond to those sentences. A similar conclusion follows from Hyman’s preferred view of facts. This view consists of two claims. First, that a fact just is the truth of a proposition. And second, that the latter is an instance of the property of being true, instantiated by a proposition. On this view too, there are entities of the same type as facts—instances of the property of being false, instantiated by propositions—which necessitate the truth-value of the false sentences that express the propositions bearing the relevant property instances and so correspond to those sentences.

According to Hyman, this challenge to Holton’s second claim arises because the views of facts just surveyed say that facts are abstracta rather than concreta. But Hyman is mistaken. The challenge is more general. Even if facts are concrete, they may necessitate the truth-value of false sentences. For instance, the fact that it is raining, even if it is a concrete event of raining, seems to necessitate the truth of the sentence ‘it is raining’ and the falsity of the sentence ‘it is not raining.’ This fact *verifies* certain sentences, and *falsifies* others. Thus, even if facts are concrete, the second claim on which Hyman relies in explaining the absence of contrafactuals is false.

In sum, Holton’s two-pronged motivation for the facts-for-factives conjecture, and so for factualism, seems to fail. His first motivation, based on an observation due to Williamson (2000), is unsuccessful because the facts-for-factives conjecture plays no essential role in explaining Williamson’s observation. Holton’s second motivation for the conjecture, based on the absence of contrafactuals in Indo-European languages, is unsuccessful because one of the assumptions Holton uses to explain the data is false.

The next four sections develop a different argument for factualism about knowledge. The next section lays out the data that drives my argument, the following two develop my argument, the fourth responds to an objection.

2.3 The data

My main motivation for factualism is provided by linguistic data drawn from the English language. Start with the standard knowledge ascription given in 5, reproduced here for convenience:

9. John knows that it is raining.

This ascription has interesting inferential properties. For instance, the inference from 5 to 10 seems valid:

10. John knows a fact.

Of course, the reverse is not the case. In some, if not most, situations, going from 10 to 5 does not preserve truth. So, 10 and 5 are not equivalent. But, we can engineer a ‘fact’-involving knowledge ascription that is equivalent to 5:⁷

11. John knows the fact that it is raining.

In support of the equivalence between 11 and 5, consider:

12. # John knows the fact that it is raining, but does not know that it is raining.
13. # John knows that it is raining, but does not know the fact that it is raining.

Both these utterances are infelicitous. A natural explanation of this infelicity says that it is impossible for John to be in the attitude ascribed by the first conjuncts of 12 and 13, whilst failing to be in the attitude ascribed by the second conjuncts of 12 and 13. Assuming that competent speakers of English know of this impossibility, it explains the infelicity. Crucially, this explanation implies the equivalence of 11 and 5.

My argument for factualism in the next two sections has it that the best explanation of the equivalence of 11 and 5 entails factualism. If my argument succeeds, the equivalence of 11 and 5 showcases a commitment of the English language to the claim that any knowledge state takes a fact as content.

The entailment data about ‘know’ has parallels for other English-language verbs that, like ‘know,’ combine with both ‘that’-clauses and noun phrases. For instance ‘John believes that it is raining’ is equivalent to ‘John believes the proposition that it is raining;’ ‘John fears that it will rain’ is equivalent to ‘John fears the possibility that it will rain;’ and ‘John infers that it is raining’ is equivalent to ‘John infers the proposition that it is

⁷ This data contrasts with data concerning ‘know’ and definite descriptions like ‘the proposition that it is raining.’ Consider

- John knows the proposition that it is raining.

Unlike 11, this utterance is *not* equivalent to 5. As it occurs in this utterance, ‘the proposition that it is raining’ seems to function as a concealed question: the utterance can naturally be paraphrased as ‘John knows what the proposition that it is raining says.’ (See Frana (2017) for extensive discussion of concealed questions.) But John may know what the proposition that it is raining says by knowing that the proposition that it is raining says that it is raining. He need not know that it is raining. The same reasoning applies also if we substitute the definite description ‘the true proposition that it is raining’ for ‘the proposition that it is raining.’

An interesting question is whether there are other definite descriptions which pattern like ‘the fact that it is raining.’ One candidate is ‘the truth that it is raining.’ ‘John knows the truth that it is raining’ may seem to be equivalent to 5. Depending on the denotation of ‘the truth that it is raining’ this may pose a challenge to factualism. For reasons of space, I do not discuss this issue here.

raining.’ Ultimately, we may want a unified account of all these cases. For present purposes, however, I will consider only the case of ‘know.’ My argument for factualism about knowledge may have analogues also for belief, inferring, and fear; but whether it does is not something I will be concerned with here.

Before I turn to my argument for factualism, let me address one concern about my data and mention another one. First, some (e.g. Holton, 2017; Parsons, 1993) take ascriptions like 11, where ‘know’ combines with ‘the fact that,’ to be infelicitous. However, most native speakers I consulted found 11 to be felicitous.⁸ Second, a search of English language corpora yields many occurrences of ‘know’ followed by ‘the fact that;’ for instance,

14. I mean you should know the fact that she don’t feel same for you and maybe there is someone else.
(<https://www.7cups.com/qa-anxiety-16/how-to-forget-my-one-sided-love-26>)
15. Knowing the fact that there is a window is always a good thing, but opening it or not depends on your past experience, study and understanding.
(<https://www.propertychat.com.au/community/threads/dymphna-boholt.7911/>)
16. Later, God made known the fact that the Coming One was to be of the offspring of David [...]
(http://www.godrules.net/library/pink/43pink_a0.htm)

Third, some informants suggest that the felicity of utterances like 11 improves if transformed into passive voice:

17. The fact that it is raining is known by everyone here.

The second concern about my data, which I merely mention for now, is that the data are an idiosyncrasy of English, not attested in other languages. I postpone discussion of

⁸ In 11, the clause embedded under ‘know the fact that,’ ‘it is raining,’ is in the present tense. Substituting a future tense clause, as in the utterance below, seems to induce more qualms in some of the native speakers I have consulted.

- ? John knows the fact that it will be stormy tomorrow.

The data here is not conclusive, however. For one, utterances like that above can easily be found in English language corpora:

- I’m still not sure about which protocol would fit for us knowing the fact that we will make an hybrid app and most of our users won’t be on Apple devices.
(<https://forums.estimote.com/t/eddystone-or-ibeacon-protocol/4276>)

For another the qualms about 8 may be due to interference from mistaken conceptions of facts. A sentence involving a definite description ‘the *F*’ is typically thought to entail or presuppose that there is a unique element in the domain that satisfies *F*. (Hawthorne and Manley, 2012) If so, 8 entails or presupposes that there is a unique fact that it will be stormy tomorrow. But folk theories of facts may not accept that entailment or presupposition, as they may deny the existence of facts about the future. These folk theories are likely false, however, and so should not influence our assessment of whether utterances like 8 are felicitous.

this concern for now, but section 2.6 will argue, first, that the data so far has clear parallels in some other languages, including Korean, and, second, that, although languages where utterances like 11 are infelicitous do not provide evidence for my treatment of 11 and 5, they also do not provide evidence against it. In sum, I will argue that the cross-linguistic evidence supports my argument.

2.4 The argument

What shall we do about the fact that 11 and 5 are equivalent? One option is to leave the equivalence between 11 and 5 brute. But, on general methodological grounds, theories that explain it seem to be preferable to theories that do not. How, then, do we explain it?

I suggest that 11 and 5 express the same proposition. This explains their equivalence. Since 11 expresses the same proposition as 5, it is impossible for the proposition expressed by 11 to be true, and that expressed by 5 to be false, and vice versa.

What proposition do 11 and 5 express? I assume that the definite description ‘the fact that it is raining’ denotes, if defined, the unique fact that it is raining.⁹ In 11, this denotation combines with that of ‘know’ and specifies the content of a knowledge state.¹⁰ The proposition expressed by 11, and so by 5, is thus true just in case at least one state is such that it is a knowing, John is in it, and its content is the fact that it is raining.

On plausible assumptions, this treatment of 11 and 5 entails factualism. The knowledge state that verifies the ascription in 5, ‘John knows that it is raining,’ takes a fact as content. Since ‘John’ and the ‘that’-clause ‘that it is raining’ were arbitrarily chosen, we get the conclusion that any knowledge state that verifies an ascription like 5 takes a fact as content. If all knowledge states, i.e. states satisfying **knowing**, are such that they verify ascriptions like 5, this means that any knowledge state takes a fact as content.

The argument for my treatment of 11 and 5, and so for factualism, is abductive. I claim that my treatment is the best explanation of the equivalence of 11 and 5. To argue for this claim, I will consider alternative accounts of 11 and 5. These may come in either of two forms. First, anti-factualists may disagree with me and hold that 11 and 5 express distinct propositions. Then, even if 11 does not express a proposition concerning a propositional attitude, this does not undermine the claim that 5 does. Alternatively, anti-factualists may

⁹ See Elbourne (2013; 2018) for a view of definite descriptions along these lines.

¹⁰ We may object to this claim based on further linguistic data from English. As Moffett (2003) and others (e.g. Holton, 2017) have noted, ‘know’ does not felicitously combine with so-called factive nominals such as ‘its being rainy’: ‘John knows its being rainy’ is infelicitous. Yet if so-called factive nominals denote facts, why do they not specify the content of a knowledge state just as the phrase ‘the fact that ϕ ’ does? My reply to this challenge is to deny that factive nominals denote facts. Following Grimm and McNally (2015), I assume that they may instead be used to talk about kinds of eventualities, properties of eventualities, or eventualities.

agree with me that 11 and 5 express the same proposition, but maintain that this proposition concerns a propositional attitude.

Variants of the first alternative have been widely pursued. These variants differ on what proposition 11 expresses. For King (2002) and Uegaki (2015a), it expresses a proposition concerning acquaintance with the fact that it is raining; for Elliott (2017) and Forbes (2018), a proposition concerning a knowledge state that takes the fact that it is raining as *theme* rather than content. Sections 2.5.1 and 2.5.2 argue that neither of these proposals explains why 11 and 5 are equivalent.

Moffett (2003) has previously argued against several ways of pursuing the second alternative, on which 11 and 5 express the same proposition, but this proposition concerns a propositional attitude. I will not recount his arguments here. Instead, sections 2.5.3 and 2.5.4 consider two variants of this alternative that Moffett did not consider. The first of these appeals to a type-shifter; the second, due to Nebel (2019), holds that ‘the fact that it is raining’ functions as a concealed question. I argue that both of these proposals over-generate well-formed utterances.

A caveat before I get going. There are important questions about the denotations of the constituent expressions of 5 and 11 and how these denotations combine so that 5 and 11 express the same proposition. For instance, does the ‘that’-clause in 5 denote the proposition that it is raining (e.g. King, 2002), the property of having that proposition as content (Elliott, 2017; Moulton, 2015), or the fact verifying that proposition (Holton, 2017; Vendler, 1972)? If one of the first two options is true, where does the fact that it is raining enter the semantic story in 5—does a covert definite determiner ‘the fact’ precede the ‘that’-clause in 5¹¹ or does a type-shifter take the denotation of the ‘that’-clause in 5 as input to output a fact suitable for composition with ‘know’¹²?

Yet further questions concern how utterances such as 18 to 21 below are possible.

- | | |
|--|---------------------------|
| 18. Jess merely believes something John has known all along. | <i>Special quantifier</i> |
| 19. John knows what Jess merely believes. | <i>Free relative</i> |
| 20. John knows, but Jess merely believes that it is raining. | <i>Right-node raising</i> |
| 21. Jess merely believes that it is raining. John knows it. | <i>Anaphora</i> |

Ultimately, we want a well-supported syntax and compositional semantics for knowledge ascriptions like 11 and 5 that answers all the questions I have just raised. However, I leave those for future work.¹³ My concern here is only with arguing for my treatment of 11 and 5, not with implementing it compositionally.

¹¹ See Kayne (2010, chs.9 and 10) for a view of this kind.

¹² Moffett (2003) defends a view in the vicinity.

¹³ But see Moffett (2003) for a semantics tailor-made to answer questions concerning how utterances such as 18 and 21 are possible.

2.5 Anti-factualist alternatives

This section considers four alternatives to my treatment of 11 and 5 which, if successful, undercut my argument for factualism. I argue that none of the alternatives is preferable to my treatment. I start by discussing the alternative due to King (2002) and Uegaki (2015a).

2.5.1 Alternative I, Acquaintance

Definite descriptions like ‘the fact that it is raining’ are noun phrases (henceforth ‘NPs’), whereas ‘that’-clauses are complementiser phrases (henceforth ‘CPs’). King (2002) suggests that ‘knows’ in ‘knows+NP’ receives a reading on which it denotes the property of being an acquaintance state, call this the *acquaintance reading*, whereas ‘knows’ in ‘knows+CP’ receives a reading on which it denotes the property of being a knowledge state, call this the *knowledge reading*.¹⁴ 11 thus expresses a proposition concerning a state of acquaintance. Only 5 expresses a proposition concerning a knowledge state. Moreover, that knowledge state’s content is specified by a ‘that’-clause, which King takes to denote a proposition rather than a fact. Thus, the knowledge state that verifies 5 is a propositional attitude.

If King is right, consideration of 11 and 5 yields no support for factualism. For in 11, ‘the fact that it is raining’ now does not specify the content of a knowledge state; and whilst ‘that it is raining’ in 5 does specify the content of a knowledge state, that content is propositional. So, for all King says, no knowledge state takes a fact as content.

Uegaki (2015a, p.29) tries to buttress King’s treatment of 11 and 5 using two pieces of cross-linguistic evidence. First, many languages, including German and various Romance languages, lexicalise the distinction between the acquaintance and knowledge reading of ‘know.’ In German, occurrences of ‘know’ that receive acquaintance readings are translated using ‘kennen’, as in ‘John kennt Jess’ which translates ‘John knows Jess’, whilst occurrences of ‘know’ that receive knowledge readings are translated using ‘wissen’, as in ‘John weiß, dass es regnet’ which translates ‘John knows that it is raining.’ Similarly, in Italian, ‘conoscere’ translates the acquaintance reading, as in ‘John conosce Jess’, whilst ‘sapere’ translates the propositional knowledge reading, as in ‘John sa che sta piovendo.’

¹⁴ There are two exceptions to this generalization. First, concealed question readings of knowledge ascriptions, where an occurrence of ‘know’ is followed by a noun phrase, but that noun phrase is understood to specify some question to which the subject of the report knows the answer. See Frana (2017) for discussion. Second, special quantifiers like ‘something’ which seem to quantify into ‘that’-clause position and trigger a knowledge reading, yet seem to be noun phrases. See Moltmann (2013, p.129) for critical discussion of whether King can account for this data.

Second, Uegaki suggests that if the German translation of the determiner phrase ‘the fact that it is raining’, ‘die Tatsache, dass es regnet’, occurs following ‘wissen’, this results in infelicity; not so, if ‘die Tatsache, dass es regnet’ occurs following ‘kennen.’¹⁵

22. John kennt die Tatsache, dass es regnet.

John knows_{acquaintance} the fact that it is raining

23. # John weiß die Tatsache, dass es regnet.

John knows_{knowledge} the fact that it is raining

Uegaki then concludes that this is evidence that the occurrence of ‘know’ in 11 receives an acquaintance reading.

I have two worries about King and Uegaki’s approach. The first concerns Uegaki’s cross-linguistic data. None of my German native speaker informants detected a difference in felicity between 22 and 23; both were judged to be infelicitous. In addition, a search of the Deutsches Referenzkorpus yielded zero matches for uses of the constructions ‘kennt die Tatsache, dass’ and ‘weiß die Tatsache, dass.’¹⁶ Corpus-wise too, then, the asymmetry between the two constructions suggested by Uegaki fails.

Similar results hold for Italian. Most of my Italian native speaker informants detected no difference in felicity between utterances featuring ‘conosce il fatto che’, which would translate an acquaintance reading of ‘knows the fact that’, and ‘sapere il fatto che’, which would translate a knowledge reading of ‘knows the fact that’. Both constructions were, by and large, judged to be infelicitous. In addition, a search of the Corpus di Italiano Scritto yielded zero matches for both constructions.¹⁷

In sum, the cross-linguistic evidence does not favour King and Uegaki’s treatment of 11 and 5 over mine. However, it raises an interesting question about the data I have been relying on, part of which was the observation that utterances like 11 are felicitous in English: is the data just an idiosyncrasy of English? I turn to this question later on in this chapter, namely in section 2.6.

Returning to King and Uegaki, we may be inclined to adopt their treatment even absent cross-linguistic evidence in its favour. However, doing so has costs. Unlike my treatment of 11 and 5, King and Uegaki’s leaves the equivalence of 11 and 5 unexplained.

Expanding King’s work significantly, Uegaki argues that 11 entails 5, although the two express distinct propositions. Two assumptions drive Uegaki’s argument: (i) that being acquainted with an entity entails that one knows that it exists (and so entails that it

¹⁵ There are in fact several German translations of ‘the fact that it is raining.’ Since the others, i.e. ‘den Fakt, dass es regnet’ and ‘den Sachverhalt, dass es regnet,’ behave just like ‘die Tatsache, dass es regnet’ when combined with ‘wissen’ and ‘kennen,’ however, I follow Uegaki’s discussion for now.

¹⁶ *Das Deutsche Referenzkorpus - DeReKo.*

¹⁷ *CORIS/CODIS - Corpus of Written Italian.*

exists, by the entailment from knowledge to truth); (ii) that the fact that ϕ exists at a given possible world w only if it is true that ϕ at w .

Given these two assumptions, Uegaki can be understood to give the following conditional proof. Suppose 11 is true. By King and Uegaki's account of 11, John is acquainted with the fact that it is raining. By (i), John knows that the fact that it is raining exists. Uegaki now assumes a Hintikka (1962) semantics for knowledge ascriptions, on which one knows that ϕ just in case at any possible world compatible with what one knows, ϕ is true. So, we get that at any possible world compatible with what John knows, the fact that it is raining exists. By (ii), the fact that it is raining exists at a given possible world w only if it is true that it is raining at w . This means that, at any possible world compatible with what John knows, it is true that it is raining. So, again assuming a Hintikka semantics for knowledge ascriptions, John knows that it is true that it is raining. But that is just an emphatic way of saying that John knows that it is raining. So, 11 entails 5.

Hintikka's semantics for knowledge ascriptions is well-known to overgenerate true knowledge ascriptions. It predicts that one knows any proposition that is true at any possible world, rendering one omniscient with respect to at least the logical truths.¹⁸ Given this, we should take the Hintikka semantics' prediction that John knows that it is raining with a pinch of salt. But even if we set aside this issue, Uegaki's discussion suffers from two major defects. First, his argument leaves one direction of the *equivalence* of 11 and 5 unexplained: the entailment from 5 to 11. Second, together with Uegaki's (i), King and Uegaki's treatment of utterances like 11 leads to odd results.

Consider Eliza, an eliminativist about facts. She rationally believes, having carefully weighed the arguments and evidence available to her, that it is not the case that there is at least one fact. Though Eliza is mistaken about this, she knows much else; for instance, that it is widely assumed that there are facts.

By the equivalence of ' x knows the fact that ϕ ' and ' x knows that ϕ ', Eliza knows the fact that it is widely assumed that there are facts. Because we are assuming, with King and Uegaki, that 'knows' as it occurs in this ascription receives an acquaintance reading, she is acquainted with the fact that it is widely assumed that there are facts. But now, by Uegaki's (i), she knows that the fact that it is widely assumed that there are facts exists. Only a modicum of logical competence is then required for her to know that there is at least one fact. A modicum that, moreover, is guaranteed by the Hintikka semantics on which Uegaki relies in his conditional proof of the entailment from 11 to 5. Thus, Eliza seems to rationally believe that it is not the case that there is at least one fact, whilst knowing that there is at least one fact.

Uegaki predicts Eliza to have contradictory beliefs, since knowledge entails belief, and

¹⁸ See Yalcin (2016) for discussion and a subtle refinement of the Hintikka semantics.

‘irrational knowledge,’ as Eliza is predicted to know that there is at least one fact, whilst rationally believing that it is not the case that there is at least one fact. These predictions are a bad result. For one, it is unclear whether irrational knowledge is possible.¹⁹ For another, although eliminativism about facts may be incoherent, should it be this easy to show that it is?

Given these concerns, I suggest we reject one of the assumptions driving my derivation. What is problematic for King and Uegaki is that the two main assumptions I used are (a) their treatment of utterances like 11 and (b) the assumption that being acquainted with an entity *e* entails knowing that *e* exists. Rejecting either leaves King and Uegaki in a bad position. If they reject (a), they abandon their account. But, if they reject (b), King and Uegaki fail to explain the left-to-right direction of the equivalence of 11 and 5, in addition to its right-to-left direction. In sum, my treatment of 11 and 5 is preferable to that of King and Uegaki. If we do not want to adopt factualism, we must look for another alternative to my treatment of 11 and 5.

2.5.2 Alternative I, Theme

I now turn to the treatment of 11 and 5 developed by Elliott (2017) and Forbes (2018). Like King and Uegaki, Elliott and Forbes hold that 11 and 5 express distinct propositions. On their account, however, ‘know’ denotes the property of being a knowledge state both as it occurs in 11 and as it occurs in 5.²⁰ The difference in proposition expressed is instead traced to the thematic roles which the denotations of the definite description ‘the fact that it is raining’ and ‘that’-clause ‘that it is raining’ occupy. The first is said to be the *theme* of a knowledge state. The second to be the content of a knowledge state. Elliott and Forbes thus hold that the proposition expressed by 11 is true just in case at least one state is such that it is a knowing, John is in it, and its *theme* is the fact that it is raining. By contrast, 5 expresses a proposition that is true just in case at least one state is such that it is a knowing, John is in it, and its content is the proposition that it is raining.

If Elliott and Forbes are right, consideration of 11 and 5 yields no support for factualism. For in 11, ‘the fact that it is raining’ now does not specify the content of a knowledge state; and whilst ‘that it is raining’ in 5 does specify the content of a knowledge state, that content is propositional. So, for all Elliott and Forbes say, no knowledge state takes a fact as content—this, of course, falsifies factualism.

¹⁹ Though see Aarnio (2010) and Donahue (2018) for arguments to the conclusion that it is possible.

²⁰ I here gloss over some of the details of Forbes’ view, which do not matter for present purposes. In particular, Forbes has it that ‘know’ is ambiguous. Very roughly, it has one reading on which it denotes the property of being a knowledge state that has a certain subject and a certain content and another reading on which it denotes the property of being a knowledge state that has a certain subject and a certain theme.

The problem for this treatment of 11 and 5 is that it makes mysterious why they are equivalent. Start by considering another verb that selects for fact descriptions and ‘that’-clauses alike: ‘explain.’

- 24. John explains the fact that it is raining.
- 25. John explains that it is raining.

The phrase ‘the fact that it is raining’ in 24 is naturally interpreted as introducing what John explains—the explanandum. By contrast, the phrase ‘that it is raining’ in 25 seems to introduce the content of John’s explanation—the explanans—perhaps, given in response to the question ‘why are you wet?’ (Pietroski, 2000) Yet an event in which what John explains is the fact that it is raining need not be accompanied by an event in which his explanation is that it is raining and vice versa. So, 24 and 25 are not equivalent.

Elliott’s and Forbes’ account is supposed to apply, generally, to verbs that select for ‘that’-clause and noun phrase complements. Consequently, their account applies to ‘explain’ just as it does to ‘know.’ So, the difference between the propositions expressed by the two utterances is merely that the denotation of the noun phrase in 24 is the theme of the relevant event, whereas the denotation of the ‘that’-clause in 25 is its content.²¹ The proposition expressed by 24 is true just in case John is the agent of an explaining event whose theme is the fact that it is raining. The proposition expressed by 25 is true just in case John is the agent of an explaining event that takes the proposition that it is raining as content.

The problem for Elliott and Forbes is now taking shape. Their treatment of the two pairs of utterances 24, 25 and 11, 5 is exactly parallel, but the entailment patterns are the opposite: 24 and 25 are not equivalent, but 11 and 5 are. So, the treatment of 11 and 5 Elliott and Forbes offer leaves their equivalence unexplained.

There are two natural replies on behalf of Elliott and Forbes. The first is that a knowledge state with a certain theme should be understood as a state of acquaintance with that theme. Then, the knowledge state which the proposition expressed by 11 concerns is a state of acquaintance with the fact that it is raining. It should be obvious, however, that this response does not help. In effect, it makes Elliott and Forbes’ approach to 11 a notational variant of King and Uegaki’s. But the latter approach also does not explain the equivalence of 11 and 5.

A second response may be to give a meaning postulate, stipulating that ‘ x knows that ϕ ’ is true just in case ‘ x knows the fact that ϕ ’ is true.²² More specifically, this meaning

²¹ This account of ‘explain’ can also be found in Pietroski (2000).

²² A similar meaning postulate is floated by Forbes (2018) for inference verbs, such as ‘accept’ and ‘infer.’ Such verbs behave similar to ‘know’ insofar as ‘Simon accepts / infers that it is raining’ is equivalent to ‘Simon accepts/ infers the proposition that it is raining.’

postulate may be given in terms of the thematic roles Elliott and Forbes employ. They may say that the fact that ϕ is the theme of a knowledge state just in case the proposition that ϕ is the content of a knowledge state. This meaning postulate may entail the equivalence between 11 and 5. But, it does not *explain* it. The postulate says nothing about why it is impossible for John to be in a knowledge state with the fact that it is raining as theme and fail to be in a knowledge state with the proposition that it is raining as content, and vice versa. So, my treatment of 11 and 5 remains preferable to that of Elliott and Forbes.

2.5.3 Alternative II, Type-shifter

The last two sections considered treatments of 11 and 5 on which they express distinct propositions. Neither of the treatments I considered explained the equivalence between 11 and 5. Thus, if we want a viable alternative to my treatment of 11 and 5, we must look elsewhere. This section and the next turn to two treatments of 11 and 5 on which they express the same proposition, but that proposition concerns a propositional attitude rather than a factual one.

The first view of this kind I will consider starts from adjectives like ‘true.’ These are quite flexible (Uegaki, 2015b, pp.57-8):

- 26. The claim that it is raining is true.
- 27. That it is raining is true.

In 26, the denotation of ‘true’ seems to compose with an individual, a speech act denoted by the definite description ‘the claim that it is raining.’²³ By contrast, in 27 the denotation of ‘true’ seems to compose with a proposition, denoted by a ‘that’-clause.²⁴ Yet within a standard type-theoretic semantics, the denotation of ‘true’ can only do one of the two. For that denotation is assigned a unique type. This type determines what type

²³ An alternative says that ‘the claim that it is raining’ is ambiguous between an act and a content reading; on the first, it denotes a claim with a certain content, on the second the proposition that is the content. The content reading, moreover, is triggered if ‘the claim that it is raining’ is combined with a predicate the denotation of which is a property of propositions, e.g. ‘true.’ Given this, the denotation of ‘true’ can straightforwardly combine with (one of) the denotations of ‘the claim that it is raining.’ Thus, the act-content ambiguity undercuts the argument below for introducing a type-shifter.

We may generalize the act-content ambiguity also to ‘the fact that it is raining’ and say that its content reading is triggered if it combines with a predicate the denotation of which is a property of propositions. Since propositionalists about knowledge will likely say that ‘know’ is such a predicate, they may then say that as it occurs in 11 ‘the fact that it is raining’ receives a content reading. Given this, it denotes the proposition that it is raining. This proposition is then free to combine with the denotation of ‘know’ and ‘John.’ As a result, 11 expresses the same proposition as 5 and we have an explanation of the equivalence of 11 and 5.

However, this alternative to my treatment of 11 and 5 faces much the same problems as does the type-shifter-based proposal. See fns.25 and 26 below. Thus, we should reject it.

²⁴ Another view would say that the denotation of the ‘that’-clause is the property of having a certain proposition as content. (Moulton, 2015) For brevity, I omit this alternative below.

of entity the denotation of ‘true’ can take as input, an individual, or a proposition say, to then output a proposition. Given this, that we want to avoid positing ambiguity in ‘true’, and that individuals differ in type from propositions, semantic composition can only proceed straightforwardly in one of the two cases. Typically, semanticists say that it proceeds straightforwardly only for 27: the denotation of ‘true’ is assigned a type such that it takes a proposition as input and then outputs a proposition.

A crucial question, given this framework, is how 26 is well-formed, although semantic composition cannot proceed straightforwardly for it. The standard answer appeals to a so-called type-shifter. The type-shifter we use to explain the well-formedness of 26 takes an individual with a propositional content as input and outputs something more suitable for the denotation of ‘true’ to compose with: the proposition that is the content of that individual. The denotation of ‘true’ then receives its required input even in 26 and so semantic composition can proceed.

This type-shifter may be used to develop an alternative to my treatment of 11 and 5. The denotation of ‘know’ is now assigned a type such that it takes an individual (e.g. John) and a proposition as input and then outputs a proposition. The ‘that’-clause in 5 denotes an entity of the right type to compose with the denotation of ‘know:’ a proposition—call it *p*. 5 now expresses a proposition that is true just in case at least one state is such that it is a knowing, John is in it, and its content is the proposition that it is raining.

‘The fact that it is raining’ does not denote an entity of the right type to compose with the denotation of ‘know’: it denotes an individual. But we may say that this individual has a proposition as content in virtue of verifying that proposition. If so, ‘the fact that it is raining’ denotes an entity suitable for being fed as input to our type-shifter, which then outputs something suitable for composing with the denotation of ‘know:’ a proposition. The denotation of ‘know’ thus receives its required output even in 11. And 11 expresses the same proposition as 5.

The problem for this treatment of 11 and 5 is that it makes mistaken predictions. One such prediction concerns the predicate ‘true.’ As the type-shifter is defined, it takes both claims and facts as input, since both are, at least for the purposes of the story so far, individuals with a propositional content. But this symmetry belies an asymmetry between claims and facts. This asymmetry is shown by the difference in felicity between 26 and 28:

28. # The fact that it is raining is true.

Whilst 26 is felicitous, 28 is *infelicitous*. Yet the type-shifter takes both the denotation of ‘the claim that it is raining’ and the denotation of ‘the fact that it is raining’ as input. Thanks to our type-shifter, the denotation of ‘true’ combines with its required input, a proposition, in both cases. So, we would expect both 26 and 28 to be well-formed. Without a pragmatic

explanation of why 28 is infelicitous—and I am not aware of any—we are overgenerating well-formed utterances.²⁵

The type-shifter also leads to mistaken predictions concerning ‘know.’ Consider

29. John knows the rumour that it is raining.

29 is not equivalent to 5. Yet the present treatment of 11 and 5 mistakenly predicts 29 and 5 to be equivalent for the same reason as it predicted 11 and 5 to be equivalent.²⁶

Here is a context that falsifies the entailment from 29 to 5. John, Sue, and Jess are working in a mine underneath a drought-stricken area. Sue has spread the inaccurate rumour that it is raining to all the miners. Jess utters 29 and says something true. But it is not raining and so, since knowledge entails truth, John does not know that it is raining. The entailment from 5 to 29 also fails. Suppose now John is a worker in the mine, but was not underground when Sue spread the rumour that it is raining. John does not know the rumour that it is raining. But imagine further that it is raining and that John is overground and sees that it is raining. He knows that it is raining.

To avoid the mistaken predictions concerning ‘true’ and ‘know,’ we may restrict the range of inputs suitable for our type-shifter. We may, for instance, say that the type-shifter only takes facts as input. This would avoid the mistaken predictions concerning ‘know.’ However, it would not avoid the mistaken predictions concerning ‘true.’ Moreover, positing a type-shifter only for facts seems rather ad hoc, abandoning the original motivation for introducing the type-shifter due to the behaviour of ‘true’ in utterances like 26, and so should be avoided. I doubt that there is any restriction on the range of inputs suitable for our type-shifter that fares better. It is time then to move on to another alternative to my treatment of 11 and 5.

2.5.4 Alternative II, Concealed question

Nebel (2019) aims to defend the idea that attitude ascriptions like 5 concern propositional attitudes. Thus, he would say that 5 expresses the proposition that is true just in case at least one state is such that it is a knowing, John is in it, and its content is the proposition that it is raining.²⁷ As we will see below, his treatment of 11 allows Nebel to say that it expresses the same proposition as 5 and thereby explain its equivalence with 11.

²⁵ The same prediction results also from saying that ‘the fact that it is raining’ is ambiguous and receives its content reading when combined with a predicate that denotes a property of propositions like ‘true’.

²⁶ The same prediction results also from saying that (i) ‘the fact that it is raining’ is ambiguous, (ii) ‘the fact that it is raining’ receives its content reading when combined with a predicate that denotes a property of propositions, and (iii) ‘know’ is such a predicate.

²⁷ Nebel in fact adopts a relational, rather than Neo-Davidsonian, semantics for attitude ascriptions. On this semantics, ‘know’ functions as a dyadic property of individuals and propositions, not as a monadic predicate of states. This commitment of Nebel’s will not play a role here, however, so I talk as if he used a Neo-Davidsonian semantics.

Nebel's treatment of utterances like 11 starts from the observation that noun phrases following occurrences of 'know' may function as concealed questions.²⁸ Consider

30. John knows the cause of World War I.

'the cause of World War I' in 30 seems to function as the question 'what caused World War I?' 30 can be naturally paraphrased as 'John knows what caused World War I.' Assuming that the answer to this question is that the assassination of Ferdinand caused World War I, the paraphrased sentence, and so also 30, is true just in case John knows that the assassination of Ferdinand caused World War I.

Nebel does not discuss utterances like 11, but his view generalizes to them. For Nebel, the noun phrase 'the fact that it is raining' in 11 also functions as a concealed question. By contrast with 'the cause of World War I' in 30, however, it is hard to say what question 'the fact that it is raining' functions as. 11, unlike 30, *cannot* be naturally paraphrased using an embedded question; it cannot be naturally paraphrased as 'John knows what the fact that it is raining is' for instance.

This difference between paradigmatic noun phrases which function as concealed questions like 'the cause of World War I' and 'the fact that it is raining' is, according to Nebel, a virtue. He emphasizes that utterances like 11 are somewhat strange. Their strangeness is, on his view, explained by the difficulty of interpreting the noun phrase 'the fact that it is raining' as a concealed question; a difficulty that may be due to the fact that no particular question is salient in the context in which 11 is uttered.

However, that Nebel does not say as what concealed question 'the fact that it is raining' functions in 11 means that, so far, he only schematically specifies the proposition it expresses. That propositional 'schema' is true just in case at least one state is such that it is a knowing, John is in it, and its content is the proposition that answers the concealed question as which 'the fact that it is raining' functions. So, this schema leaves open whether 11 is equivalent to 5.

Fortunately, Nebel offers a semantics for 'the fact that it is raining' which delivers concrete predictions. For Nebel, definite descriptions denote *individual concepts*—functions from an index (e.g., a world) to a unique entity. 'The cause of World War I,' for instance, denotes a function from an index to the unique entity that caused World War I at that index. In the actual world, the value of this function is the assassination of Ferdinand.

Nebel treats definite descriptions of the form 'the N that ϕ ' such as 'the proposition that ϕ ' and 'the evidence that ϕ ' as *propositional concepts*. These are functions from an index to a unique proposition. The function denoted by 'the proposition that ϕ ' is constant. For each index, its value is the unique proposition that ϕ at that index. This value is the

²⁸ Nebel's discussion focuses on 'explain,' but he intends it to generalize to 'know' (p.80).

same regardless of index. The function denoted by ‘the evidence that ϕ ,’ by contrast, is not constant. For each index, its value is the unique relevant proposition that evidentially supports ϕ at that index. This value may differ from index to index.

What function does ‘the fact that it is raining’ denote? A natural option is to let it denote a function that takes an index as input and, if defined at that index, outputs the unique proposition (exactly) verified by the fact that it is raining at that index.²⁹

To predict that 11 is equivalent to 5, Nebel now relies on a parallel between propositional concepts and embedded questions. On one view, embedded questions denote *question intensions*—functions from an index to the unique proposition that truly and exhaustively answers the relevant question at that index. (Groenendijk and Stokhof, 1982) ‘What caused World War I’ denotes, on this view, a function that, if fed our actual world as input, outputs the proposition that the assassination of Ferdinand caused World War I.

Intuitively, at the actual world, John knows what caused World War I just in case he knows that the assassination of Ferdinand caused World War I. Combining this intuition with our view of embedded questions as question intensions, we may say that John knows what caused World War I at a world w just in case at least one state is such that it is a knowing, John is in it, and its content is the proposition that is the value of the function denoted by ‘what caused World War I’ at w . In the actual world, this value is the proposition that the assassination of Ferdinand caused World War I. Thus, in the actual world ‘John knows what caused World War I’ expresses the proposition that is true just in case at least one state is such that it is a knowing, John is in it, and its content is the proposition that the assassination of Ferdinand caused World War I.

Similarly, Nebel may say that John knows the fact that it is raining at a world w just in case at least one state is such that it is a knowing, John is in it, and its content is the proposition that is the value of the function denoted by ‘the fact that it is raining’ at w . At any world at which the proposition that it is raining is true, and so at any world at which John knows that it is raining, this value is the proposition that it is raining. Thus, ‘John knows the fact that it is raining’ expresses the proposition that is true just in case at least one state is such that it is a knowing, John is in it, and its content is the proposition that it is raining.

The story so far explains why 11 and 5 are equivalent: both express the same proposition, i.e. the proposition that is true just in case at least one state is such that it is a knowing, John is in it, and its content is the proposition that it is raining.

The problem for this treatment of 11 and 5 is that the claim that ‘the fact that it is raining’ is a propositional concept, integral to Nebel’s view, leads to mistaken predictions.

²⁹ We need exact verification because the fact that it is raining inexactly verifies various propositions, such as the proposition that something is happening, in addition to the proposition that it is raining. For recent discussion of exact and inexact verification see Deigan (2019).

Consider again 26 and 27, reproduced here for convenience:

- 31. The claim that it is raining is true.
- 32. That it is raining is true.

Both of these utterances seem well-formed. But the denotations of the definite description ‘the claim that it is raining’ and the ‘that’-clause ‘that it is raining’ are, for Nebel, of distinct types: the first is a function from an index to a proposition, the second a proposition. In a standard type-theoretic semantics, we thus have to explain how the denotation of ‘true’ can combine with both. Yet at least two natural explanations lead Nebel to mistaken predictions.

The first explanation appeals to a type-shifter. This type-shifter takes propositional concepts as inputs and returns the proposition that is the value of the concept at the actual world; in the case of ‘the claim that it is raining,’ the proposition that it is raining. This proposition is then free to combine with the denotation of ‘true.’ 26 is well-formed.

As the type-shifter is defined, however, it predicts a symmetry between 26 and 28, reproduced here for convenience:

- 33. # The fact that it is raining is true.

Like 26, 28 is predicted to be well-formed. For the type-shifter takes the propositional concept denoted by ‘the fact that it is raining’ as input and returns the proposition that is the value of that concept at the actual world: the proposition that it is raining. This proposition is then free to combine with the denotation of ‘true.’ But 28 is not actually well-formed. Without a pragmatic explanation of why 28 is infelicitous—and I am not aware of any—we are overgenerating well-formed utterances.

The second explanation of why both 26 and 27 are well-formed says that ‘true’ is ambiguous (or polysemous). On a first reading, triggered by the presence of an expression or string denoting a propositional concept, it functions as a predicate of propositional concepts. On a second reading, triggered by the presence of a ‘that’-clause, it denotes a property of propositions. The ambiguity of ‘true’ now ensures that the denotations of ‘true’ in 26 and 27 are able to combine with denotations of the right type. Both are predicted to be well-formed. However, as I hope is clear, just as 26 is predicted to be well-formed so is 28, if ‘the fact that it is raining’ denotes a propositional concept. Yet again we are overgenerating well-formed utterances.

The problem for Nebel so far parallels that for the treatment of 11 and 5 given in the last section. Both overgenerate well-formed utterances involving ‘true.’ In Nebel’s case, the culprit is the claim that ‘the fact that it is raining’ denotes a propositional concept. This claim assimilates ‘the fact that it is raining’ too closely to ‘the claim that it is raining.’ But if we reject the claim that ‘the fact that it is raining’ denotes a propositional concept, we lose Nebel’s explanation of why 11 and 5 express the same proposition and so are equivalent.

In reply, Nebel may retreat to the claim that ‘the fact that it is raining’ is a *factual concept*—a function from an index to a unique fact; on a natural view, the unique fact that (exactly) verifies the proposition that it is raining at that index. On this view, ‘the fact that it is raining’ is more like ‘the cause of World War I’ than ‘the claim that it is raining.’ Like the former, but unlike the latter, ‘the fact that it is raining’ now denotes a function from an index to an individual, a fact.

That ‘the fact that it is raining’ denotes a factual concept does not yet tell us what proposition 11 expresses. But compare ‘the cause of World War I.’ This definite description denotes a function from an index to the unique cause of World War I at that index; at the actual world, the assassination of Ferdinand. Moreover, John knows the cause of World War I at the actual world just in case he knows that the cause of World War I is the assassination of Ferdinand. By analogy, we may conclude that John knows the fact that it is raining just in case he knows that the fact that it is raining verifies the proposition that it is raining. This conclusion would enable Nebel to say that 11 concerns a propositional attitude only: it would express the proposition that is true just in case at least one state is such that it is a knowing, John is in it, and its content is the proposition that the fact that it is raining (exactly) verifies the proposition that it is raining.

However, this approach to 11 does not explain its equivalence with 5. On this view, the content of knowledge states which utterances like 11 concern is more complex than the content of knowledge states which utterances like 5 concern. This opens up the possibility of subjects who, for lack of conceptual resources, are not in the knowledge state which utterances like 11 concern, but are in knowledge states which utterances like 5 concern. That is, it may be that subjects who do not know that the fact that ϕ (exactly) verifies the proposition that ϕ , do know that ϕ .

Possible examples include non-human animals. To illustrate, consider Dretske (1991)’s dog Fido, who knows that he buried his bone over there and so, it seems, knows the fact that he buried his bone over there. Crucially, Fido may well lack at least one of the concepts FACT, VERIFICATION, and PROPOSITION. But plausibly, possession of these concepts is necessary for having an attitude whose content concerns facts, verification, and propositions.³⁰ Since, on the present proposal, Fido’s knowing the fact that he buried his bone over there has such a content, Fido may well be predicted to lack this knowledge. If so, the entailment from utterances like 5 to utterances like 11 is mistakenly predicted to fail.

Other examples of subjects who may not know that the fact that ϕ (exactly) verifies the proposition that ϕ , but know that ϕ include Eliza, the eliminativist about facts from section 2.5.1. Eliza rationally believes that it is not the case that there is at least one fact, but knows that it is widely assumed that there are facts.

³⁰ But see Hawthorne and Manley (2012, p.152) for discussion.

By the equivalence of ‘ x knows the fact that ϕ ’ and ‘ x knows that ϕ ’, Eliza knows the fact that it is widely assumed that there are facts. By the present proposal, she knows that the fact that it is widely assumed that there are facts (exactly) verifies the proposition that it is widely assumed that there are facts. But now, only a modicum of logical competence is required for her to know that there is at least one fact. Thus, Eliza seems to rationally believe that it is not the case that there is at least one fact, whilst knowing that there is at least one fact.

As I noted in discussing Eliza in section 2.5.1, this prediction is problematic. It attributes irrational knowledge and, since knowledge entails belief, contradictory beliefs to Eliza. Both attributions are controversial. Given this, I suggest we reject one of the assumptions driving my derivation. What is problematic for Nebel is that the main assumption I used is his revised treatment of utterances like 11. Rejecting it evidently leaves Nebel in a bad position.

Given that the present proposal may also suffer from counterexamples due to non-human animals, I suggest that my own treatment of 11 and 5 is preferable to Nebel’s. If we do not want to adopt factualism, we must look for another alternative to my treatment of 11 and 5; but if my argument in this section has been successful, there are none. Other options either fail to explain the equivalence of 11 and 5 (King and Uegaki in section 2.5.1; Elliott and Forbes in section 2.5.2) or make mistaken predictions elsewhere (the approach discussed in section 2.5.3; Nebel in this section). For now then, we should adopt my treatment and so also factualism about knowledge.

2.6 Cross-linguistic data

A previously mentioned concern about my argument for factualism, which I will discuss in detail now, is that it relies on English-language data only and that parallel data do not hold in other languages. The German and Italian data I considered in 2.5.1, in particular, may make one worry that the equivalence of utterances like 11 and 5 is merely an idiosyncrasy of English.

The first point I want to note is that it is not an idiosyncrasy. Knowledge ascriptions in some other, even typologically unrelated, languages behave just as they do in English. Consider, for instance, two Korean-language knowledge ascriptions, adapted from Kim (2009, p.356):

34. John-un [[totwuk-i tomangka-n]-un kes]-ul alassta.
John knew that the thief was running away.
35. John-un [[totwuk-i tomangka-n(-ta)]-un sashil]-ul alassta.
John knew the fact that the thief was running away.

Like their English translations, 34 and 35 are not only felicitous, but also equivalent. So far then, the data are this. In English and Korean, utterances like 11 and 5 are equivalent. This demands an explanation; and my treatment of 11 and 5 provides it.

However, even if the equivalence of utterances like 11 and 5 is not an idiosyncrasy of English, we may still worry about the absence of similar data in other languages. Consider, for instance, the German and Italian translations of 5:

36. John weiß, dass es regnet.

37. John sa che sta piovendo.

These are, of course, felicitous. Yet German and Italian translations of 11 involving the verbs ‘wissen’ and ‘sapere’ are, as we saw in section 2.5.1, infelicitous:

38. # John weiß den Fakt, dass es regnet

John knows the fact that it is raining

39. # John sa il fatto che sta piovendo.

John knows the fact that it is raining

In addition to being judged infelicitous by my native speaker informants, 38 and 39 are also unattested in the Deutsches Referenzkorpus and Corpus di Scritto Italiano.³¹

Suppose then that, in German and Italian, utterances like 11 and 5 are not equivalent. Less follows from this than one may think. To see this, compare German and Italian to first-order logic. In first-order logic, we cannot express modal claims like ‘possibly, it is raining.’ Given this, first-order logic does not validate the inference from ‘it is raining’ to ‘possibly, it is raining.’ But this does not mean that the inference is invalid; in fact, it is valid (at least if ‘possibly’ is interpreted as concerning metaphysical modality).

I suggest that the data from German and Italian is rather like the data from first-order logic. The reason why utterances like 11 and 5 are not equivalent in German and Italian is that these languages cannot express the claims made by utterances like 11. Of course, this means that German and Italian do not present any evidence supporting my argument. Nor do they, however, present any evidence undermining my argument. Counter-instances to the equivalence between utterances like 11 and 5 cannot even be expressed in German and Italian.

One argument for the parallel between first-order logic and German and Italian is that my bilingual German and Italian native speaker informants (including myself) recognize the equivalence of the German 36 and Italian 37 respectively with the *English* 11. This suggests that what prevents them from recognizing that 36 and 37 are equivalent to the German and Italian translations of 11 respectively are expressive limitations of German and Italian.

³¹ *Das Deutsche Referenzkorpus - DeReKo* (and *CORIS/CODIS - Corpus of Written Italian*).

The data from bilingual speakers also supports my treatment of 11 and 5. For a generalization of my treatment of 5 to its German and Italian translations, 36 and 37, together with my treatment of 11 explains why my bilingual informants recognize the equivalence of 36 and 37 with 11.

The expressive limitation of first-order logic as compared to a quantified modal logic is due to certain properties of its syntax and semantics. How should the expressive deficit of German and Italian be explained? For reasons of space, I do not develop a detailed explanation here. Still, it may help to sketch one natural proposal, adapted from King (2007, p.142).

For concreteness, focus on German. The German translation of ‘know’ as it occurs in 5, i.e. ‘wissen,’ generally does not combine with noun phrases. Consider:

40. # John weiß Jess/eine Zeitung/das Gerücht, dass es regnet.

John knows Jess/a newspaper/the rumour that it is raining.

The simplest generalization based on these data says that ‘wissen’ does not combine with noun phrases. This generalization would explain why ‘wissen’ does not combine with the German translation of ‘the fact that it is raining,’ since it is a noun phrase.

However, the simplest generalization seems to be falsified by special quantifiers:

41. John weiß etwas/ein paar Dinge.

John knows something/a few things.

The next-best generalization is that ‘wissen’ does not combine with noun phrases, unless these are special quantifiers. Since ‘the fact that it is raining’ is not a special quantifier, even this generalization explains why ‘wissen’ does not combine with any of the German translations of ‘the fact that it is raining.’ We may thus say that the expressive limitation of German, which bars it from expressing the equivalence between utterances like 11 and 5, is due to the syntactic requirements of ‘wissen.’³²

In sum, the cross-linguistic evidence supports my argument for factualism. My data in English has clear parallels in some other languages, including Korean. Moreover, although languages where utterances like 11 are infelicitous, like German and Italian, do not provide evidence for my treatment of 11 and 5, they also do not provide evidence against it.

³² Alternatively, we can deny that special quantifiers and pronouns are noun phrases. But see Moltmann (2003, p.453) and Moltmann (2004, p.4) for critical discussion of this option.

2.7 Anti-factualism about belief

The chapter so far has argued for factualism about knowledge, the claim that any knowledge state takes a fact as content. My argument proceeded by inference to the best explanation. I argued that the best explanation of the equivalence of utterances like 11 and 5 lets them express the same proposition; a proposition that concerns a knowledge state with factual content.

Given factualism about knowledge, we may wonder whether any belief states take facts as contents. I now argue that they do not: no belief state takes a fact as content.

The default view of what content belief states take is a form of propositionalism about belief, which minimally says that any belief state takes a proposition, whatever a proposition may be, as a content.³³ One natural argument for weak propositionalism runs as follows. Generally, belief states may misrepresent. How they represent things as being is explained by their content(s). So, at least some content of a belief state must be such that it may be false. Propositions may be either true or false. So, by identifying at least some content of a belief state with a proposition, we allow that, generally, belief states may misrepresent.

We may try to extend this argument to obtain anti-factualism by means of two assumptions. If (a) for any belief state, that belief state has at most one content, and if (b) no content is a composite of a fact and something that may misrepresent, then, since any belief state takes a proposition as content, no belief state takes a fact as content. However, it is unclear why we should adopt these two assumptions. Why should any belief state have at most one content? And why should no content be a composite of a fact and something that may misrepresent one's environment? If we reject the first of these assumptions, we may say that even if a belief state has a propositional content, it may also have a factual one. And if we reject the second, we may say that a belief state may have a propositional-plus-factual content.

My argument for anti-factualism about belief does not rely on the two assumptions just discussed. Instead, I rely on an instance of Ockham's razor, the plausible idea that we should not multiply entities beyond necessity.³⁴ The *content razor* asks that we do not multiply *contents* beyond necessity. Is there any need then to attribute factual contents to belief states?

Looking for data that support the attribution of factual contents to belief states, we may point to linguistic data about 'believe' somewhat parallel to the data about 'know'

³³ Forms of propositionalism are adopted by, for instance, Anand and Hacquard (2008), Forbes (2018), King (2007), and Schiffer (2003).

³⁴ Recently, Schaffer (2015) has argued that we should reject Ockham's razor and adopt the laser, which commands that we do not multiply fundamental entities without necessity, instead. But see Baron and Tallant (2018) and Fiddaman and Rodriguez-Pereyra (2018) for responses on behalf of Ockham's razor.

that drove my argument for factualism. Start with a belief ascription that involves ‘the fact that it is raining:’

42. ?? John believes the fact that it is raining.

42 is infelicitous. However, its felicity improves if it is common ground in its context of utterance that it is a fact that it is raining. Consider

43. Context: Jess and Jean know that it is raining and that John believes that it is raining, but wonder about whether he also knows that it is.

(a) Jess: Sure, John believes the fact that it’s raining, but I don’t think he knows it.

The felicity of utterances involving ‘believe the fact that’ improves further if ‘believe the fact that’ is embedded under a modal. Consider:

44. Context: Jess and Jean know that it is raining and wonder whether John believes that it is raining.

(a) Jess: From what I hear, John still can’t believe the fact that it’s raining.

(b) Jean: Well, he damn-well should believe the fact that it’s raining!

Similar results can be had if we embed ‘believe the fact that’ under verbs like ‘refuse’:

45. Context as in 44

(a) Jess: From what I hear, John still refuses to believe the fact that it’s raining.

In sum, if it is common ground that it is a fact that ϕ , belief ascriptions like 42 seem to be felicitous.³⁵ The initial infelicity of 42 may then be explained by the idea that 42 is evaluated relative to a context in which it is not common ground that it is a fact that it is raining. In such a context, the existential presupposition carried by the definite description ‘the fact that it is raining’ is not satisfied (and also not accommodated). This leads to the infelicity of 42.³⁶

Belief ascriptions may now seem to parallel knowledge ascriptions, at least if uttered in a context where it is common ground that it is a fact that ϕ . That is, discourse participants treat ‘John believes that it is raining’ and 42 as equivalent if uttered in a context where it is common ground that it is a fact that it is raining. Evidence for this comes from the infelicity of conjunctions like:

³⁵ Kastner (2015, p.182), reporting the results of an exploratory Google search, finds utterances like 44a to 45a to be relatively common.

³⁶ Why should 42 be evaluated relative to such a context? Here is a sketch of an answer. ‘John believes that it is raining’ neither entails nor presupposes the truth of the clause ‘it is raining.’ Further, use of ‘believe’ rather than ‘know’ conversationally implicates that John does not know. Since it may be that he does not know because it is false that it is raining, use of ‘believe’ in an utterance suggests, absent further specification of the context, that the utterance is to be evaluated relative to a context where it is not common ground that it is raining, and so also not common ground that it is a fact that it is raining.

46. Context as in 43

- (a) Jess: # Sure, John believes the fact that it's raining, but he doesn't believe that it's raining.
- (b) Jess: # Sure, John believes that it's raining, but he doesn't believe the fact that it's raining.

Moving from the claim about how discourse participants evaluate utterances given a common ground, to a claim about the truth-values of utterances given how things are, we may now conclude that 'John believes that it is raining' and 42 are equivalent if it is a fact that it is raining. If this move is legitimate, there seem to be data concerning 'believe' which somewhat parallel the data about 'know' that drove my argument for factualism about knowledge.

However, the parallel does not support factualism about belief. The data concerning 'believe' is in fact an instance of a more widespread phenomenon. Other instances of the phenomenon suggest a model for thinking about it that lends no support to factualism; moreover, factualism does little to explain other instances of the phenomenon. So, the restricted equivalence between 'John believes that it is raining' and 42 does not support factualism about belief.

Consider another belief ascription:³⁷

47. John believes the pope.

47 resembles 42. First, if in 47's context of utterance it is not common ground that there is a pope, and if discourse participants are unwilling to accommodate the existence presupposition carried by 'the pope,' 47 will be deemed infelicitous. Second, 47 is true, we may say, just in case John believes some contextually relevant proposition associated with the pope. If said proposition is the proposition that it is raining, 47 is equivalent to 'John believes that it is raining.'

'The pope' does not denote the contextually relevant proposition associated with the pope; it denotes, if defined, the pope. Still, somehow 'the pope' makes available the relevant proposition to combine with the denotation of 'believe.'³⁸ This provides a model for thinking about 42. Although 'the fact that it is raining' does not denote a proposition, its occurrence in 42 makes available a contextually relevant proposition associated with the

³⁷ My discussion here is inspired by Nebel (2019, p.97).

³⁸ One way to get this result is to say, first, that the denotations of noun phrases following 'believe' act as themes of a belief state; and, second, that for an entity to be the theme of a belief state just is for some contextually relevant proposition associated with that entity to be the content of a belief state. This validates the observed equivalence. It also fares better than the meaning postulate floated in my discussion of Elliott and Forbes' approach to 11. First, it is not restricted to one type of entity (e.g. facts) and so is more general. Second, it gives a real definition of the theme-relation as instantiated by belief states. See ch.3.5 for discussion of the explanatory benefits of real definitions.

fact that it is raining: the proposition that is (exactly) verified by the fact that it is raining, i.e. the proposition that it is raining. Given this, 42 is equivalent to ‘John believes that it is raining’ if it is a fact that it is raining.

Although sketchy, this explanation is preferable to factualism about belief. The phenomenon at issue is wide-spread, instances include 47 and many more. Some of its instances, moreover, cannot be explained by factualism about belief: how, for instance, could factualism explain why 47 is equivalent to ‘John believes that it is raining’ if the proposition that it is raining is the contextually relevant proposition associated with the pope? So, even if we adopt factualism, we still need an explanation for why 47 is equivalent to ‘John believes that it is raining’ if the proposition that it is raining is the contextually relevant proposition associated with the pope. But this explanation generalizes to the data supposed to support factualism about belief and so undercuts the argument for the view.

In sum, the linguistic data I have considered here do not require us to attribute factual contents to belief states.³⁹ Absent further evidence, anti-factualism about belief is thus preferable to its factualist rival.

2.8 Conclusion

This chapter has defended two claims about knowledge and belief. The first is factualism about knowledge: any knowledge state takes a fact as content. The second is anti-factualism about belief: no belief state takes a fact as content.

My argument for the first of these claims started from the observation that utterances like 11, ‘John knows the fact that it is raining,’ and 5, ‘John knows that it is raining,’ are equivalent (section 2.3). I sketched a treatment of 11 and 5 that, on plausible assumptions, entailed factualism (section 2.4) and argued against four alternatives to it (section 2.5).

My argument for anti-factualism about belief (section 2.7) started from the observation that belief states may misrepresent and that, as a result, they need at least some content that is not a fact. Considering some linguistic data I then argued that there is no need to also attribute factual content to belief states.

³⁹ Questions concerning how utterances such as 18 and 21 are possible may also motivate factualism about belief. For instance, if anaphoric dependence requires co-reference, and if, as Ginzburg (1995), Holton (2017), and Vendler (1972) suggest, ‘that’-clauses that combine with ‘know’ denote facts, then the occurrence of the anaphoric pronoun ‘it’ denotes a fact too. Since this occurrence combines with ‘believe,’ we may then take it to specify the content of the belief state which the belief ascription concerns.

I do not discuss this argument in the text for two reasons. First, following Holton (2017, p.255), I am unsure whether anaphoric dependence (or any of the other phenomena 18 to 21 point to) requires co-reference. Consider Harman (2002, p.424)’s example: ‘The man who gives his paycheck to his wife is better off than the man who gives it to his mistress,’ where ‘it’ stands in for the words ‘his paycheck’ and does not refer back to the paycheck mentioned earlier. Second, unlike Holton for instance, I remain neutral on whether ‘that’-clauses that combine with ‘know’ denote facts.

The following chapters will use the conjunction of factualism and anti-factualism to make progress in the debate between egalitarians, doxasticists, and epistemicists. The next chapter argues that this conjunction imposes substantive constraints on the explanatory power of doxasticism and so undermines the abductive argument for adopting doxasticism instead of egalitarianism.

Chapter 3

Against doxasticism

The last chapter argued for factualism about knowledge and anti-factualism about belief, which I relabel here as H1 and H3 for reasons that will become clear in section 3.2 below:

H1 For any state s , if **knowing**(s), there is at least one fact f such that **content**(f, s).

H3 For any state s , if **believing**(s), it is not the case that there is at least one fact f such that **content**(f, s).

In this chapter, I begin to put the conjunction of H1 and H3 to work in undermining the abductive argument against unsupplemented egalitarianism. That argument relies on the idea that doxasticism and epistemicism are preferable to unsupplemented egalitarianism on abductive grounds: more precisely, doxasticism and epistemicism, by contrast with unsupplemented egalitarianism, are meant to explain the entailment and similarity theses.

This chapter argues that the conjunction of H1 and H3 is in tension with doxasticism's explanatory ambitions. To explain the entailment and similarity thesis, doxasticism must be formulated in one of a small range of specific ways. My aim is to show that, given H1 and H3, no such formulation works. Given these claims, versions of doxasticism strong enough to explain the entailment and similarity theses lead to contradiction or an explanatory gap. Moreover, weaker formulations, which avoid the difficulties arising from H1 and H3, not only fail to explain the similarity thesis but also either fail to explain the entailment thesis or rely on a controversial metaphysics to do so. These results suggest that doxasticism is not preferable to egalitarianism on abductive grounds.

For the purposes of my discussion, I grant the doxasticist an extensionally adequate, belief-involving, non-circular, necessary, and sufficient condition for knowledge. (Where by 'extensionally adequate' I mean that the relevant condition correctly predicts in what cases one does or does not know.) The condition I use as an example throughout has it that one knows that ϕ just in case one safely believes that ϕ , where a belief state is safe at a world w just in case it is true at all nearby possible worlds. I grant the doxasticist this much because whether an extensionally adequate, non-circular, necessary and sufficient condition for knowledge exists is a much discussed question on which I have little new to say. Instead, my argument here highlights other issues, which have received less

attention, but are just as pressing when considering whether doxasticism is preferable to unsupplemented egalitarianism on abductive grounds.

My argument in this chapter is inspired by remarks by Vendler (1972) and Hyman (2017). Section 3.2 discusses these remarks. Sections 3.3 to 3.7 develop my argument. Section 3.8 concludes.

3.1 Preliminaries

Before we get going, two preliminaries.

First, I continue to rely on a Neo-Davidsonian semantics of attitude ascriptions.¹ (e.g. Parsons, 1990) As I said earlier, Neo-Davidsonians hold that verbal predicates such as ‘know’ and ‘believe’ function as monadic properties of, and so denote properties of, states. Knowledge and belief ascriptions then involve, in addition to the relevant monadic predicates of states, existential quantification over states and dyadic predicates that encode the relationship between the relevant states, their bearer(s) and content(s). Here is my earlier example:

1. John knows that it is raining.
2. $\exists s[\mathbf{knowing}(s) \wedge \mathbf{bearer}(\text{John}, s) \wedge \mathbf{content}(\text{the fact that it is raining}, s)]$

In English, 2 says that at least one state is such that it is a knowing, John is in it, and its content is the fact that it is raining.² What I did *not* say earlier, is that, for a Neo-Davidsonian, states are concrete, spatio-temporally located entities.³

Second, I continue to follow Grimm and McNally (2015) and assume that nominalisations of ‘know’ and ‘believe,’ i.e. ‘knowledge,’ ‘knowing,’ ‘belief’ and ‘believing,’ may be used to talk about kinds of states, properties of states, or states. Going forward, I will disambiguate between these different uses of nominalisations if context leaves open which is intended.

3.2 Vendler and Hyman

The argument I will develop is inspired by remarks due to Zeno Vendler and John Hyman. Here is Vendler:

¹ Other accounts of the semantics of attitude ascriptions and metaphysics of the attitudes themselves provide similar resources for developing my argument. So, nothing of substance should turn on my semantic choice.

² An alternative Neo-Davidsonian approach appeals to functions rather than dyadic predicates. (See, e.g., Uegaki, 2015a; Moulton, 2015) Whether we choose the dyadic predicate- or function-based approach will not matter for my argument in this chapter.

³ Whether linguistic data justifies this claim has been extensively debated. Ernst (2016) defends an affirmative answer; Mittwoch (2011) argues for the opposing view.

The most persistent, and still dominant, line of analysis tries to understand knowledge in terms of belief [...] I think it [this claim] is still misleading and prejudices the issue. For it is taken for granted by the proponents of this view that knowledge [...] can have the same object as belief—that is, that it is possible to believe and to know exactly the same thing. (Vendler, 1972, p.90)

Vendler formulates his argument using the notion of an attitude's 'object.' This notion is closely related to the notion of content the Neo-Davidsonian framework employs. Vendler takes 'that'-clause complements of attitude verbs to specify the object of the attitudes at issue. Similarly, in the Neo-Davidsonian framework, 'that'-clause complements of attitude verbs specify the content of the attitudes at issue. So, for my purposes, I will talk as if Vendler worked with the notion of content.

According to Vendler, what I called doxasticism assumes that knowledge states take the same kind of content as belief states. Vendler argues against this assumption at length. He proposes that the content of knowledge states is a fact, whilst that of belief states is a proposition. His arguments for that proposal have encountered much opposition. (See Dunn and Suter, 1977; Jones, 1975; Rosenthal, 1976) But, setting that issue aside, what is curious about the above quote is that Vendler provides no reason for thinking that doxasticism in fact assumes that knowledge and belief states take the same kind of content. So, even if Vendler's argument against that assumption had been more successful, it is unclear whether this would or indeed should have troubled doxasticists.

John Hyman recently revived Vendler's case against doxasticism. Hyman's argument against the view is more explicit:

If what a person knows, who knows that something is the case, is the fact that it is the case, whereas what a person believes, who believes that something is the case, is the proposition that it is the case, and if facts are not propositions, then knowledge cannot be a species of belief. Knowing a fact cannot be a specific way of believing it—e.g. believing it with a special kind of justification, or as a result of a special kind of process—if there is simply no such thing as believing a fact. (Hyman, 2017, p.283)

Hyman's argument turns on four premises. The first is that "what a person knows [...] is the fact that $[\phi]$ is the case." The second that "what a person believes [...] is the proposition that $[\phi]$ is the case." In a Neo-Davidsonian framework, the first premise is naturally interpreted as the claim that a given knowledge state takes a fact as content, i.e. factualism about knowledge, whilst the second premise is naturally interpreted as the claim that a given belief state takes a proposition as content, i.e. weak propositionalism about belief:

H1 For any state s , if **knowing**(s), there is at least one fact f such that **content**(f, s).

H2 For any state s , if **believing**(s), there is at least one proposition p such that **content**(p, s).

Hyman's third premise says that "there is simply no such thing as believing a fact." We might call this premise an *exclusion* claim. Transposed into the Neo-Davidsonian framework, it says that no belief state takes a fact as its content, which is just anti-factualism about belief:

H3 For any state s , if **believing**(s), it is not the case that there is at least one fact f such that **content**(f, s).

Finally, the fourth of Hyman's premises says that "facts are not propositions;" in particular, as Hyman goes on to specify, not true propositions:

H4 For any fact f , it is not the case that there is at least one proposition p such that **true**(p) and $p = f$.⁴

From H1 to H4, Hyman concludes that "knowledge cannot be a species of belief," or, what Hyman treats as equivalent, that "knowing a fact cannot be a specific way of believing it."⁵ Even granting Hyman's four premises, however, it is not immediately clear why the argument's conclusion should follow from its premises. Nothing about the argument's form suggests that it is valid. Still, there is something natural about moving from Hyman's premises to his conclusion. As we will see later, in section 3.6, that is because two of Hyman's premises, H1 and H3, conjoined with uncontroversial claims about the relation between a species and subsuming genus in fact entail that knowledge cannot be a species of belief.

A more serious limitation of Hyman's argument is that it targets a specific formulation of doxasticism only. Even if true, Hyman's intended conclusion leaves untouched whether knowledge can be understood in terms of a non-circular, belief-involving, necessary, and sufficient condition for knowledge along different lines. Thus, regardless of its success, Hyman's argument need not worry doxasticists that formulate their view differently.

⁴ Beside Hyman, philosophers friendly to H4 include Fine (1982), Hossack (2007), Holton (2017), and Parsons (1993). For the opposing view see Hornsby (1997) and Dodd (2008).

⁵ The two probably are not equivalent. Hyman seems to intend the predicate 'is a way of' as it occurs in the quotation to denote the relation that holds between a determinable colour property like being red and one of its determinates like being crimson. This relation, however, probably differs from the species-genus relation. A worry one might thus have is that even if Hyman shows that knowledge cannot be a species of belief, he does not show that knowing cannot be a specific way of believing. Though, for reasons of space, I will not go into this concern here, my argument below (in particular that against what I will call species-based doxasticism in section 3.6) generalizes to doxasticism formulated using way-talk.

3.3 Interlude

In what follows, I will discuss four prominent versions of doxasticism that differ in the metaphysical relation they take to hold between knowledge and a belief-involving, non-circular, necessary, and sufficient condition for knowledge. Not all of them explain the entailment and similarity theses. Although that hardly comes as a surprise, I will show that H1 and H3 spell trouble for any version of doxasticism strong enough to explain the similarity thesis. Because versions of doxasticism weak enough to avoid the trouble also either fail to explain the entailment thesis or rely on a controversial metaphysics to do so, this result undermines the abductive advantage doxasticism is meant to have over egalitarianism.

It is worth highlighting why two of Hyman's four premises, H1 and H3, suffice for my argument.⁶ The reason is that these claims jointly entail a difference in content between any pair of a knowledge state and a belief state. That difference significantly constrains how we can understand knowledge in terms of a non-circular, belief-involving, necessary, and sufficient condition for knowledge. Because the difference in contents plays this role, my argument makes no essential use of H1 and H3. *Mutatis mutandis* the same argument could be given using an exclusion claim about knowledge corresponding to H3 alongside H2, for instance. The exclusion claim would now say that no knowledge state takes a proposition as content. Together with H2, according to which any belief state takes a proposition as content, this claim again entails a difference in content between any pair of a knowledge state and a belief state. That is enough to get my argument going.

3.4 Minimal doxasticism

The first brand of doxasticism I will consider is *minimal doxasticism*. We find some version or other of this view in most papers discussing Gettier (1963). Minimal doxasticism is a claim about modal equivalence. Assuming that knowledge is modally equivalent to safe belief, minimal doxasticism says that necessarily, one knows that ϕ just in case one safely believes that ϕ .

Minimal doxasticism fares poorly in explaining the entailment thesis. The view would have us explain the strict entailment from knowing that ϕ to believing that ϕ by appeal to the claim that necessarily, one knows that ϕ just in case one safely believes that ϕ .

⁶ That they are sufficient for my argument is not to say that they float free from Hyman's other premises. For instance, H1 and H3 may motivate one or both of H2 and H4; or, the motivations for H1 and H3 may do so. To illustrate, suppose H1 and H3 are true and facts are true propositions, contra H4. Then, it is impossible to believe true propositions. For some, this may be an unpalatable result and so may motivate H4. For others, e.g. sentimentalists about belief contents, it would not be and so would not motivate H4. Although there are interesting issues here, I will focus just on H1 and H3's consequences for doxasticism.

But, whilst the desired entailment follows from minimal doxasticism, whether minimal doxasticism also *explains* it is unclear. Since minimal doxasticism is just another necessity, citing it to explain the entailment thesis merely shifts the question. (Hale, 2002) Minimal doxasticism seems to call out for explanation just as the entailment thesis does.

For the same reason, minimal doxasticism seems to fare poorly in explaining the similarity thesis. Its explanatory ambitions with respect to the similarity thesis are thwarted by another fact, moreover. Given our Neo-Davidsonian semantics, minimal doxasticism is the claim that

3. $\Box[(\exists s[\mathbf{knowing}(s) \wedge \mathbf{bearer}(\text{one}, s) \wedge \mathbf{content}(\text{that } \phi, s)]) \text{ just in case } (\exists s'[\mathbf{believing}(s') \wedge \mathbf{bearer}(\text{one}, s') \wedge \mathbf{content}(\text{that } \phi, s') \wedge \mathbf{safe}(s')])]$

The existentially quantified sentences flanking this biconditional may be verified by distinct states. Minimal doxasticism thus allows a given knowledge state to be distinct from all belief states (and belief-involving composite states). But given this, minimal doxasticism allows the relevant knowledge state to have all manners of properties, so long as these properties are consistent with there being a state that verifies the right-hand side of the biconditional. Consequently, although minimal doxasticism may explain why a state of knowing that ϕ has all or most of the downstream consequences of believing that ϕ (since being in the first entails being in the second), it does not explain why a state of knowing that ϕ has only or almost only the downstream consequences of believing that ϕ . For all minimal doxasticism says, knowing that ϕ and believing that ϕ may have very different downstream consequences for what one does, thinks, and feels. Thus, the view does not explain the similarity thesis.

3.5 Definition-based doxasticism

The next version of doxasticism is stated as a real definition or metaphysical identification and so explains why minimal doxasticism and the entailment thesis hold. Assuming that knowledge is to be understood in terms of safe belief, it says that to know that ϕ just is to safely believe that ϕ . Call this *definition-based doxasticism*.

Minimal doxasticism and the entailment thesis hold, a definition-based doxasticist says, because to know that ϕ just is to safely believe that ϕ . This explanation conforms to a common explanatory practice. To see this, consider, for instance, this necessitated biconditional about gold atoms: necessarily, x is a gold atom just in case x is an atom with atomic number 79. This biconditional, it is natural to say, holds because of what it is to be a gold atom. To be such an atom just is to be an atom with atomic number 79. Explanations of this sort appear satisfying, by contrast with (putative) explanations of necessities in terms of other necessities. (See e.g. Dorr, 2016; Kment, 2014)

The similarity thesis is a more difficult target for definition-based doxasticism than the entailment thesis. If real definition is understood as a strong enough link, definition-based doxasticism explains it. However, in that case, the view faces inconsistency paired with H1 and H3. On the other hand, if real definition is understood in a sufficiently weak way for definition-based doxasticism to avoid inconsistency, the view does not explain the similarity thesis. Thus, the view faces a dilemma. Either it is inconsistent with H1 and H3 or it fails to explain the similarity thesis.

The first horn arises if Dorr (2016) is right about real definitions. According to Dorr, such definitions are higher-order identity statements. Glossing over some complications, saying that to be F is to be G is saying that the property denoted by ' F ' is identical to the property denoted by ' G '. Following Dorr, definition-based doxasticism thus says that the property denoted by 'knows that ϕ ' is identical to the property denoted by 'safely believes that ϕ '.

Definition-based doxasticism now explains the similarity thesis. Given the property identity claim, knowing that ϕ , i.e. instantiating the property denoted by 'knows that ϕ ', necessarily has all and only the downstream consequences that safely believing that ϕ , i.e. instantiating the property denoted by 'safely believes that ϕ ', has; else we get a violation of the analogue of Leibniz' law for higher-order identity. If safely believing that ϕ and believing that ϕ necessarily have very similar downstream consequences, which seems plausible as safety makes little difference to a belief state's downstream consequences, we can now explain why knowing that ϕ and believing that ϕ necessarily have very similar downstream consequences. Thus, if we accept Dorr's account of real definitions, definition-based doxasticism explains the similarity thesis.

However, if we also accept my case for H1 and H3, definition-based doxasticism now leads to a contradiction. The crucial fact that secures this result is that identical properties have identical extensions. Because of this, Dorrean definition-based doxasticism entails that the property denoted by 'know that ϕ ' has the same extension as the property denoted by 'safely believe that ϕ '.

But my case for H1 and H3 entails that they do not. In the Neo-Davidsonian framework, the property denoted by 'know that ϕ ' and the property denoted by 'safely believe that ϕ ' are properties of a state, content and bearer. Via my case for accepting H1, the extension of the first is the set of triples $\langle x, s, f \rangle$ s.t. **knowing**(s) \wedge **bearer**(x, s) \wedge **content**(f, s) where f is the fact that ϕ . Via my case for accepting H3, the extension of the second is the set of triples $\langle x, s, p \rangle$ s.t. **believing**(s) \wedge **safe**(s) \wedge **bearer**(x, s) \wedge **content**(p, s) where p is the proposition that ϕ . Evidently, the two extensions are different.

Dorrean definition-based doxasticism entails that the two extensions are identical; my case for H1 and H3 entails that they are different. Accepting both, we get a contradiction. We have to reject one of the two. I suggest that we reject Dorrean definition-based

doxasticism.

The second horn of the dilemma for definition-based doxasticism, on which it does not explain the entailment thesis, emerges if we understand real definitions along the lines of Fine (1994) or Rosen (2015). To illustrate, consider Fine's account. Fine introduces a primitive operator 'it lies in the nature of x that ψ ' written \Box_x where x is the entity we are trying to define, in our case knowing that ϕ , and ψ is a suitable biconditional relating the entity we are trying to define to the entities we are using as definiens, in our case believing that ϕ and being safe. So, in Fine's idiom, definition-based doxasticism becomes:

4. $\Box_{\text{knowing that } \phi} [(\exists s[\text{knowing}(s) \wedge \text{bearer}(\text{one}, s) \wedge \text{content}(\text{that } \phi, s)]) \text{ just in case } (\exists s'[\text{believing}(s') \wedge \text{safe}(s') \wedge \text{bearer}(\text{one}, s') \wedge \text{content}(\text{that } \phi, s')])]$

Definition-based doxasticism now avoids inconsistency. The existentially quantified sentences flanking the biconditional in 4 may be verified by distinct states. Consequently, the view allows that the property denoted by 'know that ϕ ' and the property denoted by 'safely believe that ϕ ' have different extensions. For this reason, my case for H1 and H3 does not lead the view to contradiction. The inconsistency between Dorrean definition-based doxasticism and my case for H1 and H3 does not generalize to 'Finean' definition-based doxasticism. However, definition-based doxasticism now fails to explain the similarity thesis for the same reason as minimal doxasticism: it allows the verifiers of the existentially quantified sentence to the left of the biconditional in 4 to have all manners of properties, so long as they are consistent with there being a verifier of the right-hand side of the biconditional.

The problem I have raised for definition-based doxasticism is that, depending on how real definition is understood, it either leads to contradiction paired with my case for H1 and H3 or fails to explain the similarity thesis. Importantly, this problem is compounded by the fact that we do not yet know which conception of real definition is preferable. It is a live possibility that doxasticists attracted to definition-based doxasticism must adopt Dorr's account of real definition. But, in that case, definition-based doxasticism paired with my case for H1 and H3 leads to contradiction. Since it is a live possibility that definition-based doxasticism must be understood along these lines, it is preferable to formulate doxasticism differently.

3.6 Species-based doxasticism

To explain the similarity thesis, doxasticists need a strong link between knowledge and belief. Yet that link must be weak enough to avoid problems due to H1 and H3. I doubt this balance is achievable. To substantiate my worry, the rest of the chapter discusses two alternatives to minimal and definition-based doxasticism. I will consider the first in this

section, the second in section 3.7. Both alternatives run into difficulties if we accept H1 and H3.

The first alternative to minimal and definition-based doxasticism appeals to one of the copular phrases ‘is a kind of’ and ‘is a species of.’ It says that knowledge is a kind/species of belief. Call this view *species-based doxasticism*.

Doxasticism is often formulated in this way. Hyman (2017), as we already saw, takes doxasticism to hold that “believing is a generic state, of which knowing is a species.” (p.268) Williamson (2000), who defends primitivism about knowledge, characterizes his opposition, doxasticism, as holding that “Knowledge is merely a kind of true belief.” (p.2) Advocates of doxasticism also often state the view in this key. To take one example, McGlynn (2017) asks whether “knowing [is], at best, a mental state in an attenuated sense due to being a species of belief?” and suggests that doxasticism answers this question in the affirmative.⁷

I will assume that the claim that knowledge is a kind/species of belief is to be interpreted, using kind-talk, as the claim that the kind *knowledge* is subordinate to the kind *belief* or, using species-talk, as the claim that *knowledge* is a species subsumed by the genus *belief*. Either way the view posits an ordering amongst kinds or species. *knowledge* is said to be lower in that ordering than *belief*.⁸

Species-based doxasticism entails the claim that any knowledge state is a belief state. So, the view must be rejected if we accept H1 and H3. The crucial claim securing this result is that for any two kinds k_1 and k_2 , if k_1 is a kind/species of k_2 , the set of members of k_1 is a subset of the set of members of k_2 . Call this claim *subsumption*. Subsumption entails that any member of k_1 is a member of k_2 or, equivalently, that no member of k_1 fails to be a member of k_2 .

One way to motivate subsumption is via induction. As an example, consider *panthera tigris* (the tiger) and *felidae* (the cat). The first is a kind/species of the latter. Clearly, the

⁷ We may worry that my formulation of species-based doxasticism differs from those of Hyman and McGlynn. Whilst I used the de-verbal nouns ‘knowledge’ and ‘belief’ to state the view, they use (at least one of) the gerunds ‘knowing’ and ‘believing.’ Though both the de-verbal nouns and gerunds are nominalisations of ‘know’ and ‘believe,’ they differ in some respects. (Chomsky, 1970) For present purposes, however, these differences will not matter.

⁸ Using kind-talk may make an alternative interpretation of species-based doxasticism available. This interpretation is inspired by sentences like ‘John’s knowledge that it is raining is a kind of belief,’ which, intuitively, says that John’s knowledge state is a member of the kind *belief*. Doxasticists may now say that species-based doxasticism is the claim that a knowledge state is a member of the kind *belief*. Crucially, however, on plausible assumptions, this view entails that any knowledge state is a belief state. Arguably, doxasticists must take the knowledge state at issue to be an arbitrary one. If it is not, there is at least one knowledge state that is not a member of the kind *belief* and so, absent another doxasticist account, is not understood in terms of belief. But, assuming that if a knowledge state is a member of the kind *belief*, it is a belief state, the claim that an arbitrary knowledge state is a member of the kind *belief* entails that any knowledge state is a belief state. Thus, going this way leads to the same problem as I outline in the body of the text below: paired with H1 and H3, species-based doxasticism leads to contradiction.

set of members of *panthera tigris* is a subset of the set of members of *felidae*. What holds of *panthera tigris* and *felidae* holds more widely. Absent counterexample, that gives good inductive grounds for the claim that for any two kinds k_1 and k_2 , if k_1 is a kind/species of k_2 , the set of members of k_1 is a subset of the set of members of k_2 .

Via subsumption we get that if knowledge is a kind/species of belief, as species-based doxasticism claims, all members of the kind *knowledge* are members of the kind *belief*. But if x is a member of the kind *knowledge*, x satisfies **knowing**; similarly, for the kind *belief* and **believing**. Given this, that all members of the kind *knowledge* are members of the kind *belief* entails that any knowledge state is a belief state. Call this claim *coinstantiation*. Species-based doxasticism entails coinstantiation.

Coinstantiation helps to explain both the entailment and similarity thesis. Take the entailment thesis first. Necessarily, if one knows that ϕ , one is in a knowledge state. That knowledge state is, according to coinstantiation, a belief state. Thus, if one knows that ϕ , one is in a belief state. Given that state's content, one believes that ϕ .

Coinstantiation also helps to explain the similarity thesis. By coinstantiation, a knowledge state is a belief state. Of course, it is not just any old belief state. Assuming for the sake of concreteness that knowledge is modally equivalent with safe belief, the doxasticist may say that it is a *safe* belief state. This means that knowing that ϕ and safely believing that ϕ necessarily have the same downstream consequences. If safely believing that ϕ and believing that ϕ necessarily have very similar downstream consequences, which seems plausible as safety makes little difference to a belief state's downstream consequences, we can now explain why knowing that ϕ and believing that ϕ necessarily have very similar downstream consequences. Thus, species-based doxasticism explains the similarity thesis.

However, coinstantiation is inconsistent with H1 and H3 and, since species-based doxasticism entails coinstantiation, so is species-based doxasticism. To see this, take an arbitrary knowledge state k . By H1, there is at least one fact such that **content**(f, k). By coinstantiation, k is a belief state. Thus, by H3, it is not the case that there is at least one fact such that **content**(f, k). Thus, there both is and is not at least one fact such that **content**(f, k). Contradiction. Species-based doxasticism must be rejected if we accept H1 and H3.

3.7 Composition-based doxasticism

The final version of doxasticism I will consider appeals to a relation denoted by the predicate ‘is composed out of.’⁹ To a first approximation, it says that knowledge is partly composed out of belief. Call this view *composition-based doxasticism*.

Doxasticism is sometimes formulated as per composition-based doxasticism. Jenkins Ichikawa and Jenkins (2017), for instance, emphasize that “One reading of the traditional [doxasticist] project is that knowledge has belief, etc. as constituents.” (p.120) Williamson may also be appealing to this relation at various points. He writes that “On the internalist picture [one version of doxasticism], knowing is a metaphysical hybrid, a mixture of mental states with mind-independent conditions on the external world.” (p.50)

Composition-based doxasticism neither appeals to real definition nor to the relation between a species and its subsuming genus. So, my argument so far does not, at least obviously, generalize to it. Doxasticists may thus hope to avoid the arguments given so far by adopting composition-based doxasticism. My aim in this section is to show that this will not work.

Because ‘knowledge’ and ‘belief’ may be used to talk about kinds of states, properties of states, or states themselves, I will distinguish three versions of composition-based doxasticism. The first says that the kind *knowledge* is composed out of the kind *belief*. Call this *kind composition-based doxasticism*. According to the second, the property denoted by **knowing** is a composite property. Call this *property composition-based doxasticism*. On the third version of composition-based doxasticism, a given knowledge state is a composite state. Call this *state composition-based doxasticism*.

Section 3.7.1 introduces state composition-based doxasticism in more detail. Section 3.7.2 argues against it. Roughly, I claim that state composition-based doxasticism faces an explanatory gap: it leaves unexplained why knowledge states are factual attitudes, i.e. take facts as contents.

Section 3.7.3 turns to property composition-based doxasticism and shows that, depending on how it is developed, it either entails coinstantiation and so leads to contradiction just as species-based doxasticism did or entails state composition-based doxasticism and thus is subject to the argument in section 3.7.2.

Since it is unclear how to understand a composition relation between kinds, I will set aside kind composition-based doxasticism for present purposes.

⁹ This predicate is probably polysemous, i.e. there likely are multiple distinct, though related, composition relations. (Wallace, 2019) For instance, we may want to distinguish between a composition relation for concrete objects and one for properties. For now, I merely assume that there is some composition relation that may apply to knowledge and belief. Shortly, we will see different versions of composition-based doxasticism that appeal to composition relation for different kinds of entities.

3.7.1 State composition-based doxasticism: some details

State composition-based doxasticism says that a given knowledge state is a composite state. Since one of that state's parts is a belief state, the view explains the entailment thesis. Assuming that the remainder of the composite state, which for the sake of concreteness we may assume to somehow involve safety, does not make a significant difference to the downstream consequences of its composing belief, composition-based doxasticism can also explain why knowing that ϕ and believing that ϕ necessarily have very similar downstream consequences.

How exactly, however, is the remainder to be understood? Relatedly, the view says that a given knowledge state is a composite state; but what exactly is it composed of? There are several potential answers, but none seem entirely satisfying.

A tempting first answer holds that it is composed out of some belief state and whatever further properties or property instances of that state are necessary and, alongside being in that state, sufficient for one to be in a knowledge state. Assuming safe belief to be modally equivalent with knowledge, this view claims that a given knowledge state k is composed out of (i) some belief state b and (ii) the property of being safe or the instance of that property instantiated by b .

This way of understanding state composition-based doxasticism is problematic, however. For it requires a composition relation whose relata belong to different ontological kinds; the state b is supposed to be a concrete particular whereas the property of being safe or the relevant instance of that property at least fails to be concrete.¹⁰ But, it is unclear whether such a kind-neutral composition relation exists. (Wallace, 2019) Absent independent reasons for positing such a relation, the present way of understanding state composition-based doxasticism therefore faces a charge of ad hocery.

There are two ways to avoid committing to a kind-neutral composition relation. The first is to say that a given knowledge state k is composed out of and only out of some belief state b that instantiates the property of being safe. This view, however, requires that a knowledge state has exactly one proper part, a state that is a safe belief. Consequently, the view is inconsistent with weak supplementation, according to which whenever an object has a proper part, it has another part that does not overlap with the first. Admittedly, weak supplementation has been the subject of much debate—see Cotnoir (2018) for discussion and references. Still, many hold that it, or some slightly restricted claim along its lines, is constitutive of composition. So, doxasticists may want to stay clear of denying weak supplementation.

¹⁰ Whether it also fails to be a particular depends on what account we give of properties and their instances. I will not go into these issues here. For present purposes, it should suffice that, whatever view we accept, it will not be concrete.

The second way of avoiding commitment to a kind-neutral composition relation is to appeal to a state, event or process, rather than a property or property instance. On this view, a given knowledge state k is composed out of (i) some belief state b and (ii) whatever states, events or processes being in which is individually necessary and, paired with being in b , jointly sufficient for one to be in a knowledge state. Assuming knowledge is modally equivalent to safe belief, this view holds that a given knowledge state k is composed out of (i) some belief state b and (ii) some state s of being safe.

But, who or what is in that further state of being safe? It cannot be the subject who is in the belief state. For what would it be for that subject to be in a state of being safe? The intended property of being safe is a property of beliefs, not subjects. A better answer is that it is the subject's belief state b that is in a state of being safe. However, what is it for a state to be in a further state? Typically, it is subjects who are in states, not states themselves.¹¹

One reply to this worry is to posit another relation, analogous to that of a subject's being in a state, which allows a state to be in* another state. Such an extra piece of ideology, introduced just for the sake of formulating the theory, may be a cost, but, doxasticists could insist, is outweighed by state composition-based doxasticism's explanatory power. After all, the view explains the entailment and similarity theses.

Given the view's explanatory advantages, the costs associated with additional ideology may well be worth it. So, I will not press that issue further here. Instead, I will turn to my argument based on H1 and H3. For ease of exposition, I will focus on the formulation of state composition-based doxasticism just discussed, on which a given knowledge state is composed of two states, a belief state and a state of being safe borne by that belief state. It is worth bearing in mind, however, that my argument also affects the other formulations discussed in this section.

3.7.2 State composition-based doxasticism: an explanatory gap

My argument against state composition-based doxasticism will not be as direct as my argument against Dorrean definition-based and species-based doxasticism. These views conjoined with my case for H1 and H3 enabled me to derive a contradiction. My argument in

¹¹ Similar worries may arise if, instead of a state of being safe, doxasticists appeal to some event or process. It is not straightforward to see, for instance, what it would be for a state to be the agent of an event or process. However, the worries here may be alleviated if we take care to posit only certain relationships between the events, or processes, at issue and a belief state. For instance, if the further event or process is one involving causation, one may hold that the belief state is the culmination or outcome of that event or process. This would be a relation whose application to states is well understood. One take-home message here is that, to assess the severity of the present worry, we have to proceed in a piecemeal fashion, paying attention to the details of different doxasticist views. This is not a task I will take on here.

this section instead points to an explanatory gap left by state composition-based doxasticism.

The gap arises as follows. Suppose H1 and H3 are true. Then knowledge is a factual attitude, i.e. takes a fact as content, whilst belief is not. By state composition-based doxasticism, a factual attitude would thus be composed out of a non-factual attitude as well as a state, borne by the latter, of being safe. This raises a crucial question. Why would knowledge be a factual attitude if it was composed out of those two states?

I doubt doxasticists have the resources to convincingly answer this question. Yet it is important to do so. Without an answer, knowledge would be mysterious given state composition-based doxasticism. But mystery is something we do not want from an account of a phenomenon.

Doxasticists may try to close the explanatory gap in a variety of ways. I cannot cover all of them here. But, let me survey a few. The first two proposals are closely related. They rely on the interaction between the states that compose a given knowledge state: a belief state and a state, borne by that belief state, of being safe. A third proposal I will consider below instead adds a further component, namely a fact.

The first proposal starts by noting that this interaction guarantees that the belief state-part is true. For a belief state is safe at w just in case it is true in all nearby possible worlds, and w is nearest to itself. The second proposal highlights that the interaction between a belief state and a state, borne by that belief state, of being safe also guarantees the existence of a fact that verifies the proposition believed. For if a belief state is safe, then it is true, and if a belief state is true, then there is some fact that verifies the proposition believed. The guarantee of truth or the existence of a verifying fact due to safety, the respective proposals continue, explains why knowledge is a factual attitude.

Both of these proposals, however, only move the bump in the rug. For now the crucial question is either ‘Why would knowing that ϕ be a factual attitude if it was composed of two states that entailed that ϕ ?’ or ‘Why would it be a factual attitude if it was composed out of two states that entailed the existence of a fact that verifies the proposition that ϕ ?’

We can appreciate the force of these questions by considering a different case. Suppose John believes that $2 + 2 = 4$. Since it is a necessary truth that $2 + 2 = 4$, the empty set of propositions entails that $2 + 2 = 4$. But then so does the proposition that John believes that $2 + 2 = 4$. Similarly, the empty set of proposition entails the existence of the fact that $2 + 2 = 4$, and so does the proposition that John believes that $2 + 2 = 4$.

But now take the fusion of John’s belief state and some other arbitrary state borne by that belief, for instance a state of being stably held.¹² That John is in this composite state

¹² If we rejected weak supplementation, an even simpler counterexample would appeal to the fusion of all and only John’s belief state.

entails that $2 + 2 = 4$ and the existence of the corresponding fact. Yet it would be odd for that composite to be a factual attitude. Only John's belief state and a state borne by it of being stably held are fused. Since John's belief state, by H3, is not a factual attitude, why would the fusion at issue be?

The fusion of John's belief state and some other arbitrary state of that belief state has all the properties the two proposals above insisted were sufficient for the fusion of a given belief state and a state, borne by that belief state, of being safe to be a factual attitude. Yet it is not. So, having the properties at issue cannot be sufficient. The explanatory gap remains.

Doxasticists may change tack by extending the composition-base for knowledge. A given knowledge state, they may now claim, is composed out of a belief state, a state, borne by that belief state, of being safe, and the fact that verifies the content of the belief state.

There are several worries for this response, which turn on the metaphysics of facts. Let's ask 'What are facts?' For present purposes, we can partition logical space into two cells.¹³ On one side are accounts on which facts are concrete (Kratzer, 2012, ch.6; Longworth, 2018); on the other are accounts on which facts are *not* concrete.

If, as per the accounts in the second cell, facts are not concreta but entities of some other ontological category, state composition-based doxasticism faces a by now familiar worry. It commits us to a special kind of composition relation which fuses entities of different ontological kinds: concreta and non-concreta. Absent independent reasons for positing such a composition relation, the present response thus faces yet another charge of ad hocery.

If, as per the accounts in the first cell, facts are concreta, doxasticists avoid commitment to a special kind of composition relation and so the charge of ad hocery. But this does not keep them out of trouble: due to the spatio-temporal locations of facts composition-based doxasticism now makes odd predictions.¹⁴

Take the fact that it was raining in Vienna on 1 January 1918. Since this fact is supposed to be a concrete entity, perhaps the event of its raining there and then, it is presumably located (more or less at least) in Vienna on 1 January 1918. But now consider John, born in 1993, currently in Toronto. Only this morning he learned, and so came to know, that it was raining in Vienna on 1 January 1918. Since, by the present version of state composition-based doxasticism, the fact that it was raining in Vienna on 1 January 1918 is part of John's

¹³ For a more exhaustive taxonomy of accounts see Künne (2003).

¹⁴ This trouble also arises on accounts on which facts are abstract particulars, which are not concrete, but in virtue of being particulars occupy spatio-temporal locations. So, if facts are abstract particulars, the present response faces both the charge of ad hocery and the trouble to follow.

knowing that it was raining there and then, there is a part of John's knowledge state that is located in Vienna on 1 January 1918. This is an odd result for two reasons.

First, on the assumption that a composite's having a part located at a spatio-temporal location l entails that the composite is located at l , this result entails that the spatio-temporal boundaries of John's knowledge state extend far beyond John's own. In other words, one of John's (mental) states obtained before he was conceived!

Second, even without that assumption the result is odd. John's knowledge state seems to have a clear starting point: today, when he learned that it rained in Vienna on 1 January 1918. But, according to state composition-based doxasticism, John's knowledge state has a part—the fact that it rained in Vienna on 1 January 1918—which obtained *only* prior to its starting point.

To illustrate the oddity of that prediction, consider a spatio-temporally bounded *event*, for instance a particular performance of Macbeth. What is the 'temporal profile' of that performance's components? It seems that all its component-actors will have existed, all its component-events will have occurred, and all its component-states will have obtained, at some point within the performance's spatio-temporal boundaries. Generalizing from this particular event, it is tempting to conclude that for any event e that occurred throughout some period of time $t_1 - t_n$ and any part p_e of e , there is at least one point in time t_i s.t. $t_1 \leq t_i \leq t_n$ and p_e existed, obtained, or occurred at t_i . Crucially, it is hard to see why states would differ from events in this respect. But in light of that, it should strike us as odd that John's knowledge state is said to have the fact that it rained in Vienna on 1 January 1918 as part.¹⁵

One might temper the oddity here by saying that the supposedly odd consequences of state composition-based doxasticism are no novelty. In fact, they are just what we should expect given that whether a state is a knowledge state depends on whether certain conditions outside its bearer obtain. Sticking with the property of being safe, whether a given state is a knowledge state depends on whether it has a state of being safe as part, and whether it does so depends on goings-on across a whole region of modal space outside the subject bearing the state.

However, this type of dependence is crucially different from the result we get given the present version of state composition-based doxasticism. Whether a given state instantiates a certain property depends on conditions outside its bearer has no bearing on the composition or spatio-temporal location of that state. Either way, the state may lack parts altogether or be located inside its bearer. So, allowing that whether a state is a knowledge state depends on conditions outside its bearer does not commit one to thinking that the knowledge state has a part located outside of or spatio-temporal boundaries exceeding

¹⁵ Moran (2018, p.20) discusses a similar concern for naive realist accounts of perception.

those of its bearer.¹⁶ By contrast, the present version of state composition-based doxasticism does. This counts against the view. It seems, then, that the explanatory gap for state composition-based doxasticism remains.

3.7.3 Property composition-based doxasticism

Property composition-based doxasticism says that the property denoted by **knowing** is composed out of the property denoted by **believing** and whatever further properties the instantiation of which are necessary and, added to the instantiation of the property denoted by **believing**, sufficient for a state to instantiate the property denoted by **knowing**. I will assume that the property of being safe plays the knowledge-making role. There are two ways of understanding this view, which differ on how they conceive of the composite property denoted by **knowing**.

On the *conjunctive* conception, the following conditional is true:

5. If the property denoted by **knowing** is instantiated by a state *s* and the property denoted by **knowing** has the property denoted by **believing** and the property of being safe as parts, the latter properties are instantiated by *s*.

The conjunctive conception treats the property denoted by **knowing** as akin to properties that wear their composite nature on their sleeves, as the property of being red and round does for instance. Such properties clearly satisfy conditionals corresponding to 5.

The conjunctive conception of property composition-based doxasticism entails that any knowledge state is a belief state, i.e. coinstantiation. This helps the view to explain the entailment and similarity theses. However, since coinstantiation was what got species-based doxasticism into trouble, property composition-based doxasticism is in trouble too. If we accept H1 and H3, we must reject property composition-based doxasticism.

The second conception of the composite property denoted by **knowing** to consider is the *structural* conception. On this view, the property denoted by **knowing** is a structural property like being a methane molecule. This latter property is composed of simpler properties such as being a hydrogen atom, being a carbon atom, and the bonding relation. However, the parts of being a methane molecule are not instantiated by the molecule itself, but by suitable parts of that molecule, for instance a hydrogen atom, a carbon atom, etc. (Fisher, 2018)

The structural conception falsifies 5. Although the property denoted by **knowing** is composed of the property denoted by **believing** and the property of being safe, the latter

¹⁶ See Harman (2002) for this point.

two properties are not instantiated by the same state as the property denoted by **knowing**. On the structural conception, then, property composition-based doxasticism does not entail coinstantiation and so avoids inconsistency with the conjunction of H1 and H3.

However, on the structural conception, property composition-based doxasticism entails state composition-based doxasticism. For the property denoted by **believing** and the property of being safe are now said to be instantiated by parts of knowledge states—for the reasons discussed in section 3.7.1, arguably belief states and states of being safe borne by those belief states. So, just as state composition-based doxasticism claims, a given knowledge state is composed out of a belief state and a state of being safe borne by that belief state.

That property composition-based doxasticism, given the structural conception, entails state composition-based doxasticism allows the former to piggyback on the latter's explanation of the entailment and similarity theses. However, it also has a significant downside: my argument against state composition-based doxasticism given above now generalizes to property composition-based doxasticism: composition-based doxasticism thus faces an explanatory gap.

3.8 Conclusion

I have argued that, given my case for H1 and H3, versions of doxasticism strong enough to explain the entailment and similarity theses either lead to contradiction (Dorreaan definition-based, species-based and conjunctive property composition-based doxasticism) or an explanatory gap (state and structural property composition-based doxasticism). Moreover, weaker formulations, which avoid the difficulties arising from H1 and H3, not only fail to explain the similarity thesis, but also either fail to explain the entailment thesis (minimal doxasticism) or rely on a controversial metaphysics to do so (Finean definition-based doxasticism). These results suggest that doxasticism is not preferable to egalitarianism on abductive grounds. The remainder of this thesis argues that epistemicism too is not preferable to egalitarianism on abductive grounds.

Chapter 4

Against epistemicism

Structurally, doxasticism is a simple view. Its belief-involving, non-circular, necessary, and sufficient condition for knowledge is a *conjunction* of a condition one satisfies just in case one believes that ϕ and some other condition(s). This conjunction may say, for instance, that one knows that ϕ just in case one safely believes that ϕ , i.e. just in case there is some belief state one is in, whose content is that ϕ , and that belief state is safe.

Epistemicism must be more complex. Its knowledge-involving, non-circular, necessary, and sufficient condition for belief cannot be a conjunction of a condition one satisfies just in case one knows that ϕ and some other condition(s). For if it were, one would have to know to satisfy it. Consequently, believing that ϕ would be predicted to entail knowing that ϕ . But we can and often do believe that ϕ without knowing that ϕ . For example, Jess believes that Aristotle is Plato—something she does not and cannot know, since it is metaphysically impossible that Aristotle is Plato.

This constraint on what the knowledge-involving, non-circular, necessary, and sufficient condition for belief could be highlights a more general challenge for epistemicists. That of finding a suitable such condition.

I will be a little unfair to epistemicists here. In the last chapter, I granted the doxasticist an extensionally adequate, belief-involving, non-circular, necessary, and sufficient condition for knowledge. (Where by ‘extensionally adequate’ I mean that the relevant condition correctly predicts in what cases one does and does not know.) I did so because whether such a condition exists is a much discussed question on which I have little new to say. Instead, my aim was to highlight other issues which have received less attention, but which are just as pressing when considering whether doxasticism is preferable to un-supplemented egalitarianism on abductive grounds.

By contrast, whether an extensionally adequate, knowledge-involving, non-circular, necessary, and sufficient condition for belief exists has rarely been discussed. For this reason, I will pay special attention to how epistemicists may formulate such a condition. I will suggest that few of their proposals are extensionally adequate and that this has downstream consequences for whether those proposals are able to explain the entailment and similarity thesis.

This is not to say that there are *no* cases where considering the metaphysical relation between belief and the proposed necessary and sufficient condition for belief is required to reach, or of independent interest in strengthening the argument for, the conclusion that epistemicism is not preferable to egalitarianism on abductive grounds. However, in such cases, I will not consider all the options I considered in discussing doxasticism. Doing so would conflict with my focus on whether epistemicists have given an extensionally adequate, knowledge-involving, non-circular, necessary, and sufficient condition for belief. Hence, I will assume that the metaphysical relation to which epistemicists appeal is real definition understood along the lines of Dorr (2016). Even given this caveat, my arguments below suggest that epistemicists have significant work to do before they can claim any abductive benefits over unsupplemented egalitarianism.

In the remainder of this chapter, I will set out the main constraints epistemicism's necessary and sufficient condition for belief must satisfy for epistemicism to be preferable to unsupplemented egalitarianism on abductive grounds. This will put us in a position to systematically assess the abductive credentials of epistemicist proposals which I will extract from the literature.

4.1 Constraints

Epistemicists are, in the first instance, looking for a non-circular, knowledge-involving, necessary, and sufficient condition for belief. Call this condition γ . In abstract, epistemicism says that to believe that ϕ is to satisfy γ .

To be of help to epistemicists in arguing that their view is preferable to egalitarianism on abductive grounds, γ must satisfy a variety of constraints. Two obvious candidates are:

- C1 γ is non-circular.
- C2 γ is extensionally adequate.

If γ violates C1, then this disqualifies views that appeal to γ from being epistemicist. What to say if γ violates C2, however, is not straightforward. Whether violation of this constraint means that epistemicism is no better off than unsupplemented egalitarianism on abductive grounds depends, first, on how extensive and important the extensional inadequacies are and, second, on how many of the following constraints γ satisfies. Hence, I will return to what to say if γ violates C2 below.

Another obvious candidate constraint is:

- C3 γ is such that necessarily, if one knows that ϕ , one satisfies γ .

For, given that to believe that ϕ is to satisfy γ , if the strict conditional in C3, call it *the bridge entailment*, is falsified, then so is the entailment thesis. So, γ must verify the bridge entailment if epistemicism is to explain the entailment thesis. Moreover, if the entailment

thesis is falsified, we get cases of knowledge without belief. Since it seems that there are no such cases, if γ falsifies the bridge entailment, it is extensionally inadequate. Satisfying C3 is thus required both for γ to be extensionally adequate and for it to be useful in explaining the entailment thesis.

However, that γ satisfies C3, if it does, is not sufficient for epistemicists who rely on γ to have an abductive advantage over unsupplemented egalitarianism concerning the entailment thesis. For if epistemicists who rely on γ do not explain why the bridge entailment holds, egalitarians may reply as follows. Since the bridge entailment is as unexplained by epistemicism as the entailment thesis is by unsupplemented egalitarianism, and the bridge entailment calls out for explanation just as the entailment thesis does, epistemicism and unsupplemented egalitarianism are, other things being equal, abductive equals. Epistemicists have merely shifted the question from why the entailment thesis holds to why the bridge entailment holds.

In reply, epistemicists may say that the number of brute modal facts is smaller on their view than it is on unsupplemented egalitarianism. For although their view does not explain the bridge entailment, it explains the entailment thesis. However, egalitarians need not accept this reply, at least if epistemicism is formulated as a real definition along the lines of Dorr (2016).

The reply assumes that there are two distinct modal facts, one verifying the entailment thesis and one verifying the bridge entailment. However, on some views of facts, epistemicism entails that the two modal facts are in fact identical. Suppose facts are somehow composed out of objects and properties. Since epistemicism is formulated as a Dorrean real definition, it says that the property denoted by ‘believe that ϕ ’ is identical to the property denoted by ‘satisfy γ .’ So, the two modal facts are distinct only if they are composed out of different objects. But they are not. So, the two modal facts are in fact identical. Similar results hold also if facts are composed out of concreta only or out of tropes.

For epistemicists to have an abductive advantage over unsupplemented egalitarianism due to the number of brute modal facts, they must accept one of a small range of views about facts. But this added commitment may be a significant cost to their theory. So, even if epistemicists take on this commitment, and their γ satisfies all of C1 to C3, they have yet to show that their view is preferable to unsupplemented egalitarianism on abductive grounds.

The exchange over what happens if epistemicists who rely on γ do not explain why the bridge entailment holds suggest that, if the bridge entailment holds for γ , epistemicists should also explain why the bridge entailment holds. That is, γ should satisfy:

C4 γ is such that there is an explanation of why the bridge entailment holds.

Because the existence of an explanation of why ϕ is the case strictly entails ϕ , if γ does not satisfy C3, it does not satisfy C4 either.

As we will see, some versions of epistemicism struggle to satisfy C4 because their *prima facie* most promising explanations lead to *mutatis mutandis* the concerns I raised for doxasticism in the last chapter, e.g. contradiction, and so cannot ultimately be accepted.

If γ satisfies all of C1 to C4, that may suffice for epistemicism to be preferable to unsupplemented egalitarianism on abductive grounds. I say ‘may’ because whether it does also depends on whether and, if so, why it violates the following constraint:

C5 γ is such that necessarily, knowing that ϕ and satisfying γ have very similar downstream consequences for what one does, thinks, and feels.

Given that to believe that ϕ is to satisfy γ , if C5 is violated because the necessitated claim in C5, call it *the bridge similarity*, is falsified, then so is the similarity thesis. But if the similarity thesis is falsified, we get incorrect predictions about the downstream consequences of either knowing that ϕ or believing that ϕ in some case(s). Depending on how large and widespread the predicted discrepancies in downstream consequences are, epistemicism may or may not be preferable to unsupplemented egalitarianism on abductive grounds, even if the epistemicist’s γ satisfies all of C1 to C4.

If, by contrast, C5 is violated because γ is specified such that it is silent about whether the bridge similarity holds, then the similarity thesis is not falsified. In that case, epistemicism, just like unsupplemented egalitarianism, is silent about whether the similarity thesis holds. Consequently, if it satisfies C1 to C4, epistemicism *is* preferable to unsupplemented egalitarianism on abductive grounds.

That γ satisfies C5, if it does, is insufficient for epistemicists who rely on γ to have an abductive advantage over unsupplemented egalitarianism concerning the similarity thesis. This is for *mutatis mutandis* the same reasons as satisfying C3 was insufficient for epistemicists to have an abductive advantage over unsupplemented egalitarianism concerning the entailment thesis. In effect, to generate an abductive advantage concerning the similarity thesis, γ has to satisfy a further constraint whose relation to C5 parallels that of C4 to C3. Namely,

C6 γ is such that there is an explanation of why the bridge similarity holds.

Evidently, if γ does not satisfy C5, it does not satisfy C6 either.

If γ satisfies all of C1 to C6, epistemicism is preferable to unsupplemented egalitarianism. The same verdict is plausible also if γ satisfies all of C1 to C5, but violates C6. In that case, epistemicism fails to have an abductive advantage over unsupplemented egalitarianism concerning the similarity thesis. However, since γ satisfies the remaining constraints, epistemicism does have an abductive advantage over unsupplemented egalitarianism concerning the entailment thesis and falsifies no data we are in a position to verify independently. Consequently, epistemicism is preferable to unsupplemented egalitarianism on abductive grounds. For *mutatis mutandis* the same reasons epistemicism is preferable to

unsupplemented egalitarianism on abductive grounds also if γ satisfies all of C1 to C6 except for C4.

As we saw before, if γ satisfies all of C1 to C4, but violates C5 and so C6, then whether epistemicism is preferable to egalitarianism depends on why γ violates C5. If it violates C5 because it falsifies it, epistemicism may or may not be preferable depending on how many data that we are in a position to verify independently γ falsifies and how important those data are. If, however, γ violates C5 because it is silent about whether the bridge similarity holds, epistemicism is preferable.

If γ satisfies all and only C1 to C3, epistemicism is not preferable to egalitarianism on abductive grounds. For, in that case, epistemicism has no abductive advantage over egalitarianism concerning the entailment and similarity theses. The same verdict is also plausible if γ satisfies all of C1 to C3 *and* C5.

It is more difficult to assess whether epistemicism is preferable to egalitarianism on abductive grounds if γ satisfies all of C1 to C6 except for C2, i.e. if γ is not extensionally adequate, but is non-circular and helps epistemicism to explain the entailment and similarity theses. The assessment here depends on how extensive and important the extensional inadequacies are. The difficulty eases off as γ satisfies fewer constraints. If γ satisfies all constraints except for C2 and C6, epistemicism would not be preferable to egalitarianism, as explaining the entailment thesis only would not make up for falsifying data we are in a position to verify independently and failing to explain the similarity thesis. The same verdict is plausible (albeit for different reasons) also if γ satisfies all six constraints except for C2 and C4; all constraints except for C2, C3, and C4; all constraints except for C2, C5, and C6; all and only C1, C3, and C5; all and only C1 and C3; and all and only C1 and C5.

In this section, I outlined six constraints several of which γ must satisfy for epistemicism to be preferable to unsupplemented egalitarianism. The chapters to come will suggest that no way of filling in for γ we can extract from the literature to date satisfies one of the combinations of constraints that would suffice for epistemicism to be preferable to unsupplemented egalitarianism. Consequently, I will conclude that epistemicism, at least as developed so far, is not preferable to unsupplemented egalitarianism on abductive grounds.

Before I move on, a note on terminology. I will sometimes say that a version of epistemicism or person holding such a version satisfies/violates one or multiple of C1 to C6. I will use this as a convenient short-hand for saying that the necessary and sufficient condition on which the relevant version of epistemicism relies satisfies/violates one or multiple of C1 to C6.

4.2 Outlook

The next chapter begins my case for the claim that epistemicism is not preferable to egalitarianism on abductive grounds by considering two views. According to the first, to believe

that ϕ is to hold that one knows that ϕ , where ‘hold’ is a placeholder for some suitable attitude verb. Because this view understands belief in terms of an attitude whose content is about knowledge, call such a view *meta-epistemic epistemicism*. Koutras, Moyzes, and Zikos (2017) endorse a version of this view, on which one believes that ϕ just in case one estimates that one knows that ϕ .

According to the second view I consider in the next chapter, to believe that ϕ is not to know that one does not know that ϕ . Since a view that understands belief in these terms appeals to the lack of an attitude, call such a view *no-attitude epistemicism*. Lenzen (1979) and Stalnaker (2006) defend no-attitude epistemicism.

Subsequent chapters discuss five further versions of epistemicism. Ch.6 assesses accounts due to Price (1935) and Miracchi (2015) as well as a view inspired by Bird (2007). Chapters 7 and 8 then focus on accounts inspired by Williamson (2000)’s suggestion that to believe p is to treat p as if one knows p , whilst chapter 9 turns to Williamson’s considered view, on which to believe p is to treat p in ways similar to the ways in which subjects treat propositions which they know.

Chapter 5

Against meta-epistemic and no-attitude epistemicism

This chapter focuses on meta-epistemic and no-attitude epistemicism. According to the first, to believe that ϕ is to hold that one knows that ϕ , where ‘hold’ is a placeholder for some appropriate attitude verb. Section 5.1 considers two versions of meta-epistemic epistemicism, *credence-* and *acceptance-based* meta-epistemic epistemicism. Both predict that we believe too few propositions and fail to explain the entailment and similarity theses. Section 5.2 considers Stalnaker (2006) and Lenzen (1979)’s version of no-attitude epistemicism, on which to believe that ϕ is to not know that one does not know that ϕ . I argue that, although this view explains the entailment thesis, it undergenerates in some cases, and fails to explain the similarity thesis because it overgenerates in others. In sum, none of the versions of epistemicism I consider in this chapter are preferable to egalitarianism on abductive grounds.

5.1 Meta-epistemic epistemicism

According to *meta-epistemic epistemicism*, to believe that ϕ is to hold that one knows that ϕ , where ‘hold’ is a placeholder for some appropriate attitude verb. McGlynn (2013) ascribes a version of this view with ‘take’ substituted for ‘hold’ to Adler (2002, p.36).¹ Koutras,

¹ I doubt Adler in fact holds this view. The discussion McGlynn quotes is concerned with what one does if one recognizes oneself as believing that ϕ : “in recognizing myself as believing that p , the sufficient reasons I take myself to have for believing it are sufficient for knowing it.” (Adler, 2002, p.36) However, to believe that ϕ is not to recognize oneself as believing that ϕ , so the quoted passage does not support an ascription of the doxastic view to Adler. Moreover, the passage commits Adler only to the conditional: if one recognizes oneself as believing that ϕ , then one takes oneself to have sufficient reason for knowing it. For a full-blown account, Adler would also need to endorse the converse: if one takes oneself to have sufficient reasons for knowing that ϕ , one recognizes oneself as believing that ϕ . Given commitment to the first conditional, commitment to the second may seem natural; nonetheless, from the text, it is unclear whether Adler ultimately commits to it.

Moyzes, and Zikos (2017) propose a view on which ‘hold’ is substituted with ‘estimates.’²

That this view appeals to an attitude whose content concerns knowledge is immediately problematic. Even absent a substitution for ‘hold,’ meta-epistemic epistemicism faces counterexamples. The relevant cases concern some non-human animals, such as Dretske (1991)’s dog Fido. These lack the concept KNOW. Plausibly, possession of this concept is necessary for having an attitude whose content concerns knowledge.³ Since holding that one knows that ϕ concerns knowledge, these non-human animals lack such attitudes. So, meta-epistemic epistemicism predicts them not to believe that ϕ . Yet, for some ϕ , they do. Fido, for instance, believes that he buried his bone over there. So, meta-epistemic epistemicism is extensionally inadequate and violates C2. Moreover, since Fido also knows that he buried his bone over there, and yet does not hold that he knows this, meta-epistemic epistemicism also violates C3.

Meta-epistemic epistemicists may reply to examples of non-human animals by rejecting one of three claims. (i) That such animals know/believe that ϕ , for some ϕ . (ii) That possession of the concept KNOW is necessary for having an attitude whose content concerns knowledge. Or, (iii) that the non-human animals at issue lack the concept KNOW. Each of these claims seems initially plausible. So, the burden lies on meta-epistemic epistemicists to say why we should reject one of them.

Meta-epistemic epistemicism encounters further difficulties once we attempt to substitute for ‘hold’ as it occurs in the theory. On pain of circularity and so violating C1, our substitution must not be ‘believe’. Our substitution also must not bring in belief via the back-door. Although ‘take’ is distinct from ‘believe,’ ‘Simon takes the ice to be deceptively thin’ is naturally understood as ascribing a belief state. So, the doxastic theory McGlynn ascribes to Adler may be circular; to avoid circularity, an alternative interpretation of ‘take’ must be given.⁴

Koutras, Moyzes, and Zikos say that one estimates that ϕ just in case ϕ is true in many of the possibilities one considers. As a first approximation, we may then say that to estimate that ϕ is to be confident that ϕ ; though it is important not to interpret ‘be confident’ as it occurs here as bringing in belief via the back-door. Koutras, Moyzes, and

² Strictly speaking, Koutras, Moyzes, and Zikos only endorse the biconditional ‘one believes that ϕ just in case one estimates that one knows that ϕ .’ For the purposes of my discussion, this difference does not matter however.

³ But see Hawthorne and Manley (2012, p.152) for discussion.

⁴ Circularity may not be the only concern for belief-based meta-epistemic epistemicism. The view also leads to a regress. It entails that one believes that ϕ only if one believes that one knows that ϕ . By substituting ‘one knows that ϕ ’ for ‘ ϕ ’, we get that one believes that one knows that ϕ only if one believes that one believes that one knows that ϕ . And so on. Thus, to be in a belief state, belief-based meta-epistemic epistemicism entails, one must have an infinite hierarchy of belief states with contents of ever-increasing complexity. Whether this regress is problematic, however, is not obvious. Attitudes like common knowledge may already require an infinite hierarchy of attitudes with contents of ever-increasing complexity (Greco, 2015), so imposing such a requirement on belief may not be an additional cost for the theory.

Zikos are not always so careful. They describe estimation as a “weak version of belief” (p.2304), for instance.

Discussions in formal epistemology suggest an interpretation of ‘be confident’ which may avoid circularity and so help meta-epistemic epistemicism to satisfy C1. We now interpret ascriptions of confidence as concerned with *credences* or *credal states*. Some regard these states as identical or reducible to certain belief states, i.e. belief states with special contents (e.g. Holton, 2014; Moss, 2017) or certain patterns of belief states (Easwaran, 2016). Others take credal states to be mental states in their own right. If the latter are right, we may use credal states in theorizing about belief. The view I will consider now does just this.

5.1.1 Credence-based meta-epistemic epistemicism

A credal state with the proposition that ϕ as content corresponds to one’s degree of confidence in the proposition that ϕ . To model these degrees, we represent a credal state as a function from a proposition to a real number within the closed interval $[0, 1]$.⁵ The real number represents the degree to which one is confident in the truth of the relevant proposition by assigning it a certain probability. One is more confident that ϕ than that ψ just in case one’s credence taking the proposition that ϕ as content is represented as a function from that proposition to a real number n_1 , one’s credence taking the proposition that ψ as content is represented as a function from that proposition to a real number n_2 , and n_1 is strictly greater than n_2 .⁶ I abbreviate ‘has a credal state represented as a function from the proposition that ϕ to n ’ as ‘has a n credence that ϕ ’.

Koutras, Moyzes, and Zikos say that one estimates that ϕ just in case ϕ is true in many of the possibilities one considers. Plausibly, what number counts as *many* possibilities one considers depends on context. So, we may model an estimation that ϕ as an n credence that ϕ where n is greater than or equal to some contextually determined threshold $t \in [0, 1]$. If credal states are mental states in their own right, meta-epistemic epistemicism can now tell a non-circular story about belief in terms of credence and knowledge. *Credence-based*

⁵ This representation is controversial. It is unclear to what extent it captures the psychology of humans, for instance. Some take credences to be *imprecise* and represent a credal state as a set of functions from propositions to a real number within the closed interval $[0, 1]$, or, alternatively, as a function from a proposition to a closed interval within the closed interval $[0, 1]$. For an overview see Bradley (2016). Others appeal to qualitative notions (e.g. Spohn, 2012). I will set aside concerns about representing a credal state by a single real number, and talk as if we can do so. Nothing here hangs on that assumption.

⁶ This biconditional raises the question whether comparative degrees of confidence (being more confident that ϕ than that ψ) or credal states are psychologically real. See Stefánsson (2017), Stefánsson (2018), and Zynda (2000) for a defence of comparativism, the view that only comparative degrees of confidence are; and Meacham and Weisberg (2011) for the opposing view. Which of the two views is correct does not matter for my purposes.

meta-epistemic epistemicism says that to believe that ϕ is to have a $n \geq t \in [0, 1]$ credence that one knows that ϕ .

Credence-based meta-epistemic epistemicism is extensionally inadequate and so violates C2, given any assignment to t strictly greater than 0. To see this, consider a variant of a case from McGlynn (2013).⁷ Lottie holds one ticket in a fair lottery with a million tickets and the following combination of attitudes. She believes that, given the chances, she should believe that her ticket has lost (' λ '). Consequently, she believes that λ . However, she also knows that her belief is unsafe, as there are nearby possible worlds in which her belief that λ is false, and has a 1 credence that safety is necessary for knowledge. As a result, she has a 1 credence that she does not know that λ . Finally, Lottie's credences are, at least in this instance, closed under complementation: she has a 0 credence that she knows that λ . So, for any assignment to t strictly greater than 0, Lottie is a counterexample to the credence-based doxastic theory. She believes that her ticket has lost without having a $n \geq t$ credence that she knows that her ticket has lost.

To avoid the counterexample, credence-based doxastic theorist should *not* say that t is sometimes assigned a real number merely greater than or equal to 0. Given such an assignment, having a 0 credence that one knows that ϕ implausibly *suffices* for one to believe that ϕ . Moreover, allowing for such an assignment would conflict with Koutras, Moyzes, and Zikos's idea that the proposition that one knows that ϕ is true in many possibilities one considers.

In reply, credence-based doxastic theorist should instead question the possibility of cases like Lottie's.⁸ However, absent evidence to the contrary, Lottie's case seems possible. So, the burden is on credence-based meta-epistemic epistemicists to suggest why Lottie's case is impossible.

Moreover, even if this burden were discharged, credence-based meta-epistemic epistemicism still violates C3. For credence-based meta-epistemic epistemicism to satisfy C3, it must be that necessarily, if one knows that ϕ , one has a $n \geq t \in [0, 1]$ credence that one knows that ϕ . This strict conditional, call it *credal entailment*, is false, however.

⁷ McGlynn (2013, pp.387-8) focuses on whether his subject, called Jane, can *rationally* (as McGlynn says, congruously) believe that her ticket was not selected, that this belief is justified, and that she does not know that λ . I remain neutral on whether Jane is being rational. For all I say, she might be irrational because she does not know that λ , as a knowledge norm of belief might predict. Such a tight link between (at least one sense of) rationality and knowledge is defended in Williamson (2017b) and Silva (2018).

⁸ An alternative reply, inspired by Lewis (1982) and Greco (2014a), relativises the credence-based doxastic theory to fragments of a subject's psychology. To believe that ϕ in a fragment, then, is to have a $n \geq t$ credence that one knows that ϕ in that fragment. The reply now continues that Lottie's belief that λ obtains in a fragment f_1 in which she also has a $n \geq t$ credence that she knows that λ , whilst her 0 credence that she knows that λ obtains in a fragment f_2 distinct from f_1 . However, this reply faces two difficult questions. First, why should Lottie have a $n \geq t$ credence that she knows that λ in f_1 ? And, second, why should Lottie's 0 credence that she knows that λ not obtain in f_1 ? Although I do not argue for this here, I think that neither question can be answered satisfactorily.

First, consider my earlier point about non-human animals. They lack the concept *KNOW* and so, on plausible assumptions, do not have a $n \geq t \in [0, 1]$ credence that they know that ϕ despite knowing that ϕ , for some ϕ .

Second, any contextually determined assignment to t , as it occurs in credal entailment, must capture that the proposition that one knows that ϕ is true in many possibilities one considers. Consequently, any assignment to t must be such that it is not the case that the proposition that one knows that ϕ is false in almost all possibilities one considers. But this constraint on possible assignments to t yields counterexamples to credal entailment.

Williamson (2014) argues that one can know that ϕ although on one's evidence it is very unlikely that one knows that ϕ .⁹ His argument is developed via a formal model of knowledge and evidential probabilities, but the intuitive idea may be sketched by considering an unmarked clock. Let ' ϕ ' express the strongest proposition verified by a fact one knows about the position of the hand of the clock by looking at the clock. By stipulation, one knows that ϕ . But, on one's evidence it is very unlikely that one knows that ϕ rather than some fact about the position of the clock's hand that verifies a slightly weaker proposition than that expressed by ϕ . If one adjusts one's credences to one's evidential probabilities, in almost all of the possibilities one considers one does not know that ϕ . Thereby one is a counterexample to credal entailment. Meta-epistemic epistemicism violates C3.

Credence-based meta-epistemic epistemicism also violates C5. Having a $n \geq t \in [0, 1]$ credence that one knows that ϕ , for any assignment to n other than 1, is compatible with treating $\neg\phi$ as a live possibility. If one does, however, one is hesitant to rely on ϕ (also, to tell oneself and others that ϕ , to acquiesce in other people's assertions to that effect, to object to statements to the contrary, to drawing consequences from the proposition, and so forth) and finds it unsurprising if $\neg\phi$. Yet if one knew that ϕ , one typically would not treat $\neg\phi$ as a live possibility, and so would be unhesitant to rely on ϕ and find it surprising if $\neg\phi$.¹⁰ So, it is not the case that knowing that ϕ and having a $n \geq t \in [0, 1]$ credence that one knows that ϕ necessarily have very similar downstream consequences.

In reply, credence-based meta-epistemic epistemicists may assign 1 to t . Having a $n \geq 1$ credence that one knows that ϕ seems to entail that one typically does not treat $\neg\phi$ as a live possibility.¹¹ However, this response is implausible. Contrary to what the view

⁹ Though see Goodman (2013) for a response to Williamson.

¹⁰ The qualification 'typically' is meant to allow for cases in which one does treat $\neg\phi$ as a live possibility despite knowing that ϕ . Such cases may arise if one receives misleading evidence that $\neg\phi$. For recent discussion of such cases, see Beddor (2019) and Lasonen-Aarnio (2014).

¹¹ This is so despite the fact that having a 1 credence that one knows that ϕ does not entail that it is true at all possibilities one considers that ϕ . If the possibilities one considers form an infinite set, the proposition that one knows that ϕ is assigned probability 1 even if there is a possibility one considers at which one does not know that ϕ . (Williamson, 2007a) If, at that possibility, one does not know that ϕ because $\neg\phi$, one may thus have a 1 credence that one knows that ϕ and yet treat $\neg\phi$ as a live possibility. However, such

predicts, it is possible for one to believe that ϕ and know that there is a (non-zero) chance that one does not know that ϕ .

Cases that suggest this include, but are not exhausted by, cases like Lottie's. Other cases are the topic of discourses like 'Ari believes the house is empty. But she realizes that there's a chance it isn't.' Discourses of this form are felicitous.¹² This suggests that the combination of attitudes ascribed in them is possible. If realizing that ϕ strictly entails knowing that ϕ , it is thus possible to believe that ϕ and know that there is a (non-zero) chance that $\neg\phi$. Since knowledge is factive, however, only a modicum of logical and semantic competence is needed for one to transition from this combination of attitudes to believing that ϕ and knowing that there is a chance that one does not know that ϕ .

In sum, to satisfy C5, meta-epistemic epistemicists must appeal to a state such that (i) it allows one to assign a non-zero chance to one's not knowing that ϕ , and such that (ii), if its content is the proposition that one knows that ϕ , one typically does not treat $\neg\phi$ as a live possibility. This leaves very few candidate states. One is *acceptance*.

5.1.2 Acceptance-based meta-epistemicism

To introduce acceptance states, consider an example:¹³

Acceptance Stranded on top of a rock on a cold day, Sue comes across some climbing rope and deliberates about whether the rope will hold her weight. Upon careful reflection, she believes neither that it will nor that it will not. The evidence she has is neutral. But, she knows that to climb down the rock she must rely on the rope's holding her weight. Sue also knows that if she spends the night on top of this rock she will probably die. And she would rather try to climb down the rock than wait for the improbable event of someone coming to her rescue. In those circumstances, Sue accepts that the rope will hold her weight, and forms the intention to climb down the rock. She deliberates about how to use the rope, plans to make certain moves and eventually proceeds to make those moves accepting that the rope will hold her weight.

The example allows us to identify several properties of acceptance states:

cases are hardly typical.

¹² The example is adapted from Beddor and Goldstein (2017, §3.1). For similar examples see also Hawthorne, Rothschild, and Spectre (2016, p.1396).

¹³ The example is adapted from Alonso (2014, pp.163-4). Alonso calls the cognitive attitude at issue in the example reliance. He is also clear, however, that he intends to talk about what many others, e.g. Bratman (1992), Cohen (1992), Foley (1992), Van Fraassen (1980), and Van Leeuwen (2009) have labelled 'acceptance.' So, I have replaced Alonso's talk of reliance with talk of acceptance. Note also that other authors seem concerned with the same phenomenon but label it differently: Stalnaker (1987; 2002), Shah (2003), Shah and Velleman (2005), and Velleman (2000), for instance, call it 'assumption.'

1. Sue accepts the rope will hold her weight, but neither believes it will nor rules out that there is a chance that she does not know that it will.
2. Sue's evidence is neutral about whether the rope will hold her weight. This makes believing it will hold her weight irrational. Not so for accepting. Relevant practical considerations make it rational for her to accept that the rope will hold her weight.
3. Acceptance states have downstream consequences only in a specific range of contexts. Although Sue accepts that the rope will hold her weight until she has finished climbing down the rock (t), her acceptance state only guides her in the context of planning and executing her descent. If she were asked at some point before t whether the rope will hold her weight, she would say 'I don't know' rather than 'yes.' Her acceptance state does not have downstream consequences in such a context.¹⁴
4. Relatedly, in which contexts an acceptance state has downstream consequences depends on the context for which one forms (and maintains) the acceptance state. Sue accepted that the rope will hold her weight for the purposes of planning and executing her descent. Hence, her acceptance state has downstream consequences in related contexts; outside these it does not.¹⁵
5. By accepting that the rope will hold her weight, Sue ceases to treat the proposition that the rope will not hold her weight as a live possibility in planning and executing her descent. Accepting that ϕ for the purposes of context c is incompatible with treating $\neg\phi$ as a live possibility in c .

Given the properties of acceptance states, especially those given in 1 and 5, meta-epistemic epistemicists may hope that using acceptance to theorize about belief yields better results than using credence. Theorizing in these terms, we get *acceptance-based* meta-epistemic epistemicism: to believe that ϕ is to accept that one knows that ϕ .

However, acceptance-based meta-epistemic epistemicism still violates C2. It seems possible to believe that ϕ without accepting that one knows that ϕ . To see this, consider a variant of Lottie's case. She now believes that λ , believes that she does not know that λ , and does not believe that she does know that λ .¹⁶ To link Lottie's belief states with her acceptance states, we now add that Lottie does not care about winning the lottery.

¹⁴ An alternative characterization of acceptance states may say that they have downstream consequences in all contexts, but that in some contexts their downstream consequences include guidance of action and thought, whilst in other contexts their downstream consequences are neutral with respect to what one does and thinks. For the purposes of my argument, it does not matter whether we characterize acceptance states in this way or in the way suggested in the body of the text.

¹⁵ Following the suggestion in the last footnote, an alternative characterization of acceptance states may say that the contexts in which an acceptance state has action and thought-guiding downstream consequences depends on the contexts for which one forms (and maintains) them. As before, whether we characterize acceptance states in this way or the way suggested in the body of the text does not matter for my purposes.

¹⁶ The intended reading of the last conjunct says that it is not the case that Lottie believes that she knows that λ .

Accepting that she knows that λ is thus not supported by practical considerations. Quite to the contrary, in fact. Her supervisor told Lottie that she would be offended if Lottie behaved as if she believed that she knows that λ . As Lottie knows, if she accepted that she knows that λ , she would be liable to exhibit such behaviour. So, Lottie knows that practical considerations favour not accepting that she knows that λ and so does not do so.

Absent evidence to the contrary, Lottie's case seems possible. Moreover, even if it were not, acceptance-based meta-epistemic epistemicism would still violate C3. For acceptance-based meta-epistemicism to satisfy C3, it must be that necessarily, if one knows that ϕ , one accepts that one knows that ϕ . This strict conditional, call it *acceptance entailment*, is false, however.

First, consider again my earlier point about some non-human animals. They may lack the concept KNOW and so, on plausible assumptions, fail to accept that they know that ϕ despite knowing that ϕ , for some ϕ .

Second, suppose one is in one of Williamson (2014)'s cases and knows that ϕ although on one's evidence it is very unlikely that one knows that ϕ . Now, unless there are practical considerations that strongly favour accepting that one does know that ϕ , one's evidential situation makes it rational for one to accept that one does not know that ϕ . Supposing there are no such practical considerations and one is rational, one thus is a counterexample to acceptance entailment.

Acceptance-based meta-epistemic epistemicism also violates C5, or to be precise a closely related and equally important constraint. The similarity thesis, as I stated it initially, is silent on the contexts in which belief and knowledge have very similar downstream consequences. However, since in introducing acceptance states I also introduced the idea of an attitude operative only in a limited range of contexts, we may now wonder in what contexts belief and knowledge have their downstream consequences.

Knowledge and belief states have downstream consequences in almost all contexts. In both cases, moreover, the contexts in which they do not have downstream consequences seem to be (i) contexts where one brackets one's knowledge/belief state by engaging in make-believe or supposing/accepting that $\neg\phi$ and (ii) contexts where the stakes are high and one's credal states guide one's action and thought.¹⁷ This motivates the following version of the similarity thesis, amended to explicitly concern contexts: necessarily, knowing that ϕ and believing that ϕ have very similar downstream consequences in the same contexts.¹⁸ Call this the *context similarity thesis*.

¹⁷ For discussion of (i) see Van Leeuwen (2009); for discussion of (ii) see Ross and Schroeder (2014) and Weisberg ("Belief in psyontology"); both consider only belief states, but their discussion plausibly generalizes to knowledge states.

¹⁸ Nothing here turns on whether this particular version of the similarity thesis is correct. For instance, my argument below goes through also if we should accept only that necessarily, knowing that ϕ and believing that ϕ have very similar downstream consequences *in very similar contexts*.

For epistemicists to have an explanatory advantage over unsupplemented egalitarianism with respect to the context similarity thesis, their necessary and sufficient condition for belief must satisfy a constraint which is related to C5 just as the context similarity thesis is related to the similarity thesis. Namely,

C5' γ is such that necessarily, knowing that ϕ and satisfying γ have very similar downstream consequences in the same contexts.

But acceptance-based meta-epistemic epistemicism violates C5'. Knowing that ϕ does not exhibit the context-dependence that accepting that one knows that ϕ does. One may accept that one knows that ϕ for the purposes of a particular context c only and so exhibit the downstream consequences of accepting that one knows that ϕ in c only. But knowing that ϕ has downstream consequences in all contexts except those given in (i) and (ii).

In response, meta-epistemic epistemicists may stipulate that the acceptance state on the right-hand-side of their theory too is active in all contexts except those given in (i) and (ii). In effect, they appeal to a context-independent acceptance state. This, however, leads to trouble.

Consider Lottie again. She believes that λ , i.e. that her ticket has lost, and that she does not know that λ . Her belief that λ has downstream consequences in a wide range of contexts Γ . Ask her, for instance, whether her ticket was selected and she answers 'no.' The context of discussing her views is a member of Γ . Because acceptance-based meta-epistemic epistemicism defines Lottie's believing that λ as Lottie's accepting that she knows that λ , it predicts the two to be active in the same contexts. The latter is thus predicted to have downstream consequences in Γ , including the context of discussing her views. But, ask Lottie whether she knows that λ and, since she believes that she does not know that λ , she answers 'no'. This suggests that Lottie's accepting that she does know that λ does not have downstream consequences in the context of discussing her views. Thus, we get a contradiction. Her acceptance state both does and does not have downstream consequences in that context. Context-independent acceptance states do not help acceptance-based meta-epistemicism.

In sum, acceptance-based meta-epistemic epistemicism violates C2, C3, and a close relative of C5. Given this, and that credence-based meta-epistemicism fares no better, the prospects for meta-epistemic epistemicism look dim. It is time to consider views of a different form.

5.2 No-attitude epistemicism

No-attitude epistemicism, developed by Lenzen (1979) and Stalnaker (2006), says that to believe that ϕ is to not know that one does not know that ϕ . Because, if one does not

know that $\neg\phi$, ϕ is epistemically possible for one, they can also be understood as defining believing that ϕ as the epistemic possibility that one knows that ϕ .¹⁹

Stalnaker and Lenzen take no-attitude epistemicism to concern *strong* belief. Strong belief that ϕ requires (and, at least for Lenzen, is equivalent to) being certain that ϕ . It contrasts with *weak* belief that ϕ , which requires only thinking that ϕ is more likely than not or sufficiently more likely than relevant alternatives. I will set aside this distinction for present purposes, as my concerns apply to strong and weak belief alike.²⁰

Both Stalnaker and Lenzen develop their theory within a modal logic. They derive it from the axioms of S4 and certain interaction axioms for the knowledge and belief operators.²¹ Each of the axioms they use is controversial.²² However, whether to endorse these axioms will not be my concern here. Whether no-attitude epistemicism is subject to counterexample and explains the entailment and similarity theses does not depend on these axioms.

Both Stalnaker and Lenzen include the entailment thesis as an axiom in their logic. Thus, if the axioms they use to derive their theory are part of their theory, the entailment thesis is part of it. This may suffice for no-attitude epistemicism to satisfy C3, the constraint that necessarily, if one knows that ϕ , one does not know that one does not know that ϕ , and C4, the constraint that this strict entailment has an explanation. However, no-attitude epistemicism satisfies these constraints also if the entailment thesis is not part of it.

Suppose one knows that ϕ . By a suitable principle of non-contradiction, it is false that one does not know that ϕ . By the factivity of knowledge, one thus does not know that one does not know that ϕ . Via conditional proof and necessitation, we thus have that necessarily, if one knows that ϕ , one does not know that one does not know that

¹⁹ Lenzen also defends the view in his (2003; 2012). See Aucher (2014), Askounis, Koutras, and Zikos (2016), Baltag et al. (2017), Bjorndahl and Özgün (2017), Chalki, Koutras, and Zikos (2018), Klein, Roy, and Gratzl (2018), Koutras and Zikos (2011), and Koutras, Moyzes, and Zikos (2017) for discussion of the view.

²⁰ Hawthorne, Rothschild, and Spectre (2016) and Rothschild (2019) argue that there is no such distinction in natural language. See Williamson (2018b) for critical discussion of their arguments.

²¹ Here is a list of the axioms, with ' $K\phi$ ' read as 'one knows that ϕ ' and ' $B\phi$ ' as 'one believes that ϕ ':

- K** $[K\phi \wedge K(\phi \rightarrow \psi)] \rightarrow K\psi$
- T** $K\phi \rightarrow \phi$
- 4** $K\phi \rightarrow KK\phi$
- NI** $\neg B\phi \rightarrow K\neg B\phi$
- KB** $K\phi \rightarrow B\phi$
- CB** $B\phi \rightarrow \neg B\neg\phi$
- SB** $B\phi \rightarrow BK\phi$

Stalnaker, but not Lenzen, also introduces:

- PI** $B\phi \rightarrow KB\phi$

For a derivation of no-attitude epistemicism using these axioms see Klein, Roy, and Gratzl (2018, p.4346)

²² For instance, Williamson (2000) argues that certain formulations of the safety condition on knowledge entail the negation of 4. See Carter (2018), Das and Salow (2016), Dorst (2019), Goodman and Salow (2017), and Greco (2014b) for recent discussion.

ϕ . No-attitude epistemicism satisfies C3. Moreover, it also satisfies C4. For the assumptions driving the conditional proof, i.e. a suitable principle of non-contradiction and the factivity of knowledge, also explain why no-attitude epistemicism satisfies C3. So far, no-attitude epistemicism is on track to enjoy an explanatory advantage over unsupplemented egalitarianism.

However, no-attitude epistemicism violates C2, the constraint that its necessary and sufficient condition for belief is extensionally adequate. Consider yet another variant of Lottie's case. Everything is as before, except that she also knows that her belief that λ fails to satisfy a necessary condition for knowledge n , which she knows to be a necessary condition for knowledge. (n may be safety, though the case can be filled in using whatever necessary condition her belief in fact fails to satisfy.) From these two pieces of knowledge, she competently deduces that she does not know that λ and so comes to know so. Thus, she believes that λ and yet knows that she does not know that λ . She is a counterexample to no-attitude epistemicism.

Absent evidence to the contrary, Lottie's case seems possible.²³ Moreover, even if it were not, no-attitude epistemicism overgenerates in other cases too and those cases show also that no-attitude epistemicism violates C5, the constraint that necessarily, knowing that ϕ and not knowing that one does not know that ϕ have very similar downstream consequences.

One way in which no-attitude epistemicism overgenerates is suggested by Williamson (2000, p.46).²⁴ Some non-human animals, e.g. dogs like Dretske's Fido, lack the concept KNOW. If possession of this concept is necessary for knowing that one knows or does not know that ϕ , some non-human animals do not know that they do not know that ϕ , for any ϕ . So, according to no-attitude epistemicism, they believe that ϕ , for any ϕ . But surely, for at least some ϕ , the non-human animals in question do not believe that ϕ .

An example from Yalcin (2016, p.12) illustrates another way in which the epistemic possibility theory overgenerates.²⁵ Consider William III. Whilst he believed that England could avoid war with France, he did not believe that England could avoid *nuclear* war with France (' n '). One reason for this is that he lacked the concept NUCLEAR WAR. However, if possession of this concept is necessary for William III to know that he knows or does

²³ The fragmentalist response from fn.8 may inspire a similar response here. However, *mutatis mutandis* the same questions as before arise also in the present context.

²⁴ Williamson's own target is a slightly different view, on which "one believes p if and only if one has an attitude to the proposition p which one cannot discriminate from knowing." Though, curiously, he goes on to gloss this view in terms reminiscent of the epistemic possibility theory: "in other words, an attitude to p which is, for all one knows, knowing." This gloss, assuming that 'for all one knows, one knows that ϕ ' is equivalent to 'one does not know that one does not know that ϕ ', is a version of the epistemic possibility theory. Yet the initial view is not, as it is stated using the modal auxiliary 'can.' Since most of my concerns for for no-attitude epistemicism generalize to the initial view, I will not discuss it separately here.

²⁵ See also Stalnaker (1987, p.100).

not know that n , William III did not know that he did not know that n . So, no-attitude epistemicism mistakenly predicts that he believed that England could avoid nuclear war with France.²⁶

These counterexamples also show that no-attitude epistemicism violates C5. William III does not know that he does not know that n . But he does not exhibit downstream consequences very similar to those he would exhibit if he knew that n . It is not the case that he is unhesitant in telling himself and others that n , in acquiescing in other people's assertions to that effect, in objecting to statements to the contrary, in drawing consequences from the propositions, and so forth. Consequently, the claim that knowing that ϕ and not knowing that one does not know that ϕ have very similar downstream consequences is false.

In sum, no-attitude epistemicism violates C2 and C5 (and thus C6). Given this, it is not preferable to egalitarianism on abductive grounds.

5.3 Conclusion

This chapter focused on meta-epistemic and no-attitude epistemicism. Section 5.1 considered two versions of meta-epistemic epistemicism, i.e. credence-based and acceptance-based meta-epistemic epistemicism. Both predict that we believe too few propositions and fail to explain the entailment and similarity theses. Section 5.2 argued that, although no-attitude epistemicism as implemented by Stalnaker and Lenzen explains the entailment thesis, it undergenerates in some cases, and fails to explain the similarity thesis because it overgenerates in others. Table 5.1 summarizes which of my six constraints the views discussed in this chapter do and do not satisfy. In sum, although I have not shown that *no* implementations of meta-epistemic and no-attitude epistemicism are satisfactory, the prospects for finding satisfactory ones look dim.

TABLE 5.1: Constraints satisfied by views discussed in ch.5

	C1	C2	C3	C4	C5	C6
Credence-based	Yes	No	No	No	No	No
Acceptance-based	Yes	No	No	No	No	No
No-attitude	Yes	No	Yes	Yes	No	No

²⁶ In reply, no-attitude epistemicists may appeal to *guises*. Whilst William III did believe that n , he did not believe it under a guise which requires possession of the concept NUCLEAR WAR. This reply may draw on extant work on the role of guises in attitude ascriptions (e.g. Schiffer, 1992) to explain why William III seems not to have believed that n . However, even if the counterexamples could be avoided in this way, as long as no-attitude epistemicism predicts William III to believe that n , no-attitude epistemicism falsifies, and so fails to explain, the similarity thesis.

Chapter 6

Against Price, Miracchi, and Bird

This chapter considers three versions of epistemicism. Section 6.1 criticizes Price (1935)'s view, on which to believe that ϕ is to assent to ϕ and know that ϕ is made likely by some fact(s) one knows. Section 6.2 discusses Miracchi (2015)'s *aim epistemicism*, which says that to believe that ϕ is to be in a state of commitment to the proposition that ϕ which aims at knowing. Finally, section 6.3 considers *faculty epistemicism*, inspired by Bird (2007), according to which to believe that ϕ is to be in a state which takes the proposition that ϕ as content and for whose production, revision, and extinction the faculty of belief is responsible, where this faculty has the function of supplying knowledge for the purposes of practical reasoning. I argue that none of the epistemicist views I consider in this chapter are preferable to unsupplemented egalitarianism on abductive grounds; in addition, I suggest that Price's view is subject to several kinds of counterexample.

6.1 Price: knowledge as evidence

Price (1935, pp.236-7) proposes that believing p involves four conditions:

- (1) Entertaining p together with one or more alternative[s] q and r .
- (2) Knowing a fact (or set of facts) F , which is relevant to p , q and r .
- (3) Knowing that F makes p more likely than q or r , i.e. having more evidence for p than for q or r .
- (4) Assenting to p ; which in turn includes
 - (a) the preferring of p to q and r ;
 - (b) the feeling of a certain degree of confidence with regard to p .

Price (p.232) identifies entertaining p with the experience involved in understanding an utterance. This identification is meant to highlight a particular property of entertaining p . An experience involved in understanding an utterance is *neutral* with respect to whether one endorses the content of the utterance one understands. One may either believe, disbelieve, or suspend judgement regarding that content. Similarly, Price suggests that entertaining p is neutral with respect to whether one endorses p .

Yet there is another property of the experience involved in understanding an utterance that is *problematic* for Price's claim that entertaining p is involved in believing p . Since such an experience cannot occur whilst one is in a dreamless sleep, Price's identification of entertaining with that experience entails that entertaining cannot occur then either. Yet one can believe that ϕ whilst in a dreamless sleep. Thus, Price's account seems to be subject to counterexample and so to violate C2.¹

Fortunately for Price, however, little hangs on condition (1). In fact, since condition (4) appeals to assent which is not a neutral attitude toward a proposition, it is unclear why Price includes (1) in his view. So, for present purposes, I suggest we ignore condition (1) of Price's account.

Price (1935, pp.233-6) characterizes assent to p , which features in his condition (4), via three properties. First, it involves having made up one's mind about whether p , which Price sometimes also characterizes as preferring p to some salient alternatives p and q (compare (4)(a)). Second, it has an emotional component, a feeling of sureness or confidence (compare (4)(b)).² Third, Price suggests that if one assents to p , one has evidence for p , where having evidence for p consists in knowing some fact and knowing that this fact makes p more likely than some salient alternatives. That Price attributes the third property to assent is odd. For it makes conditions (2) and (3) of his view of belief redundant.

For ease of exposition, I nonetheless continue to make conditions (2) and (3) explicit in stating Price's view. Unlike Price, I also continue my practice of using sentence variables fronted by the complementiser 'that' instead of proposition variables. Thus, I state Price's view so: to believe that ϕ is to assent to ϕ and to know some facts that make ϕ likely. To simplify my discussion, this statement of Price's view omits his reference to salient alternatives to the proposition one believes. It also settles on the plural 'facts' rather than Price's hedge 'fact(s)'. Neither simplification will affect my arguments below.

Given how Price characterizes assent, we may wonder whether he violates C1, i.e. whether his necessary and sufficient condition for belief is circular. In particular, we may worry that use of 'having made up one's mind' brings belief in via the back-door. However, if we treat having made up one's mind as equivalent to not treating certain possibilities as live, then my discussion of acceptance states suggests that use of 'having made up one's mind' does not bring in belief via the back-door. If this is right, then, for all we know, Price satisfies C1.

¹ Crane (2013) and Soteriou (2013) raise similar problems for a range of contemporary accounts of belief, which talk of 'occurrent' or 'conscious' belief. See Pitt (2016) for a response to Crane.

² Whilst the first property of assent does not come in degrees, the second does. Assenting to p , one may feel more or less confident in ϕ .

6.1.1 Constraints C2, C3, and C4

Price's view seems to be extensionally inadequate, however, and so seems to violate C2. For it is possible to believe that ϕ without knowing that ϕ is made likely (henceforth 'probabilified') by some facts one knows. There are two types of case here. In type-(i) cases, one believes that ϕ without knowing some facts that probabilify ϕ . In type-(ii) cases, one believes that ϕ , knows some facts that probabilify ϕ , but does not know that they do so. Type-(ii) cases in turn admits of two subtypes. In type-(ii.a) cases, one does not know that the relevant facts probabilify ϕ because one does not know that one knows them (and *a fortiori* does not know that they probabilify ϕ). In type-(ii.b) cases, by contrast, one does know that one knows the relevant facts, but does not know that they probabilify ϕ .

Cases of all these types are easy to generate. Here is one way of generating type-(i) cases. Suppose a fact f , which exactly verifies ϕ , probabilifies ψ just in case the conditional probability of ψ on ϕ is greater than the unconditional probability of ψ . Now, in natural models for probabilities, if ψ is a logical truth, ψ is assigned maximal probability 1; correlatively, if ψ is the negation of a logical truth, ψ is assigned minimal probability 0. (Demey, Kooi, and Sack, 2019) Either way, the conditional probability of ψ on ϕ , whatever the value of ϕ , is no greater than the unconditional probability of ψ . Either way, then, we cannot know some facts that probabilify ψ . So, Price's view entails that we can believe neither logical truths nor their negations. But we often do.³

We can also construct type-(i) cases which show that Price's view violates C3, i.e. show that it is not the case that necessarily, if one knows that ϕ , one assents to ϕ and knows that ϕ is probabilified by some facts one knows. It is (classically) logically true that if ϕ , then ϕ . John knows this and so knows that if ϕ , then ϕ . However, since the unconditional probability of if ϕ , then ϕ is 1, the conditional probability of if ϕ , then ϕ on any ψ exactly verified by a fact John knows is no greater than the unconditional probability of if ϕ , then ϕ . So, by the factivity of knowledge, John cannot know some facts that probabilify if ϕ , then ϕ . Thus, although John knows that if ϕ , then ϕ , it is not the case that he (assents to if ϕ , then ϕ and knows that if ϕ , then ϕ is probabilified by some facts he knows).⁴

³ It is not just natural models of probabilities that license problematic cases. Natural models of evidential support more generally do. Consider, for instance, Smith (2016), on whose model of evidential support a body of evidence E evidentially supports (as he says, justifies) a proposition p just in case all the most normal worlds at which E is true are worlds at which p is true. (p.42) Assuming that an arbitrary logical truth (call it ' l ') is true at all normal worlds and so that $\neg l$ is true at none, this model implies that $\neg l$ is never evidentially supported. By the factivity of knowledge, one thus cannot know some facts that evidentially support $\neg l$. Thus, even replacing probabilification with evidential support, Price's view predicts that we cannot believe the negations of logical truths. But given disagreement about what the logical truths are amongst logicians, we clearly often do. Yet again, we get type-(i) cases

⁴ Smith's model of evidential support from the last footnote does not license cases like John's. For logical truths, on that model, are evidentially supported given any body of evidence. However, even so, cases much like John's, although they are type-(ii.b) cases, can be constructed to show that Price's view violates

Consider now a type-(ii.a) case, which shows that Price's view violates both C2 and C3. Remember Dretske (1991)'s Fido, who knows and believes that he buried his bone over there. His case illustrates that some non-human animals know and believe that ϕ , for some ϕ , whilst lacking the concept KNOW. Granting that possession of this concept is necessary for knowing that one knows, and that Fido lacks the concept, Fido does not know that he knows any facts (and *a fortiori* does not know that some facts he knows probabilify ϕ). Thus, since Fido knows that he buried his bone over there, Price's view violates C3. Moreover, as Price's view entails that Fido does not believe that he buried his bone over there, Price's view also violates C2.

Consider now a type-(ii.b) case, which shows that Price's view violates not only C2, but also C3. Jess knows and believes that it is (classically) logically true that if ϕ , then ϕ and so knows and believes that if ϕ , then ϕ . She believes that the right theory of probability assigns maximal probability 1 to if ϕ , then ϕ . So, she concludes that the conditional probability of if ϕ , then ϕ on any ψ exactly verified by a fact she knows is no greater than the unconditional probability of if ϕ , then ϕ . So, she believes that no fact she knows probabilifies if ϕ , then ϕ . Moreover, she does not have contradictory beliefs and so does not believe that some fact she knows probabilifies if ϕ , then ϕ . Thus, although Jess knows and believes that if ϕ , then ϕ , she does not (assent to if ϕ , then ϕ and know that some facts she knows probabilify if ϕ , then ϕ) and so is predicted not to believe that if ϕ , then ϕ . Price's view yet again violates both C2 and C3.

Here, I will not attempt to settle decisively whether Price can avoid my counterexamples. Taken at face value, they suggest that Price's view violates three of my six constraints, C2, C3, and, since C4 is satisfied only if C3 is, also C4. The next section shows that his view also violates C6.

6.1.2 Constraints C5 and C6

Before we consider whether Price's view violates C6, consider what his view says about C5. Price tells us little about assent to ϕ . But what he does tell us suggests that assenting to ϕ has very similar downstream consequences to knowing that ϕ , at least given certain assumptions about knowing that ϕ . Price says that assent to ϕ involves having made up one's mind and a feeling of confidence or sureness. Since it seems that knowing that ϕ generally involves these properties as well, and that knowing that some facts one knows probabilify ϕ does not make a significant difference to the downstream consequences of assenting to ϕ , Price's view seems, at least absent a counterexample, to satisfy C5.

C3. Moreover, they can be constructed also on models of evidential support or probabilities that neither assign maximal evidential support/probability to logical truths *nor* minimal evidential support/probability to their negations. All we need is a subject, such as Jess below, who believes that the right models for evidential support or probabilities make these assignments.

But even so, Price has no abductive argument against unsupplemented egalitarianism. For, as I will show now, Price's view violates C6. That is, it does not explain the *bridge similarity*, i.e. why knowing that ϕ and (assenting to ϕ and knowing that some facts one knows probabilify ϕ) necessarily have very similar downstream consequences.

Price may pursue one of three explanatory strategies. (I will abbreviate 'one assents to ϕ and knows that one knows some facts that probabilify ϕ ' as 'one $A\phi$ s.')

He may try to understand (i) knowledge in terms of an $A\phi$ -involving, non-circular, necessary, and sufficient condition for knowledge, (ii) $A\phi$ ing in terms of a non-circular, knowledge-involving, necessary, and sufficient condition for knowledge, or (iii) adopt a view along the lines of one of the egalitarian-friendly views listed in ch.1. However, none of these options is particularly appealing.

Start with (iii). The concern here is that, if Price adopts a view along the lines of one of the egalitarian-friendly views listed in ch.1, he is hard-pressed to say why he does not adopt an egalitarian-friendly view earlier on, i.e. when theorizing about belief.

On option (ii), Price attempts to explain the bridge similarity by understanding $A\phi$ ing in terms of a non-circular, knowledge-involving, necessary, and sufficient condition for knowledge. However, as it is already difficult to explain the similarity thesis by understanding belief in terms of a non-circular, knowledge-involving, necessary, and sufficient condition for knowledge, I am sceptical of attempts to explain the bridge similarity by understanding $A\phi$ ing in terms of a non-circular, knowledge-involving, necessary, and sufficient condition for knowledge.

Finally, on option (i), Price attempts to explain the bridge similarity by understanding knowledge in terms of a non-circular, $A\phi$ -involving, necessary, and sufficient condition for knowledge. This strategy, however, faces *mutatis mutandis* my concerns for doxasticism about knowledge from ch.3.

To pursue this strategy, Price must first settle on a non-circular, $A\phi$ -involving, necessary, and sufficient condition for knowledge. A natural candidate says that one knows that ϕ just in case one assents to ϕ and knows some facts that prove ϕ , where proving ϕ entails, but is not entailed by, probabilifying ϕ .⁵ To explain why knowing that ϕ and (assenting to ϕ and knowing that one knows facts that probabilify ϕ) necessarily have very similar downstream consequences, Price's view of knowledge must now be formulated in one of a small range of ways. But no such formulation works.

As section 4 of ch.3 shows, if the view is formulated as a modal equivalence or real definition along the lines of Fine (1994), it does not do the required explanatory work. But,

⁵ We may worry that the proposed necessary and sufficient condition for knowledge is circular. For how, if not by bringing in knowledge, should proving ϕ be understood? But, if it is circular, this may disqualify Price from using it to explain the bridge similarity. For the sake of argument, however, I grant Price the following disjunction: either circularity is no hindrance or the proposed condition is non-circular.

given H1, the claim that every knowledge state takes some fact as content, and the claim that no state of assent takes a fact as content⁶, other formulations, which may seem to do the required explanatory work, falter on other grounds. That is, formulations that appeal to real definition along the lines of Dorr (2016), a species-genus relation, or a composition relation, face *mutatis mutandis* the concerns doxasticism faced in ch.3.

If my argument in this subsection and the last is successful, Price's view violates four of my six constraints, i.e. C2, C3, C4, and C6. Consequently, his view is not preferable to unsupplemented egalitarianism on abductive grounds. I now turn to an alternative view proposed by Miracchi (2015).

6.2 Miracchi: knowledge as aim

For Miracchi (2015, p.51), "belief just is the kind of commitment to p that aims at knowing." Regimented as a real definition, her view says that to believe that ϕ is to be in a state of commitment to the proposition that ϕ which aims at knowledge. Call this view *aim epistemicism*.

Miracchi's view of belief is part of a package of views about knowledge, merely justified belief, and unjustified belief states. She suggests that a knowledge state is a successful exercise of a competence to know, whilst a merely justified belief state is a degenerate exercise of such a competence.⁷ Knowledge and merely justified belief states are said to 'aim' at knowledge insofar as they are exercises of a competence to know.⁸ By contrast, unjustified belief states are not exercises of a competence to know. Miracchi still claims that unjustified belief states aim at knowing, but leaves open in which sense they do.

This is a problem because belief states do not aim at things in any everyday sense of 'aim.' As Wedgwood (2013, p.123) puts it,

beliefs are not little archers armed with bows and arrows; they do not literally 'aim' at anything. At best, it is *believers* that aim at this or that. But it is far from clear that believers have any aim at all concerning most of their beliefs.

⁶ This claim seems likely to be supported from an argument along the lines of my argument for anti-factualism about belief in ch.2.

⁷ Millar (2009) defends the exercise-success thesis, on which one exercises an ability to ϕ just in case one successfully ϕ s. Assuming that competences are abilities, as Miracchi seems to do (2017, p.645), this thesis entails that there are no degenerate exercises of a competence. This threatens Miracchi's account of merely justified belief. But see Carter (2019) for counterexamples to Millar's thesis.

⁸ We may worry that Miracchi's view places knowledge and belief states in the wrong ontological category. Exercises of a competence are events or processes rather than states. One diagnostic for distinguishing events/processes from states concerns whether the relevant verb accepts progressive tense. (Chrisman, 2012, pp.598-600) 'Exercise' does, as in 'Simon is exercising his ability to touch-type.' But 'know' and 'believe' do not: 'John is knowing/believing that it is raining' are odd. In reply, Miracchi should appeal to products of exercises of capacities instead of exercises of capacities. These may belong to various ontological categories, including that of states.

Given this, however, it is unclear what predictions Miracchi's theory makes. Without knowing what it is to aim at knowing in the sense in which unjustified belief states aim at knowing, how can we tell whether a given state is an unjustified belief state?⁹ A second concern for Miracchi is that she says nothing about what a commitment to a proposition is. But given this, how can we tell whether a given state is such a commitment and so may qualify as a belief state? In sum, we do not know whether Miracchi's view is extensionally adequate. Similar uncertainty also arises regarding whether Miracchi's appeal to a commitment to a proposition brings in belief via the back-door, and whether being in a state of commitment to the proposition that ϕ which aims at knowing and knowing that ϕ necessarily have very similar downstream consequences.

Of course, there are many ways in which we may interpret the aim of unjustified belief states¹⁰ and commitment.¹¹ And on some of these it may be clear what predictions Miracchi's theory makes. So, I do not want to press this point here. The point I will press, however, is that Miracchi says nothing about how exercises of a competence to know, i.e. knowledge and merely justified belief states, relate to commitments to a proposition. For all she says, such exercises are no commitments to a proposition. But as we will see shortly, this possibility leads to violations of either both C3 and C4 or of at least C4.

6.2.1 Constraints C3 and C4

Miracchi advertises her view as explaining the entailment thesis. She says that

⁹ One natural way for Miracchi to understand the sense in which unjustified belief states aim at knowledge is to allow that they too are exercises of a competence to know. Miracchi may then draw a three-way distinction between such exercises. Some are successful and so knowledge states, some degenerate and so not knowledge states. Amongst the degenerate ones, moreover, we find those that are merely justified, and those that are not.

Since this view would allow Miracchi to say that a belief state just is the exercise of a competence to know, it would avoid questions about what a commitment to a proposition is. Still, we would now need to ask *mutatis mutandis* the same question about exercises of a competence to know in order to tell what predictions the view makes. Moreover, the concerns for Miracchi's view I raise below have close analogues also for this alternative view.

¹⁰ See the chapters collected in Chan (2013) for recent discussion, and Williams (1970) and Velleman (2000) for classic treatments, of the aim of belief.

¹¹ Miracchi may, e.g. define being committed to a proposition parallel to how Velleman (2000) defines regarding a proposition p as true, namely via the disposition to behave in ways that would promote the satisfaction of one's desires if p were true. Contrary to a tradition that defines belief in terms of this disposition (e.g. Braithwaite, 1932; Stalnaker, 1987; Marcus, 1990), Velleman maintains that it is common to belief, imagination, and supposition states. If he is right, this would allow Miracchi to avoid circularity. However, even so, it is unclear what predictions Miracchi's view would make, as several questions about the disposition remain unanswered. First, 'ways' occurs without a quantificational determiner. Should we read it as bound by an existential quantifier, or by some other determiner? Second, what happens if we assign propositions that are metaphysically impossible to p ? Third, what happens if, if p were true, one's desires would differ from one's actual desires? Although my discussion in chs.7 and 8 will not directly tackle these questions, it will offer grounds for scepticism that defining being committed to a proposition in this way is helpful.

If belief just is the kind of commitment that constitutively aims at knowledge, and knowledge and mere justified belief constitutively aim at knowing *qua* exercises of competences to know, then they constitutively aim at knowing, and thus these exercises *are beliefs*. (Miracchi, 2015, p.51)

However, for all Miracchi has said, being the exercise of a competence to know does not strictly entail being a kind of commitment. Given this, however, that a knowledge state aims at knowledge, because it is the exercise of a competence to know, does not strictly entail that it is a kind of commitment, and so *a fortiori* does not strictly entail that it is the kind of commitment that aims at knowing.¹² Consequently, unless knowing that ϕ strictly entails being in some *distinct* state of commitment to the proposition that ϕ which aims at knowing, knowing that ϕ does not strictly entail being in a state of commitment to the proposition that ϕ which aims at knowing. Unless knowing that ϕ strictly entails being in some suitable *distinct* state, Miracchi violates C3.

Miracchi has two replies available. Either she says that being the exercise of a competence to know strictly entails being a commitment to a proposition or she insists that knowing strictly entails being in some *distinct* state of commitment to a proposition which aims at knowing. Either reply may allow Miracchi to satisfy C3.

However, even granting her these replies, she has no abductive advantage over unsupplemented egalitarianism. To have such an advantage, her replies must be backed up with an explanation of why the claimed strict entailment holds. Without such an explanation, Miracchi violates C4 as she fails to explain why knowing that ϕ strictly entails being in a state of commitment to the proposition that ϕ .

Moreover, the first reply, on which Miracchi says that being the exercise of a competence to know strictly entails being a commitment to a proposition, must be rejected. For it entails that any knowledge state is a belief state and so leads to contradiction. Since a knowledge state k is an exercise of a competence to know, the reply entails that it is a commitment to a proposition and aims at knowing. But given this, and Miracchi's view of belief, k is a belief state. But by H1, every knowledge state takes some fact as content. So, k takes some fact as content. But, k is a belief state and, by H3, no belief state takes a fact as content. So, k does not take a fact as content. But then k takes and does not take a fact as content. Contradiction. As it stands, the first reply cannot be maintained.

To salvage her first reply, Miracchi may revise her view of belief to say that a belief state just is a commitment to a proposition which unsuccessfully aims at knowing. Now, a knowledge state is not predicted to be a belief state, as it is a successful exercise of a competence to know and so successfully aims at knowing. However, given this revision, Miracchi's view violates C3.

¹² For brevity, I omit 'constitutively.'

A plausible principle about exercises of a capacity is *exclusion*: necessarily, if one successfully exercises a capacity, one does not also degenerately exercise that capacity. But exclusion entails that necessarily, if one successfully exercises a competence to know, and so is in a knowledge state, one does not degenerately exercise that competence to know, and so is not in a merely justified belief state. But given this, why should one be in any state of commitment to a proposition which unsuccessfully aims at knowing? It seems that one is not in such a state. If so, however, knowing that ϕ does not strictly entail being in a state of commitment to the proposition that ϕ which unsuccessfully aims at knowing.¹³ So, Miracchi's view violates C3.

The first reply, on which Miracchi says that being the exercise of a competence to know strictly entails being a commitment to a proposition, must be rejected. Unlike this reply, Miracchi's second reply, on which knowing strictly entails being in some *distinct* state of commitment to a proposition which aims at knowing, does not entail that a knowledge state is a belief state. So, we are not forced to reject it. Even so, however, Miracchi still violates C4. She offers no explanation of why knowing should strictly entail being in some distinct state of commitment to a proposition which aims at knowing.

6.2.2 Constraints C5 and C6

So far, I have argued that, although Miracchi may insist that her view satisfies C3, it violates C4. I now suggest that her view violates C5 and C6.

To satisfy C5, Miracchi's view must predict that knowing that ϕ and being in a state of commitment to ϕ which aims at knowing necessarily have very similar downstream consequences. However, for all Miracchi has said, a knowledge state is not a commitment to a proposition; it is rather an exercise of a competence to know. Why then should it be the case that knowing that ϕ and being in a state of commitment to the proposition that ϕ which aims at knowing necessarily have very similar downstream consequences?

A similar question also arises for knowing that ϕ and merely justifiably believing that ϕ . These seem to necessarily have very similar downstream consequences. But Miracchi's view does not predict this. As initially stated, her view says that a knowledge state is a successful exercise of a competence to know, whilst a merely justified belief state is a degenerate exercise of that competence. But, in general, successful and degenerate exercises of a competence may have very different downstream consequences.

Contrast two cases. In the first, Sue successfully exercises her competence to hit the bullseye by hitting the bullseye. In the second, she degenerately exercises her competence:

¹³ Via the same reasoning, we also get the conclusion that knowing that ϕ strictly entails not being in a state of commitment to the proposition that ϕ which aims at knowing. If so, Miracchi's view not only violates C3 and so falsifies the entailment thesis, but also verifies the exclusion thesis, on which necessarily, if one knows that ϕ , one does not believe that ϕ .

although she activates her competence, an abnormal gust of wind means that she fails to hit the bullseye and instead hits Eddie who stands next to the target. The two exercises of her competence have quite different downstream consequences. Thus, it is not the case that necessarily, successful and degenerate exercises of a competence have very similar downstream consequences.

But given this, why should it be that necessarily, successful and degenerate exercises of a competence to know have very similar downstream consequences? Miracchi's view does not seem to predict that knowing that ϕ and merely justifiably believing that ϕ necessarily have very similar downstream consequences.

In reply, Miracchi may insist, as before, that a knowledge state is not only an exercise of a competence to know, but also a commitment to a proposition and add that a merely justified belief state too is such a commitment. If all such commitments necessarily have very similar downstream consequences, knowing that ϕ would now necessarily have downstream consequences that are very similar to those of merely justifiably believing that ϕ and being in a state of commitment to the proposition that ϕ which aims at knowing. However, as we saw earlier, a knowledge state cannot be a commitment to a proposition, on pain of contradiction.

As an alternative reply, Miracchi may say that a knowledge state is a commitment to a fact. If a commitment to a fact and a commitment to a proposition verified by that fact necessarily have very similar downstream consequences, this allows Miracchi to predict that knowing that ϕ necessarily has very similar downstream consequences as merely justifiably believing that ϕ and being in a state of commitment to the proposition that ϕ which aims at knowing. However, why should we accept the antecedent of this conditional? Commitments to distinct entities may, and often do, have very different downstream consequences.

Of course, Miracchi may simply insist on the truth of the antecedent. But, at best, this allows her to satisfy C5. To have an abductive advantage over the egalitarian, Miracchi would still need to explain why a commitment to a fact which aims at knowledge and a commitment to a proposition verified by that fact which aims at knowledge necessarily have very similar downstream consequences. The burden thus rests squarely on Miracchi's shoulders.

To sum up, this section argued that Miracchi (2015)'s view, even if she insists that it satisfies C3 and C5, still violates C4 and C6. Miracchi's view is therefore not preferable to egalitarianism on abductive grounds.

6.3 Bird: faculty with the function of supplying knowledge

I now turn to a view inspired by Bird (2007, p.94). It says that to believe that ϕ is to be in a state which takes the proposition that ϕ as content and for whose production, revision,

and extinction the faculty of belief is responsible, where that faculty is individuated by its function of supplying knowledge for the purposes of reasoning. Call this view *faculty epistemicism*.

I say that this view is ‘inspired’ by Bird’s work because it is unclear whether he would endorse it. Bird (2007)’s concern is the function of the *faculty* of belief. He leaves open how this faculty relates to belief *states*. Faculty epistemicism results from one natural way of understanding that relation, but Bird may well prefer another. If so, I would want to consider whether his preferred view fares better than the view I consider here. But for now, I rest content with showing that, on one natural way of understanding the relation between the faculty of belief and belief states, Bird’s work does not yield an epistemicist view of belief preferable to unsupplemented egalitarianism on abductive grounds.

Another caveat is in order. Except insofar as I will consider whether faculty epistemicism satisfies C3, i.e. whether necessarily, if one knows that ϕ , one is in a state which takes the proposition that ϕ as content and for whose production, revision, and extinction the faculty of belief is responsible, I will not discuss whether faculty epistemicism is extensionally adequate and so satisfies C2. Importantly however, since faculty epistemicism violates sufficiently many other constraints, this omission does not undermine my conclusion that faculty epistemicism is not preferable to unsupplemented egalitarianism on abductive grounds.

6.3.1 The view

Bird (2007, p.94) suggests that cognitive faculties have essential functions. He compares the function of the faculty of belief to the function of blood. Blood has the function of supplying oxygen to the muscles and other organs, so that they may carry out their functions properly. Similarly, the faculty of belief has the function of supplying knowledge for the purposes of reasoning, so that the faculty of reasoning may carry out its functions properly. Bird suggests that this is the sense in which belief aims at knowledge.

How are the faculty of belief and belief states related? On one natural proposal, we say that the faculty of belief is what produces, revises, and extinguishes belief states. To believe that ϕ , then, is to be in a state which takes the proposition that ϕ as content for whose production, revision, and extinction the faculty of belief is responsible. This proposal may seem circular, given its appeal to the faculty of belief. However, that faculty is individuated by its function. And it fulfils its function just in case it produces a knowledge state; only such states supply knowledge for the purposes of reasoning. It may thus be better to label the relevant faculty the faculty of knowledge. But for now, I follow Bird’s labelling.

A crucial question for faculty epistemicists is whether, if the faculty of belief fulfils its function, it produces just a knowledge state or also a belief state. Given the letter of the view, faculty epistemicism seems required to say that any state for whose production the

faculty of belief is responsible is a belief state. So, if the faculty of belief fulfils its function, it produces a knowledge state that is itself also a belief state.

This result helps faculty epistemicists to satisfy C3. Coming to know that ϕ now strictly entails coming to believe that ϕ and ceasing to believe that ϕ ceasing to know that ϕ . However, the result also leads to contradiction. For suppose the faculty of belief produces a knowledge state k . By H1, every knowledge state takes some fact as content. So, k takes some fact as content. But, by faculty epistemicism, k is a belief state, and, by H3, no belief state takes a fact as content. So, k does not take a fact as content. But then k takes and does not take a fact as content. Contradiction.

In reply, faculty epistemicists may say that, if the faculty of belief fulfils its function, it produces just a knowledge state. This requires a revision of their view so that to believe that ϕ is to be in a F -state which takes the proposition that ϕ as content for whose production, revision, and extinction the faculty of belief is responsible. Here, ' F ' is some suitable restriction on states which ensures that knowledge states are not belief states.

However, this reply leads faculty epistemicism to violate C3. Coming to know that ϕ , not having previously believed that ϕ , now does not strictly entail coming to be in a F -state for whose production, revision, and extinction the faculty of belief is responsible and so does not strictly entail believing that ϕ .

Changing tack, faculty epistemicists may say that, if the faculty of belief fulfils its function, it produces a knowledge state and a distinct belief state. This again requires a revision of their view; but this time the suitable restriction on states does not entail the violation of C3. Still, there are two concerns for the present move.

The first arises if the function of a faculty is determined by what it produces if it fulfils its function. If the faculty of belief produces a knowledge state and a distinct belief state if it fulfils its function, this assumption entails that the faculty of belief aims at supplying knowledge *and* belief for the purposes of reasoning. The resultant theory of belief smacks of circularity and so violates C1. Thus, faculty epistemicists must reject either the current reply or the account of function-determination that leads the reply to circularity.

The second worry for the present move is this. That the faculty of belief, if it fulfils its function, produces a knowledge state and a distinct belief state strictly entails that coming to know that ϕ , not having previously believed that ϕ , strictly entails coming to believe that ϕ . However, it does not strictly entail that ceasing to believe that ϕ , having previously known that ϕ , strictly entails ceasing to know that ϕ . Thus, for all we know, faculty epistemicism allows one to know that ϕ without believing that ϕ and so again violates C3.

Of course, faculty epistemicists may insist that knowledge and corresponding belief states are not only produced, but also extinguished, in lock-step. This insistence would help faculty epistemicists to satisfy C3. But if they do not explain why knowledge states bear this tight relationship to corresponding belief states, they still violate C4 and so do

not have an abductive advantage over unsupplemented egalitarianism concerning the entailment thesis.

So far, I have considered whether faculty epistemicism satisfies C3 and C4. Whilst there may be ways for the view to satisfy C3, it violates C4. Let's turn now to C5 and C6.

Faculty epistemicism holds that the faculty of belief's function is to supply knowledge for the purposes of reasoning. So, we may assume that the states the faculty is responsible for provide premises for one's reasoning, whether they are knowledge states or not. Because of this, knowing that ϕ and being in a state which takes the proposition that ϕ as content and for whose production, revision, and extinction the faculty of belief is responsible necessarily have very similar downstream consequences for whatever is downstream from reasoning.¹⁴

This does not suffice to satisfy C5, however. For feelings, such as emotions, are often not the consequence of reasoning, but nonetheless downstream consequences of knowing something; the same holds also for arational actions, like scratching one's head (Hursthouse, 1991), and anxious or obsessive thoughts. Thus, faculty epistemicism, as developed so far, does not predict that knowing that ϕ and being in a state which takes the proposition that ϕ as content and for whose production, revision, and extinction the faculty of belief is responsible necessarily have very similar downstream consequences for what one does, thinks, and feels. So, faculty epistemicism violates C5.

In reply, faculty epistemicists may say that the faculty of belief has the function of supplying knowledge for the purposes of *adapting mind to world*, so that various faculties (e.g. cognitive, conative, and affective faculties) may carry out their functions properly. However, this proposal requires further development. Faculty epistemicists must explain what it is to adapt mind to world and why it should be that, just because both knowing and believing play a role in adapting mind to world, they necessarily have very similar downstream consequences for what one does, thinks, and feels. There may be suitable answers to both questions. Yet absent these, faculty epistemicism remains silent on whether knowing that ϕ and being in a state which takes the proposition that ϕ as content and for whose production, revision, and extinction the faculty of belief is responsible necessarily have very similar downstream consequences. So far then, the view violates C5 and so C6.

¹⁴ Depending on how the claim that the states for whose production, revision, and extinction the faculty of belief is responsible provide premises for one's reasoning, it may be subject to counterexample. For instance, if it is interpreted as the claim that the relevant states entail a disposition to use to their contents as premises in one's reasoning, it is subject to counterexamples I discuss in ch.9. If the claim is so interpreted, and my discussion is along the right lines, faculty epistemicism would thus be extensionally inadequate.

6.3.2 An alternative interpretation

I have taken faculty epistemicism to claim that the faculty of belief's function is to supply knowledge states for the purposes of reasoning. In some places, however, Bird (2007, p.94) suggests that the faculty's function is to supply *known inputs*.

Faculty epistemicists may hope that adopting this suggestion helps their cause. But it does not. For to supply a known input, the faculty of belief must produce a knowledge state with that input as content. But then, faculty epistemicists have the same options as before. To avoid contradiction, faculty epistemicists must say either that, if it fulfils its function, the faculty of belief produces just a knowledge state, or that, if it fulfils its function, the faculty produces a knowledge state and a distinct belief state. The worries I raised earlier apply as before.

In reply, faculty epistemicists may suggest that the faculty of belief's function is to supply propositional contents verified by known contents. To fulfil its function, the faculty of belief now only needs to produce belief states whose propositional contents are verified by known contents. Thus, the question whether, if it fulfils its function, the faculty of belief produces just a knowledge state or also a belief state need not arise. We may simply say that the faculty of belief merely produces, revises, and extinguishes belief states. Consequently, the worries I raised earlier do not apply.

However, for the faculty to fulfil its function, there must be a known content to verify the propositional content of a belief state. But, to have a known content, one must have a knowledge state. Thus, to fulfil its function, the faculty of belief must either itself produce a knowledge state with the relevant content or operate in lock-step with a faculty of knowledge, responsible for producing, revising, and extinguishing knowledge states. On the first option, my initial question arises yet again, and so the worries I raised earlier apply. The second option also faces challenges.

One is to explain why the faculties of belief and knowledge operate in lock-step and so verify the claim that necessarily, if one knows that ϕ , one is in a state for whose production, revision, and extinction, the faculty of belief is responsible (i.e. a belief state). This challenge consists of two questions. First, why is it that, if the faculty of knowledge produces a knowledge state, the faculty of belief produces a corresponding belief state? Second, why is it that, if the faculty of belief extinguishes a belief state, the faculty of knowledge extinguishes a corresponding knowledge state? Each question calls for an explanation of why the exercise of one faculty strictly entails the exercise of the other. Faculty epistemicists owe us both explanations. So, even if the two faculties did operate in lock-step, since this fact would remain unexplained, faculty epistemicism would violate C4.

A second challenge for the current version of faculty epistemicism concerns C5 and C6. My earlier sketch of how faculty epistemicism may satisfy C5 and C6 relied on the claim that the faculty of belief has the function of supplying knowledge states for the purposes of

adapting mind to world. Since knowledge states and states for whose production, revision, and extinction the faculty of belief is responsible were outputs of that faculty, both played a role in adapting mind to world. Suitably developed, this may explain why knowing and being in a state for whose production, revision, and extinction the faculty of belief is responsible necessarily have very similar downstream consequences. Yet, on the current response, knowledge states are outputs of a distinct faculty. Thus, the sketched explanation is no longer available to faculty epistemicists.

In reply, we may try to, first, hold fixed the function of the faculty of belief and, second, specify the function of the faculty of knowledge such as to explain why knowing and being in a state for whose production, revision, and extinction the faculty of belief is responsible have very similar downstream consequences. To do so, we may say that the faculty of knowledge's function is to supply known inputs for the purposes of adapting mind to world. On this option, the faculties of knowledge and belief have almost the same function and states for whose production, revision, and extinction those faculties are responsible play almost the same role. Given satisfactory answers to my earlier questions about adapting mind to world, this may help to satisfy C5 and C6.

However, as the function of the two faculties are almost the same, why would an organism possess both? This question is particularly pressing given Bird's background view that an entity's function is determined by its evolutionary history. The function of blood, e.g., is to supply oxygen to the muscles and other organs because that is what blood was selected for. Evolutionary pressures usually ensure that there are not two entities with the same (or almost the same) function in a given system; developing and maintaining two rather than one is costly. So, if, at some time, two faculties have the same or almost the same function in a system, one of the two is likely to be deselected. But then, if the faculties of belief and knowledge have almost the same function, as the present option suggests, why would systems, e.g. human beings, have both faculties? It would be less costly to have one faculty, e.g. a faculty of knowledge that is fallible and so may produce, revise, and extinguish both knowledge and belief states.

This challenge to faculty epistemicism is, of course, inconclusive. Whilst the existence of two faculties with almost the same function calls out for explanation, it is not ruled out by Bird's background view. Moreover, although this is unlikely to weaken the demand for an explanation, faculty epistemicists may reject Bird's background view. Still, to satisfy C5 and C6 much work remains to be done. As it stands, important questions remain unanswered.

6.4 Conclusion

This chapter considered three epistemicist views. Table 6.1 summarizes what constraints they do and do not satisfy. Section 6.1 argued that, although Price's view seems to satisfy

TABLE 6.1: Constraints satisfied by views discussed in ch.6

	C1	C2	C3	C4	C5	C6
Price	Yes	No	No	No	Yes	No
Aim	?	?	Yes	No	Yes	No
Faculty	Yes	?	Yes	No	No	No

C5, it violates C2, C3, C4, and C6. Section 6.2 discussed Miracchi (2015)'s *aim epistemicism*. As initially stated, it is unclear whether this view satisfies my six constraints. I then argued that, even if Miracchi insists that her view satisfies C3 and C5, it still violates C4 and C6. Finally, section 6.3 argued that faculty epistemicism, on several ways of developing the view, violates C3 and so C4, and that, on others, it may satisfy C3, but still violates C4. I also suggested that faculty epistemicists must answer several questions before their view may satisfy C5 and C6. In sum, none of the epistemicist views I considered in this chapter are preferable to unsupplemented egalitarianism on abductive grounds.

Chapter 7

As-if epistemicism and the unknowable

So far, I have considered five versions of epistemicism and suggested that none is preferable to egalitarianism on abductive grounds. Discussions of epistemicist views to date leave us with two further options to consider.

On the first, epistemicists model their theory on *truth-first* views of belief familiar from, e.g., Braithwaite (1932) and Marcus (1990). Details aside, such views say that to believe p is to Φ (for instance, be disposed to act) as if p were true.¹ On a corresponding epistemicist theory, to believe p is to Φ as if p were known, i.e. as if one knew p .² Call this view *as-if epistemicism*.

As-if epistemicism is suggested in various places. For instance, Williamson (2000) says that “believing p is, roughly, treating p as if one knew p ” (p.47).³ Similarly, Jennifer Nagel (2017) writes that “Believing is [...] a shadow or after-effect of knowing: the deceived agent who reaches for the basket behaves as if she knew that the ball is in the basket” (p.537). Finally, John Hyman (2017) proposes that “[...] we can define the belief that p [...] as the disposition to act (think, feel) as one would if one knew that p .” (p.284)⁴

The second epistemicist option left to discuss is Williamson (2000)’s considered view. In the passage quoted just now, Williamson uses the adverbial modifier ‘roughly.’ The suggestion contained in that passage is an approximation only. Williamson refines it thus:

[...] to believe p is to treat p as if one knew p —that is, to treat p in ways similar to the ways in which subjects treat propositions which they know. (pp.46-7)

¹ ‘ Φ ’ will be used as a placeholder, rather than variable, throughout.

² Hyman (2017) compares truth- and epistemicist views.

³ Holton (2017) and Nagel (2013) seem to endorse this suggestion. Williamson, however, only endorses a refinement of this suggestion. See below.

⁴ Supposing ‘think,’ on one reading, is synonymous with ‘believe’ (e.g. Hawthorne, Rothschild, and Spectre, 2016), we may worry that Hyman’s appeal to thinking renders his definition circular. However, on another reading ‘think’ denotes occurrences of thinking, conscious processes, rather than states of thinking. On this interpretation, Hyman’s definition is not circular.

This view is structurally quite different from as-if epistemicism. One difference is that it does not feature occurrences of ‘as’ and ‘if’. I will highlight two further differences in section 7.1. Since the refinement suggested by Williamson features occurrences of plural nouns (e.g. ‘propositions’), I call it *plural epistemicism*.

In the next three chapters, I argue that neither as-if nor plural epistemicism are preferable to unsupplemented egalitarianism on abductive grounds. I begin my argument in this chapter, by taking on two tasks. First, I develop a challenge for as-if epistemicism that turns, primarily, on unknowable propositions.⁵ I argue that, depending on what further commitments we take on, the view either under- or overgenerates, predicting that one believes either too few or too many unknowable propositions.

Second, I sketch a sharpened version of as-if epistemicism for which unknowable propositions raise no special difficulties. On this view, to believe p is to Φ with respect to p as one would with respect to some knowable proposition q if one knew q . This view avoids under- and overgenerating in the way unsharpened as-if epistemicism does. Thus, for all I say in this chapter, it yields correct predictions in all cases. However, the next chapter develops arguments against as-if epistemicism that generalize also to the sharpened view, so that the sharpening presented here does not ultimately rescue as-if epistemicism’s abductive credentials.

I call the view I sketch *NEW*, the view suggested by the quotations above *OLD*. Section 7.1 makes both more precise. Section 7.2 shows that, given two orthodox assumptions, *OLD* overgenerates and falsifies the similarity thesis. Section 7.3 argues that rejecting the first assumption lacks independent motivation; section 7.4 that even if we reject the second assumption, *OLD* overgenerates. Finally, section 7.5 shows that *NEW* avoids both under- and overgenerating.

One comment before I get started. *OLD* says that to believe p is to Φ as if one knew p . Since p is a variable ranging over propositions, if no knowledge state takes a proposition as content, as-if epistemicism is defective. How exactly this defect manifests depends on how it is regimented. Fortunately for defenders of *OLD*, the defect may be removed. They may say instead that to believe p is to Φ as if one knew the, or some, fact that verifies p . Similar remarks apply also to *NEW* and plural epistemicism. For ease of exposition, however, I will not remove the defect in what follows and will use proposition variables throughout. As is easily verified, the defect will play no role in my assessment of the views.

⁵ Hyman (2017, p.286) suggests that unknowable propositions may be problematic for his view.

7.1 Regimentations

I now regiment OLD and NEW. This allows me to state my challenge for OLD, and why NEW does not face it, particularly clearly.

Start with OLD, which says that to believe p is to Φ as if one knew p . The clause to the right of ‘as’, ‘if one knew it’, is in the subjunctive mood. We may thus interpret it as the antecedent of a would-counterfactual whose consequent is elided.⁶ Recovering the elided material, OLD reads: to believe p is to Φ as one would Φ if one knew it.

I adopt a semantics of the comparative particle ‘as’ inspired by Bücking (2017)’s treatment of German ‘wie’.⁷ On this semantics, ‘as’ denotes an equivalence relation between individuals or eventualities. This relation holds of two individuals or eventualities just in case they are the same in a certain contextually salient way.⁸ One Φ s as one would Φ if one knew it, then, just in case one Φ s in some contextually salient way F and if one knew it, one would Φ in F .

I now regiment OLD as per:

OLD For all x and p , x believes p iff: for some contextually salient way F , (i) x Φ s in F and (ii) if x knew p , x would Φ in F .⁹

Regimenting NEW in parallel fashion, we get:

NEW For all x and p , x believes p iff: for some knowable q and contextually salient way F , (i) x Φ s with respect to p in F and (ii) if x knew q , x would Φ with respect to q in F .

My regimentations highlight three important differences between OLD and NEW. First, NEW, but not OLD, is strict. Only NEW restricts the domain of one of its quantifiers, viz. that of the existential quantifier binding q , to all and only knowable propositions. Second, NEW, but not OLD, is flexible. OLD appeals to one proposition variable bound by a universal quantifier only. By contrast, NEW appeals to two proposition variables, one bound by a universal, the other by an existential quantifier. Finally, NEW, but not OLD, relativises

⁶ I assume that OLD’s counterfactual is a would-counterfactual. This is no trivial assumption. But since Hyman, in the quotation above, explicitly appeals to a would-counterfactual, it seems reasonable for present purposes. Moreover, a challenge analogous to mine arises even if the would-counterfactual is replaced with a might-counterfactual.

⁷ Bücking in turn draws on Umbach and Gust (2014).

⁸ What determines which ways are salient in a context? For present purposes, I remain neutral on this question, but some (non-exclusive) options are: ostension, the question(s) under discussion, pragmatic presuppositions made by discourse participants, and charity constraints. My challenge arises on any of these options.

⁹ I use x, y, \dots as subject variables, p, q, \dots as proposition variables, and F, G, \dots as variables ranging over ways.

Φ ing to a proposition. As we will see in section 7.5, all three differences play a role in making NEW preferable to OLD.

One noteworthy feature of both OLD and NEW, as I regiment them, is that they appeal to ways. Although I have little to say about what ways are, I do assume a close link between ways and how-questions. I take it that whether citing ψ and only ψ provides a, possibly partial, answer to the question ‘How does $x \phi$?’ is indicative of whether ψ ing is a way of ϕ ing.¹⁰ If it does, that is *pro tanto* evidence that ψ ing is a way of ϕ ing; if not, that is *pro tanto* evidence that it is not. For instance, citing relying on p in one’s practical reasoning may provide a (partial) answer to the question ‘How does one treat p ?’ So, we can say that it is a way of treating p .

Two caveats are in order. First, my regimentations diverge from the unregimented views in their modal force. Although the latter define what it is to believe p , my regimentations are formulated as biconditionals. They nonetheless regiment the unregimented views because real definitions entail corresponding biconditionals. (Correia, 2017; Dorr, 2016; Rosen, 2015) For this reason, my challenge to the regimented version of OLD in this chapter and my arguments against OLD and NEW in the next, affect the unregimented views too.

Second, OLD and NEW may also be regimented in other ways. For instance, we might not require sameness but only similarity between ways of Φ ing, appeal to the fully specific way in which $x \Phi$ s (with respect to p) instead of a contextually salient one, or replace the would-counterfactual with a normality or strict conditional. However, although I do not show this here for reasons of space, no plausible regimentation of OLD avoids the challenge I develop in this chapter. In the next chapter, I will discuss some alternative regimentations to develop further arguments against OLD and NEW.

One final comment before we turn to my challenge for OLD. NEW resembles plural epistemicism. As I said in the introduction, Williamson (2000) refines as-if epistemicism as follows

[...] to believe p is to treat p as if one knew p —that is, to treat p in ways similar to the ways in which subjects treat propositions which they know. (pp.46-7)

Much like NEW, the view Williamson suggests appeals to two proposition variables, p and that introduced by ‘propositions’. Williamson does not say why he offers his refinement of as-if epistemicism. My challenge to OLD provides a clue. OLD is not flexible enough.

¹⁰ This is compatible with Stanley and Williamson (2001)’s claim that ways are properties of token events. For all I say, any substitution for ψ is an expression or string of expressions denoting a property of an event. However, my test for way-hood does not entail that ways are properties of token events. As I hinted at in the text, I remain as neutral as possible given my test for way-hood about the metaphysics of ways.

Williamson's refinement is. How exactly it avoids my challenge, however, is an issue for another occasion.

7.2 The initial challenge

I now argue that, given two orthodox assumptions, OLD overgenerates. It predicts that, in suitable contexts, everyone believes all unknowable propositions. For concreteness, I focus on the version of OLD we get by substituting 'treats p ' for ' Φ .' As is easily verified, though, versions of OLD inspired by the quotations from Nagel and Hyman face the same challenge.

7.2.1 Two assumptions

My first assumption is that at least one proposition is metaphysically impossible to know (henceforth 'cannot be known' or 'is unknowable'). This assumption is entailed by plausible claims about knowledge. Knowledge (strictly) entails truth. More precisely, for every metaphysically possible world w , x and p , if x knows p in w , p is true in w . By this claim, all metaphysically impossible propositions, i.e. all propositions that are true at no metaphysically possible world, are unknowable.¹¹ For instance, assuming the necessity of distinctness, one cannot know the proposition that Aristotle is Plato.

Given other orthodox assumptions, the claim that knowledge entails truth also entails that many other metaphysically possible propositions are unknowable.¹² Take, e.g., the assumption that knowledge distributes over conjunction, according to which, for every metaphysically possible world w , x , p and q , if x knows p and q in w , x knows p in w and x knows q in w . Given this assumption and the claim that knowledge entails truth, propositions like the metaphysically possible proposition that (Aristotle is the teacher of Alexander the Great and one does not know that Aristotle is the teacher of Alexander the Great) are unknowable for one.¹³

¹¹ On a coarse-grained, possible worlds view of propositions, as in Stalnaker (1987), there is only one metaphysically impossible proposition. Whether we adopt such a coarse-grained or a more fine-grained view will not matter to our discussion.

¹² There may also be propositions that cannot be known for reasons not involving the entailment from knowledge to truth, though their status is more controversial. For instance, an epistemicist about vagueness like Williamson (1996) would hold that whether a borderline case of a vague concept F falls in the extension of that concept cannot be known since knowledge entails safety, that is, that x could not easily have falsely believed p , and one could easily have had false beliefs about whether a borderline case of a vague concept F falls in the extension of that concept. Since these considerations take us into controversial territory, I focus on less controversial examples.

¹³ The argument for this is a variant of Fitch's paradox. Abbreviate 'Aristotle is the teacher of Alexander the Great' with ' α ' and 'one does not know that α ' with ' $\neg K\alpha$.' Because knowledge distributes over conjunction, one's knowing that (α and $\neg K\alpha$) entails that one knows that α and that one knows that $\neg K\alpha$. But by the entailment from knowledge to truth, the second conjunct entails that $\neg K\alpha$. Yet, according to the first

My second assumption is that would-counterfactuals with metaphysically impossible antecedents (henceforth ‘counterpossibles’) are vacuously true.¹⁴ This assumption is entailed by the standard semantics of would-counterfactuals, inherited from Kratzer (1979), Lewis (1973), and Stalnaker (1968).

On this semantics, a would-counterfactual ‘If it were the case that ϕ , it would be the case that ψ ’ (henceforth ‘ $\phi \Box \rightarrow \psi$ ’) is true at a world w just in case all the metaphysically possible ϕ -worlds closest to w are ψ -worlds.¹⁵ In effect, the operator ‘ $\Box \rightarrow$ ’ is a universal quantifier whose domain is restricted to the metaphysically possible ϕ -worlds closest to the world of evaluation. But if there is no metaphysically possible ϕ -world, ‘ $\Box \rightarrow$ ’s domain is empty. And if the domain of a universal quantifier heading a universally quantified sentence ‘ $\forall x \phi(x)$ ’ is empty, that sentence is vacuously true.¹⁶ Thus, a would-counterfactual with a metaphysically impossible antecedent is vacuously true.¹⁷

7.2.2 OLD overgenerates

Joan is a philosophy professor. She denies that Aristotle is Plato (a) when asked whether a , refuses to rely on a in her reasoning, and so on. Joan’s way of treating a strongly suggests that she does not believe it, even that she believes $\neg a$. However, given our two assumptions, we need only suppose that her way of treating a is contextually salient for OLD to predict that she believes a .

To see this, let Joan’s actual way of treating a be D . Suppose also D is contextually salient, perhaps because we are pointing to Joan whilst she denies that a or ask whether Joan treats a in D . Joan satisfies OLD’s first condition. But consider

1. If Joan knew a , Joan would treat a in D .

Because a is unknowable, there is no metaphysically possible world at which 1’s antecedent is true. By our second assumption, 1 is thus true. Joan also satisfies OLD’s second condition. OLD therefore predicts that Joan believes a .

Joan, a and D are an arbitrary subject, unknowable proposition and way of treating a proposition. So, we can generalize from Joan’s case. For every subject x , unknowable proposition p_u and way of treating a proposition F , if x treats p_u in F and F is contextually

conjunct, one does know that α . Contradiction. To hold onto the assumptions that knowledge entails truth and distributes over conjunction, we must say that $(\alpha$ and $\neg K\alpha)$ is unknowable for one. See Williamson (2000, ch.12) for discussion.

¹⁴ For references see footnote 25.

¹⁵ A ϕ -world is a world at which ‘ ϕ ’ is true.

¹⁶ See, e.g., Barker-Plummer et al. (2011).

¹⁷ Note that the universal quantifier used in stating the truth-conditions of a would-counterfactual is not the English language determiner ‘all.’ Given this, one cannot avoid vacuous truth for counterpossibles by arguing, following Geurts (2008), that ‘all’ triggers an existential presupposition and so yields a truth-value gap if it is common ground that its domain is empty.

salient, x believes p_u . Consequently, further counterexamples to OLD arise wherever a subject treats an unknowable proposition p_u in some way F , F is contextually salient, and treating p_u in F suggests that one suspends judgement about, does not believe, or disbelieves p_u .

The problem is compounded because ways of treating propositions are cheap. Plausibly, for every subject x and proposition p , x treats p in some way—even if for most p that way of treating it involves merely failing to consider p and similar negative occurrences. Since the unknowable propositions form a proper subset of the set of propositions, this means that for every subject x and unknowable proposition p_u , x treats p_u in some way. But then for every subject x , unknowable proposition p_u and some way of treating a proposition F , if F is contextually salient, x believes p_u .

One upshot of this is that, in contexts where the ways in which every subject treats each unknowable proposition are salient (perhaps because we ask how each subject treats each unknowable proposition), OLD predicts that every subject believes all unknowable propositions. In short, in suitable contexts, everyone believes all unknowable propositions. OLD fragrantly violates C2.

7.2.3 Two responses

OLD's predictions may remind one of predictions made by possible-worlds models of propositions.¹⁸ On such models, a proposition is the set of metaphysically possible worlds at which it is true. Thus, since metaphysically necessary propositions are true at all metaphysically possible worlds, all metaphysically necessary propositions are identified with the set of all metaphysically possible worlds. They are all the same proposition. Thus, believing some metaphysically necessary proposition entails believing all of them. If, as seems plausible, every subject believes at least one metaphysically necessary proposition, the possible worlds model of propositions predicts that every subject believes all of them.

Since both the possible-worlds model and OLD overgenerate, we may hope that responses given on behalf the possible-worlds model generalize to OLD. But this is not so. OLD is even worse off than the possible-worlds model.

A common response on behalf of the possible-worlds model interprets it as an idealization.¹⁹ To develop this response, we may say that the model idealizes by describing the 'equilibrium' state of rational believers. Perhaps, such a state is one ordinary believers are never in. But this is so only because of forces impeding their rationality. Absent these, ordinary believers would believe all metaphysically necessary propositions. A response of this kind is implausible if offered on behalf of OLD, however. That, in suitable

¹⁸ See Stalnaker (1987) for a sympathetic discussion of such models.

¹⁹ See Stalnaker (1999, ch.13 and 14) for further discussion of this response.

contexts, everyone believes all unknowable propositions does not accurately describe the ‘equilibrium’ state of rational believers. In such a state they would generally avoid beliefs in unknowable propositions.

To develop the idealization response on behalf of the possible-worlds model, we may also say that the model describes the ‘ideal’ state of believers. Perhaps, ordinary believers are never in this state. But it would be ideal if they were. In some sense of ‘ought’, they ought to be in this state. A response of this kind too is implausible if offered on behalf of OLD. That, in suitable contexts, everyone believes all unknowable propositions does not accurately describe an ‘ideal’ state of believers. Other things being equal, one ought not to believe unknowable propositions.

Defenders of OLD cannot write off OLD’s predictions as idealizations in the two ways sketched, even if parallel manoeuvres help the possible-worlds model. Defenders of OLD must block my argument, then.

Before considering whether rejecting one of my two assumptions is a promising way to do so, consider a response that retains my assumptions. I assumed that unknowable propositions are in the domain of the universal quantifier binding OLD’s proposition variable. So, to block my argument, defenders of OLD might restrict that domain to all and only knowable propositions.

However, doing so restricts OLD’s purview. Given the restriction, OLD predicts that subjects cannot believe unknowable propositions. But, they can and do. Mathematicians and metaphysicians, for instance, often believe false propositions about their respective subject matter. Yet false propositions about mathematics and metaphysics alike are false in all metaphysically possible worlds, so metaphysically impossible, and so, by the entailment from knowledge to truth, unknowable.²⁰ Our account of belief, if it is to be fully general, should predict that we can and sometimes do believe (at least some) unknowable propositions. On the current response, OLD does not and so undergenerates. OLD thus continues to violate C2.

7.3 Rejecting the assumptions

The upshot so far is that given two assumptions—the existence of unknowable propositions and that counterpossibles are vacuously true—OLD overgenerates. This section and the next argue that rejecting one of the two assumptions does not help defenders of OLD. Nothing short of revising OLD and going for a view like NEW will do.

²⁰ See Altrichter (1985) and Sorensen (1996) for further examples of beliefs in metaphysical impossibilities.

7.3.1 The first assumption

How might defenders of OLD reject the assumption that there is at least one unknowable proposition? Since the unknowable propositions I discussed were unknowable at least partly due to the entailment from knowledge to truth, they might reject the assumption by rejecting that entailment. Doing this, they say that for every x and p , and some possible world w , x knows p in w although p is false in w .

Defenders of OLD may suggest that this move is independently motivated. Following Hazlett (2010, p.501), they may argue that there are utterances whose felicity we can explain only if we reject the claim that knowledge entails truth. Consider

2. Everyone knew that stress caused ulcers, before two Australian doctors in the early 80s proved that ulcers are actually caused by bacterial infection.

Because 2 attributes knowledge of a falsehood to the denotation of ‘everyone’, the claim that knowledge entails truth would have us predict that it is infelicitous.²¹ But it is not. So, the argument goes, the claim has to go.

However, rejecting the claim that knowledge entails truth is costly and Hazlett’s motivation for doing so inconclusive. First, the claim that knowledge entails truth explains why utterances like 3 are infelicitous:

3. # Laura knows that it’s Monday, but it’s not.

In addition, it is unclear whether we can explain these data without saying that knowledge entails truth. We cannot, for instance, explain them by appealing to a conversational implicature to the effect that p is true. Such an implicature could be cancelled. But, the infelicity of utterances like 3 shows that it generally cannot be. Rejecting the entailment from knowledge to truth may thus leave us without an explanation of why utterances like 3 are infelicitous.

Even setting aside the cost of rejecting the claim that knowledge entails truth, two responses to the argument against it are available. The first says that, in utterances like 2, occurrences of the verb ‘know’ denote knowledge* not knowledge. Given this, we can maintain that knowledge, but not knowledge*, entails truth.²² The second response explains the felicity of utterances like 2 by appeal to protagonist projection. Faced with utterances where the protagonist’s perspective involves a false belief—in 2, a belief that stress caused ulcers—we may imagine what seems (or seemed) true from the protagonist’s perspective. We may then treat as felicitous the use of words the protagonist herself would

²¹ Strictly speaking, we only get this prediction if we assume that the entailment is common knowledge among competent speakers of English. For ease of exposition, I omit this assumption in the text.

²² See Turri (2011) and Tsohatzidis (2012).

use (or have used) to describe those beliefs—in 2, ‘knew’.²³ Thus, we can explain the felicity of utterances like 2, even if knowledge entails truth.

For present purposes I need not settle for either of the responses. Their mere availability shifts the burden of proof onto those who deny that knowledge entails truth. They must explain why the responses fail. As things stand, denying that knowledge entails truth is thus unmotivated. Given this, defenders of OLD should not do so to avoid the prediction that, in suitable contexts, everyone believes all unknowable propositions—doing so would be an ad hoc fix.

7.3.2 The second assumption

OLD’s prediction that, in suitable contexts, everyone believes all unknowable propositions results, in part, from treating ‘ $\Box \rightarrow$ ’ as a universal quantifier whose domain is restricted to a subset of metaphysically possible worlds only. Due to this restriction, the domain of ‘ $\Box \rightarrow$ ’ is empty given a metaphysically impossible antecedent like ‘Joan knows *a*.’ This yields 1’s vacuous truth and OLD’s mistaken predictions.

To block my argument, we treat ‘ $\Box \rightarrow$ ’ as a universal quantifier whose domain is restricted to a subset of the metaphysically possible *or impossible* worlds. (‘ $\phi \Box \rightarrow \psi$ ’ is now true at a world *w* just in case all the metaphysically possible or impossible ϕ -worlds closest to *w* are ψ -worlds.)²⁴ Given this and that there are metaphysically impossible worlds at which Joan knows *a*, for instance, the domain of ‘ $\Box \rightarrow$ ’ is non-empty even given a metaphysically impossible antecedent like ‘Joan knows *a*.’ Thus, a counterpossible like 1 is not vacuously true.

This response to my argument may be independently motivated. For the claim that counterpossibles are vacuously true leads to strange predictions, which have led some to reject it.²⁵ Consider

4. If Hobbes had (secretly) squared the circle, all sick children in the mountains of South America at the time would have cared.
5. If Hobbes had (secretly) squared the circle, all sick children in the mountains of South America would not have cared.

As it is metaphysically impossible for Hobbes to square the circle, 4 and 5 are counterpossibles. Thus, if counterpossibles are vacuously true, both are true. But intuitively, the sick

²³ See Stokke (2013) and Buckwalter (2014).

²⁴ Berto et al. (2017) offer a semantics along those lines.

²⁵ Kment (2014) and Berto et al. (2017), for instance. By contrast, Lewis (1973), Emery and Hill (2017) and Vetter (2016) and Williamson (2007b; 2016), among others, accept the assumption. See Jenny (2018) and Tan (2019) for further arguments in favour of rejecting the assumption.

children at issue would not have known if Hobbes had secretly squared the circle and so could not and would not have cared. So, 4 is false, 5 true.

The revised semantics of would-counterfactuals predicts our intuitions. 4 is now true at our world @ just in case all (impossible) worlds closest to @ at which Hobbes secretly squared the circle are worlds at which sick children in the mountains of South America at the time cared. This sentence is false because in the impossible worlds closest to @ (with respect to the effects of secrecy, say) the sick children at issue did not know that Hobbes secretly squared the circle and so did not care. By contrast, 5 is now true at @ just in case all (impossible) worlds closest to @ at which Hobbes secretly squared the circle are worlds at which sick children in the mountains of South America at the time did not care. This sentence is true for the reason for which the first was false.

The revised semantics also prevents OLD from predicting that, in suitable contexts, everyone believes all unknowable propositions. That prediction depended on the result that counterfactuals of the form ‘If x knew p_u , x would treat p_u in F ’ (where p_u is an unknowable proposition) are true with an arbitrary way of treating p_u assigned to F . But, by the revised semantics, such counterfactuals are true at a world w just in case all impossible worlds closest to w at which x knows p_u are worlds at which x treats p_u in F . Crucially, this formula is true on some assignments to F , but not others. Assigning Joan’s actual way of treating a to F , for instance, it is false. For in the impossible worlds closest to the actual world one does not (absent devious desires and intentions) know p and deny p when asked whether p , refuse to rely on p in reasoning, and so on. Thus, 1 is false and my argument blocked.

I have three concerns about the current response on behalf of OLD. First, Williamson (2016) holds that counterpossibles are vacuously true. He insists that the domain of ‘ $\Box \rightarrow$ ’ is restricted to metaphysically possible worlds only and offers an error theory to explain the linguistic data meant to motivate the revised semantics. Crucially, Williamson is not alone in this. Among others, Emery and Hill (2017) make similar moves. This highlights that the revised semantics is a significant commitment. Many otherwise friendly to an epistemicist view may not want to accept it.

Second, some defenders of the revised semantics, e.g. Kment (2014), reject impossible worlds at which logical truths are false. However, absent such worlds, OLD predicts that, in suitable contexts, everyone believes all negations of logical truths. To see this, let $\neg l$ be the negation of an arbitrary logical truth and substitute $\neg l$ for a in my argument above. Thus, for OLD not to overgenerate, we must accept not only the revised semantics, but also, contrary to some defenders of that semantics, impossible worlds at which logical truths are false.

The two concerns so far turn on how controversial the current response is. In the next section, I introduce a third, more forceful worry. Even the revised semantics for would-counterfactuals does not keep OLD from making mistaken predictions and so violating C2.

7.4 A further challenge

We can divide versions of OLD into two camps: relativised and unrelativised. The condition denoted by ‘treats p ’ is relativised to a particular proposition, p . The conditions denoted by ‘behaves’ and ‘is disposed to act (think, feel)’ are unrelativised. As it occurs in OLD, ‘ Φ ’ may be substituted with a string denoting a relativised or an unrelativised condition. Thus, we get relativised and unrelativised versions of OLD, which appeal to relativised and unrelativised conditions respectively.

Section 7.4.1 argues against unrelativised OLD. For concreteness, I consider the version we get by substituting ‘behaves’ for ‘ Φ ’. Section 7.4.2 targets relativised versions of OLD. Though different, my challenges to both turn on would-counterfactuals that are guaranteed to be true due to the entailment from knowledge to truth.

7.4.1 Unrelativised OLD

Joan suspends judgement about how *exactly* she behaves. She knows that many aspects of her behaviour are inaccessible to her and so that she would likely be mistaken if she believed that some fully specific way of behaving is her fully specific way of behaving. Joan, it seems, does not believe that she behaves in her fully specific way of behaving. However, supposing merely that her fully specific way of behaving is contextually salient, unrelativised OLD predicts the opposite.

To see this, let B be Joan’s actual fully specific way of behaving. Suppose also B is contextually salient, perhaps because we are asking in what fully specific way Joan behaves. Joan satisfies OLD’s first condition. Now consider

6. If Joan knew that she behaves in B , she would behave in B .

That knowledge entails truth guarantees that 6 is true.²⁶ So, Joan satisfies OLD’s second condition. OLD thus predicts that Joan believes that she behaves in B .

The revised semantics predicts that 6 is true, at least if evaluated at a metaphysically possible world. On this semantics, 6 is true at a world w iff all worlds closest to w at which Joan knows that she behaves in B are worlds at which Joan behaves in B . Supposing w is metaphysically possible, it follows from the entailment from knowledge to truth that at w , for all x and p , x knows p at w only if p is true at w . Because 6 is not a counterpossible—that Joan behaves in B seems to be knowable for Joan—looking for the worlds closest to w at which 6’s antecedent is true does not require looking for worlds at which this entailment fails. Plausibly, then, all the worlds closest to w at which 6’s antecedent is true are worlds

²⁶ Given the standard semantics of would-counterfactuals, this is so because the entailment from knowledge to truth holds at all metaphysically possible worlds and so at all metaphysically possible worlds at which 6’s antecedent is true.

at which it is true that, for all x and p , x knows p only if p is true. Thus, all these worlds are worlds at which Joan behaves in B . Consequently, our revised semantics predicts that 6 is true, at least at all metaphysically possible worlds.

Joan's case shows that even the revised semantics does not prevent unrelativised OLD from overgenerating. Moreover, Joan and B are an arbitrary subject and fully specific way of behaving. So, we can generalize. For every subject x and fully specific way of behaving F , if x behaves in F and F is contextually salient, x believes that x behaves in F . Consequently, further counterexamples to unrelativised OLD arise wherever a subject x behaves in a fully specific way F , F is contextually salient, and behaving in F suggests that x suspends judgement about, does not believe, or disbelieves the proposition that x behaves in F .

The problem is compounded because fully specific ways of behaving are cheap. Plausibly, for every (alive) subject x , x behaves in some fully specific way.²⁷ Thus, for every subject x there is some fully specific way of behaving F such that if F is contextually salient, x believes that x behaves in F .

One upshot of this is that, in contexts where the fully specific way of behaving of every subject is salient (perhaps because we ask how exactly each subject behaves), OLD predicts that every subject believes the proposition that results from assigning it and its fully specific way of behaving to 'x behaves in F '. So, whilst adopting our revised semantics of would-counterfactuals avoids the problems of section 7.2, unrelativised OLD nonetheless predicts that, in suitable contexts, everyone believes some, rather odd, knowable proposition. OLD flagrantly violates C2.

It is worth immediately setting aside a familiar response. My argument assumed that propositions which result from assigning a subject and its fully specific way of behaving to 'x behaves in F ' are in the domain of the universal quantifier binding unrelativised OLD's proposition variable. So, to block my argument, we might restrict that domain to all and only propositions that do not result from assigning a subject and its fully specific way of behaving to 'x behaves in F '.

However, given this restriction, unrelativised OLD predicts that subjects cannot believe propositions that result from assigning them and their fully specific way of behaving to 'x behaves in F '. Yet it seems that they can. Suppose an omniscient angel reveals herself to Joan and gains her trust by correctly reporting on Joan's occurrent mental episodes. The angel then gives Joan full information about how she behaves. Consequently, Joan comes to believe that she behaves in B . Absent evidence to the contrary, this scenario seems possible. So, it seems, subjects can believe propositions that result from assigning them and their fully specific way of behaving to 'x behaves in F '. Our account of belief, if it is to

²⁷ Below, I omit the restriction to alive subjects.

be fully general, should predict this. Yet on the current response, unrelativised OLD does not and so undergenerates.

7.4.2 Relativised OLD

I now turn to relativised OLD. For concreteness, I focus on the version we get by substituting ‘treats p ’ for ‘ Φ ’. Yet, as is easily verified, my argument generalizes to other relativised versions of OLD, such as those we obtain by substituting ‘behaves with respect to p ’ or ‘is disposed to act (think, feel) with respect to p ’ for ‘ Φ ’.

Suppose Joan, having reflected on how she treats various propositions about ancient philosophers (including a), adopts a rational policy. She treats the proposition that she treats every proposition in the way in which she treats a , i.e. D , (t) in the way in which she treats a , i.e. D . She denies t , refuses to rely on it in her reasoning, and so on. Joan’s adoption of this rational policy strongly suggests that she does not believe t , even that she believes $\neg t$. However, supposing only that D is contextually salient, relativised OLD predicts the opposite.

To see this, suppose D is contextually salient, perhaps because we are asking how Joan treats t . Since Joan treats t in D , she thus meets OLD’s first condition. Now consider:

7. If Joan knew t (the proposition that she treats every proposition in D), she would treat t in D .²⁸

Given the entailment from knowledge to truth (and an elimination rule for the universal quantifier), 7 is intuitively true. So, Joan satisfies OLD’s second condition. OLD therefore predicts that Joan believes t .

Does our revised semantics predict that 7 is true? To answer this question, notice first that 7 is a counterpossible because t is unknowable for Joan. To see that it is, suppose for *reductio* that Joan can know t . Then, Joan knows t at some metaphysically possible world—call it m . By the entailment from knowledge to truth, Joan treats every proposition in way D at m . But now let p be an arbitrary proposition. Joan treats p in D at m , $\neg p$ in D at m , $p \wedge \neg p$ in D at m , and so on. Joan treats all propositions alike at m , whether they are contraries, contradictories or whatever.

Joan’s psychology at m is strange. Intuitively, it is inconsistent with Joan knowing any proposition at m . For knowing p seems to entail, at all possible worlds, that one treats p and $\neg p$, for instance, differently. In some sense, one’s knowing p rules out $\neg p$ for one. (Perhaps by setting the evidential probability of p at 1, that of $\neg p$ at 0.) And that must be

²⁸ On the intended reading, ‘every’ does not receive an implicit domain restriction—its domain thus contains all and only propositions, not some proper subset of them.

reflected, somehow, in how one treats p and $\neg p$. Yet, in Joan's psychology at m , it is not. Thus, Joan does not know t at m .

Since our initial supposition entailed that Joan does know t at m , we now have a contradiction and something has to give. Holding fixed the entailment from knowledge to truth and the intuition about Joan's psychology, we must say that t is unknowable for Joan.

As counterpossibles are not vacuously true on the revised semantics, defenders of relativised OLD may hope that the revised semantics predicts that 7 is false. (Although that outcome may worry defenders of the revised semantics.) However, the revised semantics predicts, given a plausible assumption, that 7 is true.

On the revised semantics, 7 is true at a world w just in case all worlds closest to w at which Joan knows t are worlds at which Joan treats t in D . Since 7 is a counterpossible, looking for the closest worlds at which its antecedent is true requires looking for metaphysically impossible worlds. Thus, we must give up something true at all metaphysically possible worlds to find the closest worlds at which 7's antecedent is true.

There are two candidates. First, the entailment from knowledge to truth. Second, the intuitive datum about Joan's psychology. How our revised semantics evaluates 7 at w depends on which of the two we give up. If we give up the entailment from knowledge to truth, 7 is false. To find the closest worlds at which 7's antecedent is true, we now look for the worlds closest to w at which it is false that for all x and p , x knows p only if p is true. (Because these worlds are closest to w and at w the intuitive datum about Joan's psychology holds, the datum holds at these worlds.) Consequently, at some of the closest worlds at which 7's antecedent is true, its consequent is false.

By contrast, if we give up the intuitive datum about Joan's psychology, 7 is true. By the entailment from knowledge to truth, it is true at w that for all x and p , x knows p at w only if p is true at w . To find the worlds closest to w at which 7's antecedent is true, we now look for worlds at which the intuition about Joan's psychology is false. (Because those worlds are closest to w and at w the entailment from knowledge to truth holds, the entailment holds at those worlds.) Consequently, all closest worlds at which 7's antecedent is true are worlds at which its consequent is true.

Which of the two candidates do we give up? 7 is, intuitively, true. So, when looking for the closest worlds at which 7's antecedent is true, we intuitively give up the intuition about Joan's psychology, not the entailment from knowledge to truth. This is perhaps not unexpected. For it is a platitude that "in knowledge, mind is adapted to world" (Williamson, 2000, p.1). This platitude suggests that the connection between knowing p and p 's truth is more entrenched to (our conception of) knowing p than the connection between knowing p and how one treats p , $\neg p$, and so on.

Taking stock, given that we give up the intuitive datum about Joan's psychology in

looking for the worlds relevant to evaluating 7, the revised semantics of would-counterfactuals predicts that 7 is true. Yet given 7's truth and that D is contextually salient, OLD mistakenly predicts that Joan believes t .

Moreover, Joan and D were selected arbitrarily amongst subjects and ways of treating a proposition. So, we can generalize. For every subject x and way of treating a proposition F , if F is contextually salient and x treats the proposition that she treats every proposition in F , x believes that she treats every proposition in F . Further counterexamples to relativised OLD thus arise wherever a subject x treats the proposition that x treats every proposition in F in F , this suggests that x suspends judgement about, does not believe, or disbelieves that proposition, and F is contextually salient.

The problem is compounded because treating the proposition that one treats every proposition in D in D is a rational policy. So, plausibly, for every rational subject x_R , x_R treats the proposition that x_R treats every proposition in D in D . But now, it follows that for every rational subject x_R , if D is contextually salient, x_R believes that x_R treats every proposition in D . Since this proposition is unknowable for x_R , relativised OLD predicts that, in suitable contexts, every rational subject believes some, rather odd, unknowable proposition. OLD again violates C2.

It is worth setting aside a, by now very familiar, response. I assumed that propositions that result from assigning a subject and way of treating a proposition to 'x treats every proposition in F ' are in the domain of the universal quantifier binding OLD's proposition variable. So, to block my argument, we might restrict that domain to all and only propositions that do not result from assigning a subject and way of treating a proposition to 'x treats every proposition in F '.

However, given this restriction, OLD predicts that subjects cannot believe propositions that result from assigning a subject and way of treating a proposition to 'x treats every proposition in F '. But, they can. To see this, suppose Joseph is an extreme contrarian and treats every p by asserting $\neg p$ whenever someone utters p . Neither Joseph nor his colleagues are under any illusion about this: they truly believe that he treats every p by asserting $\neg p$ whenever someone utters p . Absent evidence to the contrary, this scenario seems possible. So, it seems that, more generally, one can believe propositions that result from assigning a subject and way of treating a proposition to 'x treats every proposition in F '. Our account of belief, if it is to be fully general, should predict this. But, given the current response, OLD does not and so undergenerates.

7.5 A better alternative

The story so far is this. OLD overgenerates, given two orthodox assumptions. Rejecting the first assumption is unmotivated, rejecting the second insufficient to keep OLD out of

trouble. Nothing short of revising OLD seems to do. This section shows that NEW avoids OLD's difficulties. NEW is preferable to OLD.

Several responses on behalf of OLD restricted the domain of the universal quantifier binding OLD's proposition variable—call them the restriction responses. The restriction responses led OLD to undergenerate. They did so because OLD is inflexible. Due to OLD's appeal to just one proposition variable, bound by a universal quantifier, only one's satisfaction of a counterfactual involving knowledge of p can underwrite a prediction that one believes p . If the domain of the universal quantifier is then restricted to a proper subset of the set of propositions, the propositions that are not members of that subset fall outside the account's purview. One's satisfaction of a counterfactual involving knowledge of a proposition not in the universal quantifier's domain cannot underwrite a prediction that one believes that proposition.

To avoid the concerns facing the restriction responses, we need not abandon them however. An alternative is to supplement them with further claims. This is just what NEW, reproduced here, does.

NEW For all x and p , x believes p iff: for some knowable q and contextually salient way F , (i) x Φ s with respect to p in F and (ii) if x knew q , x would Φ with respect to q in F .

NEW is *strict* insofar as it imposes a domain restriction, given by the predicate 'knowable', on the existential quantifier binding q . Consequently, one's satisfaction of a would-counterfactual involving knowledge of unknowable propositions cannot underwrite a prediction that one believes p . NEW's strictness is a built-in restriction response. It prevents NEW both from predicting that, in suitable contexts, everyone believes all unknowable propositions, even without the revised semantics of would-counterfactuals, and from predicting that, in suitable contexts, every rational subject believes some unknowable proposition.

Yet NEW's built-in restriction response does not limit its purview because NEW is flexible. First, NEW does not exclude any propositions from the domain of the universal quantifier binding p . Second, due to NEW's appeal to two proposition variables, p bound by a universal, q bound by a restricted existential quantifier, one's satisfaction of a counterfactual involving knowledge of q can underwrite a prediction that one believes p (where, if p is unknowable, q is distinct from p , else may be identical to p). As a result, one's satisfaction of a counterfactual involving knowledge of a knowable proposition can underwrite a prediction that one believes an unknowable proposition. So, NEW does not predict that one cannot believe unknowable propositions.

Now, NEW's strictness and flexibility do not speak to my challenge for unrelativised OLD involving knowable propositions in section 7.4.1. To deal with this challenge, NEW is relativised insofar as the condition denoted by ' Φ with respect to p ' is. Because of this,

Joan's satisfaction of 6, 'If Joan knew that she behaves in B , she would behave in B ' cannot underwrite a prediction that she believes that she behaves in B . This prevents NEW from predicting that, in suitable contexts, every subject believes the proposition that results from assigning it and its fully specific way of behaving to 'x behaves in F '.

At the same time, however, NEW does not predict that one cannot believe the proposition that results from assigning one and one's fully specific way of behaving to 'x behaves in F '. Joan, for instance, can believe that she behaves in B so long as there is a contextually salient way F such that she Φ s with respect to the proposition that she behaves in B in F and if she knew that proposition, she would Φ with respect to that proposition in F .

In sum, NEW avoids under- and overgenerating in the way OLD did. Thus, NEW is preferable to OLD. Whether we should, all things considered, accept it, however, remains an open question as far as my arguments in this chapter are concerned. The next chapter will settle that question in the negative. For ease of exposition, my arguments will be directed against a relativised version of OLD and various alternative (still relativised) regimentations of OLD. However, since my arguments will not turn on unknowable propositions, they generalize also to NEW.

Chapter 8

Against as-if epistemicism

I now look at as-if epistemicism in greater detail. I begin by developing a challenge to the regimentation I focused on so far, OLD, which turns on the restriction of its existential quantifier's domain to contextually salient ways. I then examine various ways of avoiding the challenge, which vary the type of quantifier over ways and domain restriction. I suggest that none is entirely successful.

Before I turn to the main argument of this chapter, section 8.1 briefly discusses two natural concerns for as-if epistemicism which turn on properties of the substitutions for ' Φ ' suggested in the literature (in particular, 'treats p '). Section 8.2 then develops my challenge to OLD and generalizes it to views in its vicinity which maintain that the domain restriction on their quantifier over ways is determined by context. Section 8.3 argues against a reply to my challenge which imposes no domain restriction. Finally, section 8.4 cast doubts on domain restrictions which are not determined by context.

One comment before we get started. This chapter does not exhaustively survey which of my constraints C1 to C6 the regimentations of as-if epistemicism I discuss satisfy. For ease of exposition, I instead focus on what I take to be the most important obstacles to adopting the views. In some cases, these obstacles will only speak to whether a given regimentation of as-if epistemicism violates one or two of my constraints. However, I will suggest that these obstacles are nonetheless significant enough to show that none of the views I consider are preferable to unsupplemented egalitarianism.

8.1 Preliminaries

I now briefly turn to two natural concerns about as-if epistemicism in general, not just OLD, that turn on properties of substitutions for ' Φ ' suggested in the literature. Following my arguments against unrelativised substitutions for ' Φ ' in the last chapter, I focus on 'treats p '—the substitution suggested by Williamson (2000). Since the two concerns I discuss turn on properties of this substitution, and plural epistemicism also appeals to treating p , these concerns generalize to plural epistemicism. So do my responses on behalf of as-if epistemicism, however.

First, we may worry that substituting ‘treats p ’ for ‘ Φ ’ brings in belief via the back-door. Treating p in some way is often an intentional action, as when one uses p as a premise.¹ However, intentional actions are often understood as events suitably caused by beliefs (and desires or intentions). (Aguilar and Buckareff, 2010) But then as-if epistemicism is circular. If so, it violates C1 and must be rejected.

As-if epistemicists must reject views on which intentional actions are understood in belief-involving terms. However, this move may be independently motivated. As Levy (2013) argues, many of the arguments against doxasticism I discussed in the introduction have parallels in action theory. Williamson (2017a) also argues for the move. Whether as-if epistemicism is circular now depends on the outcome of this debate in action theory. For now, I will grant that as-if epistemicism is non-circular.

Second, treatings are events or processes, whereas beliefs are states. Evidence for this claim comes from the fact that the verb ‘treat’ accepts progressive tense, whereas ‘believe’ does not.² Consider:

1. Jill is treating you poorly.
2. # John is believing that it is raining.

This difference between treatings and beliefs raises two concerns for as-if epistemicism. First, events or processes of treating of which one is the agent cannot occur if one is in a dreamless sleep. So, one cannot treat p as if one knew p if one is in a dreamless sleep. Yet we can and often do believe things under those conditions. Thus, as-if epistemicism is subject to widespread counterexamples and so violates C2.

Second, as I am assuming that as-if epistemicism is formulated as a real definition along the lines of Dorr (2016), as-if epistemicism says that the property denoted by ‘believe p ’ is identical to the property denoted by ‘treat p as if one knew p .’ As identical properties have identical extensions, these two properties have identical extensions. Yet events or processes of treating fall into the extension of the second, but not the extension of the first.

To avoid these problems, we may read the infinitival clause ‘to treat p as if one knew p ’ as a habitual. Paradigm instances of habituals are sentences or clauses in simple present tense, e.g. ‘John smokes’ or ‘Mary handles the mail from Antarctica.’ These may be true at a world-time pair $\langle w, t \rangle$ even if no event of John smoking or of Mary handling the mail from Antarctica occurs at $\langle w, t \rangle$. The second may even be true if no such event has ever

¹ The same holds for acting and thinking. So, Hyman’s preferred substitution for ‘ Φ ’, ‘be disposed to act, think (and feel)’ faces the same concern. The substitution suggested by Nagel (2017), ‘behave’, may avoid it if behaviour does not involve intentional action.

² See fn.8 in ch.6 for references

occurred.³ Although paradigm habituals are in simple present tense, infinitival clauses may also receive a habitual interpretation. Consider Huddleston and Pullum (2002, p.161)'s example: 'He seems to do 'The Times' crossword.' On a natural reading, this sentence may be true at a world-time pair $\langle w, t \rangle$ even if no event of him doing 'The Times' crossword seems to occur at $\langle w, t \rangle$.

If we read the clause 'to treat p as if one knew p ' as a habitual, one may treat p as if one knew p at $\langle w, t \rangle$ even if one is not the agent of a treating event at $\langle w, t \rangle$. As-if epistemicism no longer rules out believing p whilst in a dreamless sleep.

However, on some semantics of habituals, the clause 'to treat p as if one knew p ' still expresses a complex modal property of an *event*. On Ferreira (2016)'s account for instance, it expresses, roughly, a property instantiated by a world w , time t , event e , individual x , and proposition p just in case at all worlds relevantly similar to w at t at which no outside factors intervene there is an event e of x treating p as if x knew p that occurs within a salient time interval which includes t . Since an event is in the extension of this property, the second problem above remains.

A better reply, which avoids both problems I raised, says that to believe p is to *be disposed to* treat p as if one knew p . Being disposed to ϕ is being in a state. Moreover, it seems that, even in a dreamless sleep, one may be disposed to treat p as if one knew p .⁴ In what follows, I assume that as-if epistemicists adopt this reply.

In this section, I discussed two natural concerns for as-if epistemicists (and plural epistemicists) that turn on properties of their substitutions for ' Φ ' and suggested responses on their behalf. It is time to turn to the main argument of this chapter.

8.2 The initial challenge

I now develop a challenge for OLD that turns on the restriction of its existential quantifier's domain to contextually salient ways. Depending on how we set up the context, this restriction is either too permissive or too restrictive. To state my challenge, start by recalling OLD:

OLD For all x and p , x believes p iff: for some contextually salient way F , (i) $x \Phi$ s in F and (ii) if x knew p , x would Φ in F .

³ See Fara (2005), Boneh and Doron (2010), Boneh and Doron (2012), and Ferreira (2016) for discussion of habituals.

⁴ Another reply as-if epistemicists may explore says that to believe p is to be in a state occupancy of which explains why one treats p as if one knew p . However, if occupancy of a knowledge state explains why one treats p as if one knew p , this alternative leads to contradiction. In reply, as-if epistemicists may say that to believe p is to be in a state with propositional content p occupancy of which explains why one treats p as if one knew p .

Following my arguments in the last chapter, I will focus on a relativised version of OLD which we obtain by substituting ‘treats p ’ for ‘ Φ s’. This substitution, of course, faces the concerns I raised in the last section. However, the alternative substitution I discussed there, ‘is disposed to treat p ’ also face the challenge I will now develop. I stick with ‘treats p ’ for brevity.

My challenge turns on two kinds of contexts: *silent* and *noisy* ones. A context c is *silent* just in case no way F such that one treats p in F and if one knew p , one would treat p in F is salient in c . A context c is *noisy* just in case at least one way F such that one treats p in F and if one knew p , one would treat p in F is salient in c , but F is irrelevant to whether one believes p .

An example of an irrelevant way of treating p is not using p as a premise whilst in a dreamless sleep.⁵ A way of treating p is *irrelevant* to whether one believes p if, given any information about whether one believes p , learning that one treats p in that way makes it neither more nor less likely that one believes p than that one does not believe p or disbelieves p . Since using p as a premise requires that one is awake, one does not use p as a premise whilst in a dreamless sleep regardless of whether one believes, does not believe, or disbelieves p . So, this way of treating p is irrelevant to whether one believes p .

The challenge silent and noisy contexts pose for OLD is simple. In silent contexts, the domain restriction on OLD’s existential quantifier is so restrictive as to guarantee that no way F satisfies conditions (i) and (ii). Even if one believes p , one does not satisfy OLD’s right-hand-side and is predicted not to believe p . Thus, OLD is subject to counterexamples and so violates C2. The same holds also if one knows p . Thus, OLD also violates C3.

In noisy contexts, the domain restriction on OLD’s existential quantifier is so permissive as to guarantee that some way F satisfies conditions (i) and (ii). Even if one does not believe p or disbelieves p , one thus satisfies OLD’s right-hand-side and is predicted to believe p . Thus, OLD again violates C2. Moreover, since one is predicted to believe p even if one does not believe p or disbelieves p and exhibits the characteristic downstream consequences of this state of mind, which differ greatly from the downstream consequences one would exhibit if one knew p , OLD also violates C5.

My presentation of the challenge to OLD so far is rather abstract. This highlights that my challenge is independent of specific claims about which contexts—that of the ascriber, assessor, or subject of a belief ascription—matter, what these contexts are, and how they

⁵ We may question whether this is a way of treating p rather than a way of not treating p . However, given the close link I assume between ways and how-questions, my example is a way of treating p . For citing it seems to provide a partial answer to the question ‘How does x treat p ?’ This is particularly clear if we think of a partial answer to a question as suggested in fn.7, namely as a proposition that entails the truth or falsity of some candidate answer to the question. Asserting that x does not use p as a premise whilst in a dreamless sleep entails the falsity of one candidate answer to the question ‘How does x treat p ?’, namely the proposition that x uses p as a premise whilst in a dreamless sleep.

determine which ways are salient. To illustrate the challenges, however, we can take on-board some specific claims. This is what I do in the next subsection.

8.2.1 Illustrating the challenge

First, suppose we model a context as including a question under discussion (henceforth ‘QUD’).⁶ The QUD may correspond to an earlier question that a conversational participant asked or it may have been indirectly raised as the conversation evolved. A question, including the QUD, is modelled as a partition of logical space (e.g. the set of possible worlds) into cells corresponding to its candidate answers. A proposition p is an answer to a question Q just in case it entails (with the aid of what is common ground between the conversational participants) the truth or falsity of some candidate answers to Q .⁷

Second, we now define relevance in terms of the QUD. A conversational move m is relevant to the QUD Q just in case m either expresses an answer to Q (m is an assertion) or is part of a strategy to answer q (m is a question). This allows us to define relevance for an entity, e.g. a location or way: An entity e is relevant in a context c with QUD Q just in case either e is cited by an answer to Q or e is cited by part of a strategy to answer Q . Because I do not have a definition of what it is for an entity to be cited by an answer to, or part of a strategy to answer, Q , this definition is vague. But for present purposes, nothing hangs on how that vagueness is resolved.

We can now illustrate my challenge. First, consider a case involving a silent context. Suppose Joan knows that it is raining (r). She asks Delia where John is. The QUD is now where John is. This makes relevant the locations at which John may be located since these may be cited in an answer to the QUD. No way of treating r is relevant. So, no way F such that Joan treats r in F and if she knew r , she would treat r in F is relevant. So, in this context, if Delia ascribes a belief that it is raining to Joan, her ascription is false. So, in this context, OLD violates C2, since it fails to predict that Joan believes r , and C3, since Joan’s knowing r fails to strictly entail there being a contextually salient way F such that Joan treats r in F and if she knew r , she would treat r in F .

Second, consider a case involving a noisy context. Suppose Joan does not believe $\neg r$. Jess, an amnesia patient at the hospital where Joan works, asks Delia whether Joan uses $\neg r$ as a premise whilst in a dreamless sleep. The QUD is now whether Joan does this. This makes two ways of treating $\neg r$ relevant. Using and not using $\neg r$ as a premise whilst in a dreamless sleep. Joan treats $\neg r$ in the second way and would do so if she knew

⁶ The model of context and contextual relevance I use here is developed in Roberts (2012). See Elswyk (2019, section 2) for a concise summary.

⁷ We may further distinguish between partial and full answers to a question Q . I will informally introduce that distinction in section 8.4.1. The formal distinction rests on a distinction between entailing the truth or falsity of some or all candidate answers to Q . A partial answer does the first, a complete answer the latter.

that $\neg r$. So, some contextually salient way F is such that Jess treats $\neg r$ in F and she would treat $\neg r$ in F if she knew $\neg r$. So, in this context, if Delia ascribes a belief that it is not raining to Joan, her ascription is true. So, in this context, OLD violates C2, since it mistakenly predicts that Joan believes $\neg r$, and C5, since Joan does not believe $\neg r$, exhibits the characteristic downstream consequences of this state of mind, and so would exhibit very different downstream consequences if she knew $\neg r$.

Joan's two cases illustrate my challenge to OLD. Due to silent contexts, OLD violates C2 and C3. Due to noisy contexts, C2 and C5. I now generalize this challenge also to other views in OLD's vicinity.

8.2.2 Generalizing the challenge

Suppose we substitute OLD's existential quantifier for the definite determiner 'the':

ι AS-IF For all x and p , x believes p iff: the contextually salient way F such that (i) x treats p in F is also such that (ii) if x knew p , x would treat p in F .

'The X is Y ' is usually thought to be true only if there is *some* unique element in the domain that satisfies the (possibly complex) predicate X or to presuppose that there is such an element. (Hawthorne and Manley, 2012) If there is no element that satisfies the predicate, we thus get either falsity or a truth-value gap. Consequently, in the above silent context, if Delia ascribes a belief that it is raining to Joan, her ascription is false or a truth-value gap. Thus, in that context, ι AS-IF violates C2 and C3. Moreover, in the noisy context involving Jess and Delia, there is a unique relevant way F such that Joan treats $\neg r$ in F and if she knew $\neg r$, she would treat $\neg r$ in F , namely not using $\neg r$ as a premise whilst in a dreamless sleep. So, in that context, if Delia ascribes a belief that it is not raining to Joan, her ascription is true. Thus, in that context, ι AS-IF violates C2 and C5.

Now, as-if epistemicists may be happy to concede that ι AS-IF must be rejected. For it fares even worse than OLD in *loquacious* contexts where there is no *unique* contextually salient way F in which one treats p . In a loquacious context, ι AS-IF yet again violates C2 and C3.

But, substituting 'most' for instance yields mistaken predictions as well.

μ AS-IF For all x and p , x believes p iff: most contextually salient ways F such that (i) x treats p in F are also such that (ii) if x knew p , x would treat p in F .

'Most X s are Y ' is usually thought to be true just in case the number of X s that are Y is strictly greater than the number of X s that are not Y .⁸ (Barwise and Cooper, 1981) Since, in the silent context above, there is no relevant way of treating a proposition, the

⁸ That is, 'Most X s are Y s' is true just in case $|X \cap Y| > |X - Y|$.

number of contextually salient ways F such that Joan treats r in F is 0. So, the number of such ways that are also such that if Joan knew r , Joan would treat r in them equals the number of such ways that are not such that if Joan knew r , Joan would treat r in them. Both are 0. So, if Delia ascribes a belief that it is raining to Joan, her ascription is false. $\mu_{\text{AS-IF}}$ violates C2 and C3.

This result is avoided if we substitute the universal quantifier for OLD's existential quantifier:

$\forall_{\text{AS-IF}}$ For all x and p , x believes p iff: every contextually salient way F such that (i) x treats p in F is also such that (ii) if x knew p , x would treat p in F .

If the domain of a universal quantifier that heads a universally quantified sentence ' $\forall x \phi(x)$ ' is empty, that sentence is vacuously true. So, in the earlier silent context, where there is no contextually salient way F such that Joan treats r in F , Joan vacuously satisfies $\forall_{\text{AS-IF}}$'s right hand side. Thus, if Delia ascribes a belief that it is raining to Joan, her ascription is true. For all I have said so far, $\forall_{\text{AS-IF}}$ satisfies C2 and C3.

However, although $\forall_{\text{AS-IF}}$ does not undergenerate in silent contexts, it does overgenerate in them. Suppose Joan does not believe that it is not raining (' $\neg r$ '). She asks Delia where John is. The QUD is now where John is. This makes relevant the locations at which John may be located, but no way of treating r . So, no way F such that Joan treats $\neg r$ in F and if she knew $\neg r$, she would treat $\neg r$ in F is relevant. Thus, for the same reasons for which $\mu_{\text{AS-IF}}$ and $\forall_{\text{AS-IF}}$ predicted that, if Delia ascribes a belief that it is raining to Joan, her ascription is true, $\mu_{\text{AS-IF}}$ and $\forall_{\text{AS-IF}}$ now predict that, if Delia ascribes a belief that it is not raining to Joan, her ascription is true. So, in this context, $\mu_{\text{AS-IF}}$ and $\forall_{\text{AS-IF}}$ violate C2, since they mistakenly predict Joan to believe $\neg r$, and C5, as Joan does not believe $\neg r$, exhibits the characteristic downstream consequences of this state of mind, and so would exhibit very different downstream consequences if she knew $\neg r$.

Overgeneration in silent contexts is not the only problem for $\forall_{\text{AS-IF}}$. Overgeneration in noisy contexts is another one, which affects $\mu_{\text{AS-IF}}$ as well. In the above noisy context involving Jess and Delia, two ways of treating $\neg r$ are relevant. Using and not using $\neg r$ as a premise whilst in a dreamless sleep. Only one of them is such that Joan treats $\neg r$ in it. This one is also such that if Joan knew $\neg r$, she would treat $\neg r$ in it. Consequently, most/all contextually salient ways F such that Joan treats $\neg r$ in F are also such that if she knew $\neg r$, she would treat $\neg r$ in F . So, in this context, if Delia ascribes a belief that it is not raining to Joan, her ascription is true. So, $\mu_{\text{AS-IF}}$ and (yet again) $\forall_{\text{AS-IF}}$ violate constraints C2 and C5.

This subsection generalized my challenge to OLD to some views in OLD's vicinity. These views varied the type of quantifier over ways, but held fixed appeal to context to determine a domain restriction on said quantifier. I now turn to views that reply to my challenge by abandoning appeal to context and imposing no domain restriction. These views avoid the

challenge silent and noisy contexts pose. But absent an alternative domain restriction they are nonetheless problematic.

8.3 No restriction

OLD overgenerates, absent a restriction on the domain of its existential quantifier. Joan does not use $\neg r$ as a premise whilst in a dreamless sleep. Nor would she if she knew $\neg r$. Consider also Dan who is doing logic exercises and, although he does not believe that it is raining, treats r as a premise whilst doing a conditional proof of if r , then r . If he knew r , he would still do so. OLD now mistakenly predicts Joan to believe $\neg r$ and Dan to believe r .

ι AS-IF undergenerates, absent a restriction on the domain of its definite determiner. This is due to uniqueness failure. There are many ways in which Joan treats r . For instance, she uses it as a premise in her reasoning, treats it as a reason to bring an umbrella, etc. Consequently, there is no unique way in which Joan treats r . But, as I mentioned earlier, ‘the X is Y ’ is usually thought to be true only if there is some unique element in the domain that satisfies the (possibly complex) predicate F or to presuppose that there is such an element. Thus, ι AS-IF now violates C2, since it fails to predict that Joan believes r , and C3, since Joan’s knowing r fails to strictly entail there being a unique way F such that Joan treats r in F and if she knew r , she would treat r in F .

\forall AS-IF also undergenerates, absent a restriction on the domain of its universal quantifier. This is because moving from merely believing to knowing p often makes a difference to how one treats p . To illustrate, recall the pair of cases involving a burglar from the introduction. In case 1, the burglar knows that the diamond is in your house (d). In case 2, the burglar *merely* believes d because her belief is based on the false lemma that the diamond is under the bed. In case 1, the burglar does, in case 2, she does not, ransack the house all night.

A natural explanation of this contrast is that, in case 2, the burglar treats d as defeasible by evidence that the diamond is not under the bed, whilst, in case 1, she does not. If so, the contrast between the cases is (in part) a contrast in the ways in which the burglar treats d . Consequently, however, \forall AS-IF predicts that, in case 2, the burglar does not believe d . For in that case, the burglar treats d in ways $F_1 - F_n$. But if she knew d , she would be in case 1, and so at least one of $F_1 - F_n$, call it F_i , would be such that the burglar would not treat d in F_i . So, the burglar does not satisfy \forall AS-IF’s right hand side. \forall AS-IF does not predict the burglar to believe d .

Since moving from merely believing to knowing p often makes a difference to how one treats p , cases like the burglar’s are widespread. So, \forall AS-IF not only violates C2, but violates it in a way that bars it from being preferable to egalitarianism on abductive

grounds.⁹

Cases like the burglar's are no counterexamples to μ AS-IF. Although not every way in which the burglar treats d is such that she would treat d in that way if she knew d , most ways in which the burglar treats d are. So, μ AS-IF predicts the burglar to believe d .

However, it is unclear whether μ AS-IF is satisfactory. My worry stems from the abundance of ways that are irrelevant to whether one believes p . My stock example of such a way is not using p as a premise in one's reasoning whilst in a dreamless sleep. One treats p in that way regardless of whether one believes p , does not believe, or disbelieves p .

My stock example is only one of very many irrelevant ways. Here are three procedures for getting more. First, for each way of treating p that is positively relevant to believing p because it indicates that one believes p , we get an irrelevant way. Using p as a premise in one's reasoning yields not using p as a premise in one's reasoning whilst in a dreamless sleep. Asserting p yields not asserting p whilst in a dreamless sleep. Judging that p is true yields not judging that p is true whilst in a dreamless asleep. Second, for each way of treating p that is negatively relevant to believing p because it indicates that one *disbelieves* p , we get an irrelevant way. Rejecting p yields not rejecting p whilst in a dreamless sleep. Judging that p is false yields not judging that p is false whilst in a dreamless sleep. Third, for some ways of treating p that are negatively relevant to believing p because they indicate that one does not believe p , we get an irrelevant way. Wondering whether p yields not wondering whether p whilst in a dreamless sleep.

The abundance of irrelevant ways may lead to widespread counterexamples to μ AS-IF. Consider William III. He did not have the conceptual resources to entertain the proposition that England could avoid nuclear war with France (' n '). This had significant consequences for how he treated n . First, William III did not treat n in ways positively relevant to believing n . Second, he did not treat n in ways that are negatively relevant to believing n because they indicate that one disbelieves p . And third, he did not treat n in some of the ways that are negatively relevant to believing n because they indicate that one does not believe p (e.g. wondering whether p).

However, William III did treat n in ways closely related to all these. First, he treated

⁹ Another counterexample to \forall AS-IF is the following. Consider a rock, or some other inanimate object. No such object is the agent of any treating event. A rock does not treat a person, proposition or other entity in any way. So, there is no way F such that the rock treats p in F . So, the rock vacuously satisfies \forall AS-IF's right hand side. Since it does for any p , the rock is predicted to believe any proposition.

In reply, defenders of \forall AS-IF may restrict the range of values x may take to animate subjects only. This rules out the rock as a potential believer. However, depending on how animacy is understood, it also rules out groups and artificial entities as believers. Since it is often thought that groups and artificial entities can have beliefs, as-if epistemicists owe us either an explanation of why they in fact cannot or a suitable account of animacy. Alternatively, they could restrict the range of values x may take to minded subjects. This may do better than a restriction to animate subjects since groups and artificial entities may be minded even if inanimate.

n in all the irrelevant ways corresponding to positively and negatively relevant ways. For instance, he did not assert n whilst in a dreamless sleep and did not reject n whilst in a dreamless sleep. Second, he treated n in all the ways we can derive via negation from the positively relevant ways and the negatively relevant ways that indicate that one disbelieves p . For instance, he did not judge n true and did not judge n false. Third, he treated n in some ways we can derive via negation from negatively relevant ways that indicate that one does not believe p . For instance, he did not wonder whether n . Table 8.1 summarizes all this.

But consider what would have been the case if William III had known n . Then he would have had the conceptual resources to entertain n . And how he would have treated n would have differed from actuality. Some of the ways in which he actually treated n he would not have treat n in. But many others he would have. He would still have treated n in all the irrelevant ways corresponding to positively and negatively relevant ways, in all the ways we can derive via negation from the negatively relevant ways that indicate that one disbelieves p , and in some ways we can derive via negation from negatively relevant ways that indicate that one does not believe p . By contrast, he would not have treated n in any of the ways we can derive via negation from the positively relevant ways. Table 8.2 summarizes all this.

Most ways that occur in table 8.1 and so are ways in which William III actually treated n also appear in table 8.2 and so are ways in which William III would have treated n if he had known n . So, if the two tables exhaustively described how William III actually treated n and would have treated n if he knew it, μ AS-IF would mistakenly predict that William III actually believed n . Moreover, since this conclusion does not depend on specific claims about William III or the proposition he is mistakenly predicted to have believed, μ AS-IF's mistaken prediction would generalize to any subject which lacks the conceptual resources to entertain a proposition p ; any such subject would mistakenly be predicted to believe p . Given this prediction, μ AS-IF would violate C2.

Moreover, since William III actually exhibited the characteristic downstream consequences of not believing n , the downstream consequences of the belief state μ AS-IF attributes to him are very different from the downstream consequences William III would have exhibited if he had known n . Thus, if the two tables exhaustively described how William III actually treated n and would have treated n if he knew it, μ AS-IF would also violate C5.

Of course, it is unlikely that the two tables exhaustively describe how William III actually treated n and would have treated n if he had known it. So, neither William III's case nor, more generally, cases of subjects who lack conceptual resources are straightforward counterexamples to μ AS-IF. However, the two tables nonetheless highlight an important challenge for defenders of μ AS-IF. The challenge is to say something about what ways are and how they should be counted which allows μ AS-IF to make correct predictions about

TABLE 8.1: William III and n , no conceptual resources

	neg-pos	neg-neg	irr-pos	irr-neg
1	not judge n true	not judge n false	not judge n true + ds	not judge n false + ds
2	not assert n	not reject n	not assert n + dreamless sleep	not reject n + ds
3	not use n as premise	not use negation of n as premise	not use n as premise	not use negation of n as premise + ds
:	:	:	:	:
:	:	not wonder whether n	:	not wonder whether n + ds
n	:	:	:	:

TABLE 8.2: William III and n , knowledge of n

	neg-pos	neg-neg	irr-pos	irr-neg
1	not judge n true	not judge n false	not judge n true + ds	not judge n false + ds
2	not assert n	not reject n	not assert n + dreamless sleep	not reject n + ds
3	not use n as premise	not use negation of n as premise	not use n as premise	not use negation of n as premise + ds
:	:	:	:	:
:	:	not wonder whether n	:	not wonder whether n + ds
n	:	:	:	:

William III and other subjects like him. Absent a response to this challenge, it is unclear whether μ_{AS-IF} violates C2. Since μ_{AS-IF} 's mistaken predictions would be widespread if it violated C2, this means that it is unclear whether μ_{AS-IF} is preferable to unsupplemented egalitarianism on abductive grounds.

8.4 Theory-driven restriction

So far, I have considered versions of as-if epistemicism which either do not appeal to a domain restriction on their quantifier over ways or appeal to a contextually determined restriction. But as-if epistemicists do not have to throw out appeal to a domain restriction just because they throw out appeal to a contextually determined domain restriction. They may also impose a theory-driven domain restriction; a restriction given via an explicit clause in their theory. I now argue that this option does not work either. For brevity, I will focus on versions of as-if epistemicism that use an existential quantifier over ways.

We can divide theory-driven restrictions into two camps. As-if epistemicists may restrict their quantifier's domain either (i) to a fully specific way of treating p , or (ii) to a less than fully specific way of treating p or some subset of such ways. To introduce the distinction between fully and less than fully specific ways of treating p , recall that I closely linked ways and how-questions. I say that a way of ϕ ing is *fully specific* just in case citing it and only it provides a complete answer to the question 'How does $x \phi$?' By contrast, a way of ϕ ing is less than fully specific just in case it is not fully specific, or, equivalently, just in case citing it and only it provides a merely partial answer to the question 'How does $x \phi$?'

A comparison with other partial and complete answers may help to draw the distinction between fully and less than fully specific ways:

3. Suppose Sue, Mary, Bill and John are coming to the party.
 - (a) Who is coming to the party?
 - (b) Sue, Mary, Bill and John are coming. *complete answer*
 - (c) Sue is coming. *partial answer*

Here, the complete answer lists all people coming to the party. The partial answer, by contrast, lists only some of them. Analogously, a complete answer to the question 'How does $x \phi$?' lists all ways in which $x \phi$ s. The fully specific way in which $x \phi$ s is then the conjunction or composite of all these ways, whereas these ways themselves and any

conjunctions or composites formed from them distinct from the fully specific way in which x ϕ s are less than fully specific ways.¹⁰

Suppose as-if epistemicists restrict the domain of their quantifier over ways to some less than fully specific ways of treating p . There are many candidates. Using p as a premise in one's reasoning is one. Asserting p is another. But, regardless of which candidate or which subset of the candidates as-if epistemicists choose, they are in an uncomfortable position. Suppose they choose some particular candidate, using as a premise say. Why using as a premise, rather than some other less than maximally specific way of treating p or subset of such ways? The answer is likely that choosing it, but not some other, ensures the account's extensional adequacy, i.e. that one believes p , according to the theory, just in case one in fact believes p . But if so, it is unclear what role appeal to knowledge is still playing in the theory. It is an idle wheel, at least in securing the account's extensional adequacy. Why not go using-as-a-premise-first then and say that one believes p just in case one uses p as a premise? This account makes the same predictions as the proposed version of as-if epistemicism without appeal to knowledge and so is available to an egalitarian.

As-if epistemicists' second option, restricting their existential quantifier's domain to fully specific ways of treating p , avoids this concern. Unlike choosing less than fully specific ways, choosing fully specific ways does not filter out any irrelevant details. The theory leaves that task to appeal to knowledge.

In the special case of subjects that treat p in some ways, the restriction to fully specific ways of treating p collapses differences between the variants of as-if epistemicism I considered earlier. Because for any such subject x and proposition p there is some unique fully specific way in which she treats p , the domain of whatever quantifier we choose is now guaranteed to be non-empty and to contain no more than one element. Given this, it makes no difference whether we use the definite determiner 'the,' generalized quantifier 'most,' existential or universal quantifier. Whichever way we go, the theory predicts that one believes p just in case one's fully specific way F of treating p is such that if one knew p , one would treat p in F .

However, given how we understand fully specific ways one treats p (i.e. as conjunctions or composites of all the less than fully specific ways in which one treats p), this theory makes some of the same predictions as \forall AS-IF absent a restriction on the domain of its universal quantifier. Because moving from merely believing to knowing p often makes a difference to the fully specific way in which one treats p , as is shown by the burglar case I

¹⁰ This uses less than fully specific ways to understand what fully specific ways are. Another option is to understand less than fully specific ways in terms of fully specific ways. On this view, a less than fully specific way may be defined as a set of fully specific ways. Using p as a premise in one's reasoning, for instance, is then the set of fully specific ways of treating p that make it true that their subjects rely on p in one's reasoning.

discussed earlier, the present theory is subject to widespread counterexample. It thus violates C2 in a way that bars it from having an abductive advantage over unsupplemented egalitarianism.

8.4.1 Two fully specific ways

In reply, as-if epistemicists may revise their view as follows:

\sim AS-IF For all x and p , x believes p iff: some fully specific way in which x treats p is very similar to some fully specific way in which x would treat p if x knew p .

The burglar case and other cases like it are no counterexamples to \sim AS-IF. For although the burglar treats the proposition that there is a diamond in the house (d) differently across case 1 in which she knows and case 2 in which she merely believes, the difference I pointed to does not entail that she fails to treat d in very similar fully specific ways across the two cases.

However, \sim AS-IF remains incomplete. Once we appeal to a similarity relation, a difficult question arises: what are the relevant degree(s) and respect(s) of similarity?¹¹ We may answer this question in three ways.

First, we may take the relevant degree and extent as primitives. However, I do not think we have a good enough grip on these primitives to know what predictions primitivist \sim AS-IF makes. How well it fits with the data and so whether it is preferable to unsupplemented egalitarianism on abductive grounds is thus unclear. In reply, defenders of \sim AS-IF may say that the required degree and extent obtain just in case one believes p . However, this seems to make the view circular and so violates C1.

Second, we may let context determine the relevant degree(s) and respect(s). However, this option faces many of the worries I raised earlier, even setting aside whether context successfully determines degree(s) of similarity. Partly, this is because respects of similarity are closely related to less than fully specific ways.

Since fully specific ways are conjunctions or composites of less than fully specific ways, it is tempting to say that respects of similarity of such fully specific ways just are less than fully specific ways: two fully specific ways of treating p are similar in a respect F just in case both contain F as a conjunct or part.¹² Introducing context-sensitivity, we may then

¹¹ We may deny part of the force of the question by focusing on *overall* similarity and suggesting that no particular respects need to be considered to settle overall similarity. However, this would still leave open what degree of similarity is relevant. Moreover, it is unclear whether comparisons of overall similarity can be made—see Morreau (2010) for discussion.

¹² Alternatively, we may say that two fully specific ways of treating p are similar in a respect F just in case one of them contains F as a conjunct or part and the other contains some conjunct or part that is similar to F . However, this alternative raises questions about degree(s) and extent(s) of similarity yet again. What is required for two respects (i.e. less than fully specific ways) to be very similar? To what degree(s) and in

say that two fully specific ways of treating p are very similar just in case any/most/some contextually salient less than fully specific way contained in one is also contained in the other.¹³

Worries for this proposal arise from both silent and noisy contexts. To illustrate, consider a familiar noisy context. Suppose Joan does not believe that it is not raining ($\neg r$). Jess, an amnesia patient at the hospital where Joan works, asks Delia whether Joan uses $\neg r$ as a premise whilst in a dreamless sleep. The QUD is now whether Joan does this. This makes two respects of similarity of fully specific ways of treating $\neg r$ relevant. Using and not using $\neg r$ as a premise whilst in a dreamless sleep. Joan treats $\neg r$ in the second way and would do so if she knew that $\neg r$. So, the fully specific way in which Joan treats $\neg r$ is very similar to the fully specific way in which she would treat $\neg r$ if she knew $\neg r$. So, in this context, if Delia ascribes a belief that it is not raining to Joan, her ascription is true. So, in this context, \sim AS-IF violates C2, since it mistakenly predicts that Joan believes $\neg r$, and C5, since Joan does not believe $\neg r$, exhibits the characteristic downstream consequences of this state of mind, and so would exhibit very different downstream consequences if she knew $\neg r$.

Silent and noisy contexts suggest that context is not the best tool for determining what respect(s) of similarity is relevant. Even setting aside whether context determines suitable degree(s) of similarity, another way of determining respect(s) of similarity is needed.

The third, and final, option for saying what degree(s) and respect(s) of similarity is relevant adds an explicit clause to the theory. For present purposes, I set aside how this option may work for degree(s) of similarity to focus on respect(s). Because it does not work for respect(s), it does not help defenders of \sim AS-IF, even granting that the present options works for degree(s) (or that relevant degree(s) are suitably determined by context).

To pursue this option, we may single out relevant respect(s) of similarity by singling out relevant less than fully specific ways of treating p . We may say that two fully specific ways of treating p are very similar just in case they both contain all/most/some of some, possibly singleton, set of less than fully specific ways. Candidate members of that set include using p as a premise in one's reasoning, asserting p , judging that p is true, etc. However, as is easy to verify, this option faces the same worry as did the option of imposing a theory-driven restriction on the domain of as-if epistemicists' quantifier. Appeal to knowledge seems to become an idle wheel.

what respect(s) must they resemble each other? To avoid these questions, as-if epistemicists should adopt the account in the text.

¹³ This is inspired by Umbach and Gust (2014)'s view of similarity.

8.4.2 One alternative to similarity

An alternative to singling out relevant degree(s) and respect(s) of similarity is to replace the similarity relation in \sim_{AS-IF} . There are many different alternatives as-if epistemicists may propose, but one natural replacement is suggested by my burglar example. In case 1, the burglar knows that the diamond is in your house (' d '). In case 2, she believes d based on the false lemma that the diamond is under the bed. Across the cases, the burglar treats d in different fully specific ways. Crucially, the difference between those ways is due to the fact that, in case 2, the burglar believes d based on a false lemma. Because of this, she treats d as defeasible by evidence that there is no diamond under the bed.

That this difference is explained by her believing d based on a false lemma, which also explains why she does not know in case 2, suggests that we identify allowed differences between fully specific ways with differences explained by the reason(s) why one does not know. More precisely, say that a fully specific way F in which x treats p neighbours a fully specific way G in which x would treat p if she knew p just in case F is the same as G (i.e. contains all and only the less than fully specific ways as conjuncts or parts that G contains), except for differences explained by reason(s) why x does not know F . We then amend \sim_{AS-IF} accordingly:

NB-AS-IF For all x and p , x believes p iff: some fully specific way in which x treats p neighbours some fully specific way in which x would treat p if she knew p .

NB-AS-IF correctly predicts that the burglar believes d in case 2 of the burglar example. For her fully specific way of treating d is the same as in case 1, except for differences explained by the reason why she does not know d , i.e. that she believes d based on the false lemma that the diamond is under the bed.

However, NB-AS-IF too is subject to widespread counterexample. Here is one. Kolya is sat in a chair facing a door. There is a sculpture behind the door. The door is programmed to open at t_2 and remain open until t_3 , long enough for one to come to know by looking that there is a sculpture behind the door (' s '). Kolya has not been told anything about what is behind the door. He has never considered s . Sometimes, Kolya closes his eyes or directs his attention away from the door. By chance, Kolya closes his eyes from t_2 to t_3 , so does not look at the door, and for this reason does not come to know s .

Since Kolya has never considered s he does not believe s . He treats s accordingly. He exhibits downstream consequences characteristic of his state of mind. And yet NB-AS-IF predicts Kolya to believe s and so violates C2 and, since he would treat s very differently if he knew s , also C5.

The reason why Kolya does not know s is that he did not look at the door from t_2 to t_3 . But this reason explains not only why he does not know s but also the differences between his fully specific way of treating s and the fully specific way in which he would treat s if

he knew it. If he knew s , he would use s as a premise in his reasoning. Yet, since he did not look at the door from t_2 to t_3 , he does not. If he knew s , he would assert s . Yet, since he did not look at the door from t_2 to t_3 , he does not. And so on. Thus, NB-AS-IF mistakenly predicts Kolya to believe s .

Cases like Kolya's are widespread. There are many propositions about our immediate environment, which we have never considered, but which we could easily have come to know by looking. The reason why we did not come to know them was that we looked the wrong way or did not pay sufficient attention. But this reason also explains why we do not treat these propositions in the fully specific ways in which we would treat them if we knew them. So, NB-AS-IF predicts us to believe a wide range of propositions about our immediate environment which we have never considered. As stated then, NB-AS-IF must be rejected.

8.5 Conclusion

This chapter first developed a challenge to OLD that turned on its existential quantifier's domain restriction to contextually salient ways. The challenge is that OLD undergenerates in silent contexts and overgenerates in noisy ones. I showed that the challenge could be generalized to a variety of views in OLD's vicinity, which varied the type of quantifier over ways, but held fixed appeal to context to determine a domain restriction on said quantifier.

I then discussed two alternative ways of developing as-if epistemicism, which did not appeal to context to determine a domain restriction. On the first, we imposed no domain restriction; on the second, we imposed what I called a theory-driven domain restriction. I argued that, as things stand, views of neither sort satisfied sufficiently many constraints to be preferable to egalitarianism on abductive grounds.

Two final comments regarding the results of this and the last chapter. First, as I noted in the introduction to this chapter, my strategy here has not been to survey exhaustively which of my constraints C1 to C6 the regimentations of as-if epistemicism I discussed satisfy or violate. For ease of exposition, I instead focused on what I take to be the most important obstacles to adopting those views. In some cases, these obstacles only spoke to whether a given view violates one or two of my constraints. However, these obstacles are nonetheless significant enough to show that the regimentations of as-if epistemicism I considered are not preferable to unsupplemented egalitarianism on abductive grounds.

Second, since I focused on various regimentations of as-if epistemicism, as-if epistemicists may reply to my challenges in this and the last chapter by insisting that their unregimented accounts make the right predictions. However, I find this reply unsatisfactory. Without regimenting as-if epistemicism, it remains unclear what predictions it makes. Whilst this may ensure that it is not falsified, it also bars as-if epistemicism from

satisfying any of C2 to C6. Unregimented as-if epistemicism is not preferable to unsupplemented egalitarianism on abductive grounds.

Since the prospects for as-if epistemicism look bleak, I now turn to the final epistemicist view we can extract from the literature: plural epistemicism.

Chapter 9

Against plural epistemicism

We have almost exhausted the epistemicist options presented in the literature to date. The only one left to consider is *plural epistemicism*. Williamson (2000) presents this view as a refinement of as-if epistemicism:

[...] to believe p is to treat p as if one knew p —that is, to treat p in ways similar to the ways in which subjects treat propositions which they know. (pp.46-7)

The view outlined by the clause following ‘that is’ is structurally quite different from as-if epistemicism, a statement of which precedes ‘that is.’ First, this view does not feature occurrences of ‘as’ and ‘if’. Second, it appeals to two proposition variables, p and that introduced by the plural noun ‘propositions’. Third, it features occurrences of further plural nouns, ‘ways’ and ‘subjects.’ These occurrences of plural nouns give it its name.

This chapter argues that plural epistemicism is not preferable to unsupplemented egalitarianism on abductive grounds. My argument for this conclusion turns on counterexamples to the view, which show not only that it is extensionally inadequate and so violates C2, but also that it is not the case that knowing p entails treating p in ways similar to the ways in which subjects treat propositions which they know and so that plural epistemicism violates C3. Before I develop these cases, section 9.1 regiments plural epistemicism. I then develop my counterexample in section 9.2. Finally, section 9.3 considers a line of reply inspired by Lewis (1980)’s discussion of mad pain and argues that it is unsuccessful.

9.1 Regimentation

I now regiment plural epistemicism. There are two benefits to doing so. The first is that it clarifies what predictions plural epistemicism makes and so allows us to see the force of the counterexamples I will develop in section 9.2. The second benefit of regimenting plural epistemicism is that, at least on the regimentation I propose, plural epistemicism shares certain structural features of \sim AS-IF. One upshot of this is that plural epistemicism faces some of the same concerns as \sim AS-IF.

To begin regimenting plural epistemicism, I decompose the condition on its right hand side ‘to treat p in ways similar to the ways in which subjects treat propositions which they know’ into three distinct conditions:

PLURAL For all x and p , x believes p iff:

- (i) x treats p in ways,
- (ii) these ways are similar to the ways such that
- (iii) subjects treat propositions which they know in those ways

Now consider the determiner phrase ‘the ways such that (iii).’ I follow the maximalist treatment of a determiner phrase ‘the F ’ (e.g. Rieppel, 2015, p.507) I assume that if ‘ F ’ is a count noun in plural form (as in ‘books’ or ‘ways’), its extension is closed under a *summation* operation. So, if the extension of the singular count noun ‘ F ’ is $\{a, b\}$, the extension of its plural counterpart is $\{a, b, a + b\}$ where $a + b$ is the sum of a and b . A definite description ‘the F ’ then picks out the unique maximal element in the extension of F if there is one, and is undefined otherwise. Thus, if the extension of the plural count noun ‘ F ’ is $\{a, b, a + b\}$, ‘the F ’ picks out the maximal element $a + b$.

I interpret the determiner phrase ‘the ways such that (iii)’ as picking out the unique maximal way in the extension of (iii), if there is one, and as empty otherwise. This unique maximal way is the summation of all ways in which subjects treat propositions which they know. Hence, we can think of it as what I have previously called the fully specific way in which subjects treat propositions which they know.

I also interpret the plural noun phrase ‘ways’ in condition (i) as introducing a variable and a predicate whose extension is the set of ways and their sums. This variable must be bound to obtain a sentence. Williamson leaves open what operator binds it.

If we assume that the operator introduced by the definite determiner ‘the’ binds the variable introduced by ‘ways’, condition (i) reads ‘ x treats p in the ways such that (ii).’ Given how I interpret definite descriptions, condition (i) is then equivalent to the formula ‘ x treats p in the fully specific way F such that (ii)’ (where the occurrences of x and p are then bound). Thus, if we assume that the operator introduced by the definite determiner binds the variable introduced by ‘ways,’ plural epistemicism closely resembles an account familiar from the last chapter, namely \sim AS-IF. It reads as follows:

PLURAL For all x and p , x believes p iff:

- (i) x treats p in the fully specific way F such that
- (ii) F is similar to the fully specific way G such that
- (iii) subjects treats propositions which they know in G .

We need not assume that the variable introduced by ‘ways’ in condition (i) is bound by the operator introduced by a definite determiner. An alternative is to say that an existential or universal quantifier binds it. However, for present purposes I will use the definite

determiner to regiment plural epistemicism. Nothing in my argument against plural epistemicism hangs on that decision.

9.1.1 Condition (iii)

How do we interpret the plural nouns, ‘subjects’ and ‘propositions,’ which occur in condition (iii)? One option is to generalize my treatment of ‘ways’ to these noun phrases. If we do, condition (iii) reads ‘the subjects y treat the propositions q which they know in G .’

However, this interpretation seems problematic as it implies, if plugged back into plural epistemicism, that if one believes p , there are some subjects who know some propositions. But worlds at which there is a lone subject which knows no proposition seem possible. For instance, consider a brain in a vat, set up by mad scientists at t_1 so that all her belief-forming mechanisms are unsafe (including introspection or whatever mechanisms are responsible for monitoring her mental life).¹ She is, moreover, the lone survivor of an extinction event at t_2 which wiped out all other forms of life in the universe. This brain in a vat may believe some propositions at t_3 although there is no subject who knows any proposition at t_3 .²

Moreover, Williamson (personal communication) suggests that condition (iii) should instead be interpreted as a generic. Generic sentences express generalizations that tolerate even widespread exceptions. Paradigm sentences that receive a generic interpretation include those headed by a bare plural noun phrase, e.g. ‘Ravens are black,’ ‘Ducks lay eggs,’ or ‘Mosquitoes carry the West Nile virus.’³

We may wonder, however, whether interpreting condition (iii) as a generic is helpful for regimenting plural epistemicism. Generics vary greatly in what kind of generalizations they express. For instance, ‘Ravens are black’ seems true although some Ravens are white; ‘Ducks lay eggs’ seems true although roughly half the ducks do not lay eggs because they are male; and ‘Mosquitoes carry the West Nile virus’ seems true although very few mosquitoes carry the West Nile virus. (Leslie and Lerner, 2016)

Given their parallel surface forms, the different quantificational strengths of these generics is somewhat puzzling. But in these cases, we at least have generics of different types and so may hope that the semantic properties of their constituent expressions

¹ We may doubt that safety is a necessary condition for knowing. But even so, the case can be run by appeal to any other necessary condition for knowing which concerns our brain in a vat’s belief-forming mechanisms, e.g. sensitivity.

² We may worry that this verdict conflicts with Williamson (2007b)’s knowledge maximization principle for reference, on which “reference maximizes knowledge.” (p.270) However, Williamson notes that knowledge maximization is “a general, highly defeasible tendency for beliefs to constitute knowledge” (ibid.) We may thus say that, in the case of our brain in a vat, this tendency has been fully defeated. Its defeat, however, does not conflict with the existence of that tendency.

³ See Leslie (e.g. 2015) and Nguyen (2019) for extensive discussion of generics.

explain these differences. However, as Nguyen (2019) notes, even different tokens of the *same* type of generic may express generalizations of different strengths.

Here is a case adapted from Nickel (2016, p.16). Suppose every single lion has some number of legs other than four, perhaps by some combination of mutation, accident, combat, and the machinations of a madman. Now consider two token utterances of ‘Lions have four legs.’ In case 1, a zoologist is giving a lecture on the properties that lions are biologically disposed to have. She seems to say something true when she utters ‘Lions have four legs,’ as her utterance seems to express something like the proposition that *in biologically normal circumstances* all lions have four legs. In case 2, by contrast, a wildlife enthusiast is collecting data about the number of legs of actual lions. She seems to assert something false when she utters ‘Lions have four legs,’ as her utterance seems to express the proposition that *most* lions have four legs.

That generics vary greatly in what of kind of generalizations they express means that interpreting condition (iii) as a generic is not very helpful for regimenting plural epistemicism. We still have to determine what kind of generalization (iii) expresses.⁴ Are most subjects said to treat most propositions in way *G*? Or are all subjects meant to treat all propositions in way *G* in normal circumstances? And so on. Absent an answer, we do not know what way *G* satisfies condition (iii) and so cannot use plural epistemicism to make predictions about whether a given subject believes a given proposition or not. But this makes it unclear whether plural epistemicism is preferable to unsupplemented egalitarianism on abductive grounds.

To avoid this issue, we may note that Williamson (2000) sometimes states his view without using ‘subjects.’ He writes, for instance, that “a creature which lacks a concept of knowing can treat a proposition in ways in which *it* treats propositions which *it* knows” (p.47, my emphasis) and so can, by Williamson’s lights, believe a proposition.

However, this proposal still leaves open how we interpret ‘propositions.’ Bare plural noun phrases not in subject position may still give rise to a generic interpretation, as in ‘My orange crusher crushes oranges.’ An utterance of this sentence will typically be used to express the proposition that the speaker’s orange crusher crushes most or typical oranges (not those whose skin has been made uncrushable by a wizard, say). So, we may still wonder whether Williamson wants condition (iii) interpreted as a generic and, if so, what kind of generalization it expresses.

Moreover, this proposal, if plugged back into plural epistemicism, implies that if one believes *p*, one knows some propositions. But, if my earlier example of the brain in a vat is possible, it is possible to believe some propositions although one knows no propositions.

⁴ This question arises even if generics are given a uniform semantics. Since that semantics is likely to appeal to contextual factors to determine what kind of generalization a generic expresses in a context, we would still have to work out what kind of generalization (iii) expresses.

Williamson's suggestion that (iii) is a generic is insufficient to determine what kind of generalization it expresses. However, consistent with Williamson's suggestion, we may stipulate that it expresses a generalization parallel to one expressed by a particular generic in a particular context. On one promising option, condition (iii) reads: 'in normal circumstances, all subjects treat all propositions which they know in way G .'

This option is promising in part because it allows the brain in a vat in my earlier example to believe some propositions. To see this, suppose we say that a circumstance c is *normal* just in case c 's obtaining requires less explanation than its not obtaining. (Smith, 2016, p.39)⁵ For instance, it is normal for a raven to be black because its being black requires less explanation than its not being black. Given this definition of a normal circumstance, and that there being a subject who knows some proposition requires less explanation than there not being such a subject (at least relative to how the world actually is), it seems that, in normal circumstances, there is a subject who knows some proposition. If so, the brain in a vat in my earlier example may well satisfy condition (iii), although there are no subjects who know some propositions at the brain in a vat's own circumstance.

The option I have sketched insists on a parallel between condition (iii) and 'Lions have four legs' as uttered by the zoologist giving a lecture about the properties that lions are biologically disposed to have. In both cases, the relevant generalization concerns normal circumstances, although 'Lions have four legs' uttered in the zoologist's context more specifically concerns *biologically* normal circumstances. Other options may insist on a parallel between condition (iii) and other generics. For now, however, my discussion of plural epistemicism will assume the option I have sketched. Hence, for present purposes, I will take plural epistemicism to be the following theory:

PLURAL For all x and p , x believes p iff:

- (i) x treats p in the fully specific way F such that
- (ii) F is similar to the fully specific way G such that
- (iii) in normal circumstances, all y treat all q they know in way G .⁶

One crucial question for plural epistemicism is what the fully specific way in which, in normal circumstances, all subjects treat all propositions they know is. Since even in normal circumstances distinct subjects treat distinct propositions they know in a variety of fully specific ways, we may worry that there is no fully specific way that satisfies condition (iii).

⁵ We may instead define a comparative normalcy relation by saying that a circumstance c is *at least as normal as* another c' if the obtaining of c requires less explanation than the obtaining of c' . For one use of comparative normalcy relations in epistemology see Goodman and Salow (2017). For ease of exposition, I will use the definition of normalcy given in the text.

⁶ I continue to use x, y, \dots as subject variables, p, q, \dots as proposition variables, and F, G, \dots as variables ranging over ways.

However, we can answer this concern if we consider again the close relation I take to hold between ways and answers to how-questions.

Since I take *fully specific* ways to bear a close relation to *complete* answers to how-questions, we can find the fully specific that satisfies condition (iii) by finding the complete answer to the question ‘How do all subjects treat all propositions they know in normal circumstances?’ Although this answer is not straightforward to find, there is one. Moreover, my definition of a normal circumstance helps us to find at least a partial answer to this question and so a partial specification of the fully specific way in which, in normal circumstances, all subjects treat all propositions they know.

If one knows p , then using p as a premise in one’s reasoning requires less explanation than not doing so. So, one partial answer to the question ‘How do all subjects treat all propositions they know in normal circumstances?’ is that the relevant subjects use the propositions they know as premises in their reasoning. Similarly, asserting p , judging p to be true, and not wondering whether p may all be cited in a partial answer to our question, as treating p in this way requires less explanation if one knows than not doing so.⁷ Thus, the fully specific way in which every subject x treats every proposition p they know in normal circumstances is the sum of at least x using p as a premise in her reasoning, x asserting p , x judging p to be true, and x not wondering whether p .

9.1.2 Similarity

Plural epistemicism, as I regiment it, resembles \sim AS-IF, on which one believes p just in case some fully specific way in which one treats p is very similar to some fully specific way in which one would treat p if one knew p . More precisely, plural epistemicism and \sim AS-IF are similar in two respects: both appeal, first, to two fully specific ways and, second, to a similarity relation between these ways. My worries concerning how \sim AS-IF may specify the relevant degree(s) and respect(s) of similarity thus generalize to plural epistemicism.

I will not rehearse these concerns here. Instead, I want to sketch a particular strategy Williamson (2018b) uses to specify the relevant degree(s) and respect(s). He proposes a hybrid of a theory-driven and context-driven specification. He writes that

The reference of ‘similar’ [as it occurs in plural epistemicism] depends on a contextually set standard [...]. That is not to say that any old dimension of similarity will do. Just as very short adults do not count as ‘childish’ or ‘childlike’ merely because they resemble children in height, so the reference of ‘believe’ depends on specific kinds of similarity to knowledge, as observed at the end of §3. (Williamson, 2018b, pp.17-8)

⁷ The same holds also for the irrelevant ways I discussed in the last chapter, e.g. not asserting p whilst in a dreamless sleep.

In section 3, Williamson suggests that “outright belief in a proposition p involves a disposition to *rely* on p ” (p.6) where reliance is understood as using p as a premise in one’s practical reasoning.⁸ Moreover, one’s reliance must not be mediated by a belief that p is a good enough approximation, although strictly speaking false. (p.7) If it is so mediated, one does not believe p , according to Williamson, but is instead in a state rather like the acceptance states I discussed in ch.5.

Notice that Williamson here seamlessly moves from talking about ways of treating p to talking about a disposition to rely on p . I will follow him in doing so. For reasons I discussed in ch.8.1, talk about a disposition to treat p and ways of being disposed to treat p , one of which is being disposed to rely on p , is independently preferable to talk about treating p and ways of treating p .

The remarks by Williamson suggest that, for Williamson (2018b), sufficient similarity with respect to a disposition to rely on p is a necessary condition for believing p .⁹ They leave open whether it is also a sufficient condition for believing p . For all Williamson says, besides sufficient similarity with respect to a disposition to rely on p , sufficient similarity with respect to (a disposition for) judging p to be true or some other less than fully specific way contained in the fully specific way in which all subjects treat all propositions they know in normal circumstances is necessary for believing p .¹⁰

Since Williamson does not specify respect(s) such that sufficient similarity with them is necessary and sufficient for believing p , he avoids one of the issues I raised for \sim AS-IF in the last chapter. I suggested that if we specify such respect(s), appeal to knowledge seems to become an idle wheel. An account of belief that appeals solely to the specified respects seems to make the same predictions as the version of epistemicism that appeals to the specified respects.

⁸ Williamson (2017a) writes that “belief is a sort of state disposed to make the premises of practical reasoning”; “if you have no disposition whatever to rely on it as a premise in practical reasoning, it is no belief.” (p.173) And Williamson (2018a, p.140) says that “any belief plays the local role of knowledge in practical reasoning, as a premise [...]” In these passage, Williamson seems to talk about relying on a belief state rather than relying on a proposition one believes. For present purposes, the difference between these claims will not matter. My arguments apply either way.

⁹ How does Williamson understand sufficient similarity in this respect? Since the details of his view are not relevant for my argument in the text, I will provide a sketch only. For Williamson (2000, p.99), reliance on a proposition is graded. One relies on p to a low degree if one’s disposition to use p as a premise is defeated if the stakes are low; one relies on p to a high degree if one’s disposition to use p as a premise is defeated if the stakes are high. Since reliance on p comes in degrees, the degree of similarity with respect to reliance on p between two fully specific ways of treating p , F and G , may be defined via the distance between the degree d_1 of the reliance on p contained in F and the degree d_2 of the reliance on p contained in G . Context may now determine whether F is *sufficiently* similar to G with respect to reliance on p by determining a threshold t such that if the distance between d_1 and d_2 is at least as great as t , the reliance on p which exhibits d_1 is *insufficiently* similar to the reliance on p which exhibits d_2 . The greater the value of t , the fewer individuals plural epistemicism will predict to believe p .

¹⁰ In his 2000, p.99, Williamson suggests that a disposition to rely on p is also sufficient for believing p . Given this, his view would be subject to just the issues I raised for \sim AS-IF in the last chapter.

However, that Williamson does not specify respect(s) such that sufficient similarity with them is necessary and sufficient for believing p also leaves open what predictions plural epistemicism makes. For instance, does a subject that is disposed to rely on p , disposed not to judge p to be true, and disposed to wonder whether p , believe p , according to plural epistemicism? Given what we know, no answer is forthcoming. This makes it unclear whether plural epistemicism is preferable to unsupplemented egalitarianism on abductive grounds.

For present purposes, however, this is not my main concern about plural epistemicism. The concern I want to press rather turns on Williamson's commitment to the claim that being disposed to rely on p is a necessary condition on believing p . The next section argues against this claim. My counterexamples to it will show that plural epistemicism is neither extensionally adequate nor predicts that knowing p strictly entails satisfying plural epistemicism's right-hand side. As a result, plural epistemicism violates C2 and C3 and so is not preferable to unsupplemented egalitarianism on abductive grounds.

9.2 Belief does not entail a reasoning disposition

What exact dispositions one bears if one believes p varies depending on what other attitudes one holds. Whether one is disposed to pick up an umbrella if one believes that it will rain, for instance, depends, minimally, on whether one has appropriate means-end beliefs and desires. (Geach, 1971) In light of this, we may wonder: are there any dispositions one *must* bear if one believes p ? One answer is that one must be disposed to rely on or use p as a premise or, equivalently, treat p as true in one's reasoning. Call this the *reasoning disposition claim*.¹¹

Variants of this claim are widespread. We have already seen Williamson endorse a variant restricted to practical reasoning. Other theorists who endorse the reasoning disposition claim include Ross and Schroeder (2014), who say that "at least part of the functional role of belief is that believing [...] p defeasibly disposes the believer to treat p as true in her reasoning." (pp.267-8) For Ross and Schroeder, this entails that necessarily, if one believes p , one is defeasibly disposed to treat p as true in one's reasoning.

My aim in this section is to argue against the reasoning disposition claim. My argument turns on individuals who suffer from *complete severe anhedonia* (henceforth 'CSA'); a condition where one has no desires. I'll proceed in four steps. Section 9.2.1 introduces CSA. Section 9.2.2 suggests that it is possible to suffer from CSA and believe p , for some p . Section 9.2.3 argues that necessarily, if one suffers from CSA, one is not disposed to

¹¹ The label is inspired by Ross and Schroeder (2014)'s reasoning disposition account of belief. The reasoning disposition claim, however, is endorsed also by theorists, like Williamson, who do not endorse Ross and Schroeder's reasoning disposition account.

reason. Finally, section 9.2.4 suggests that necessarily, if one is not disposed to reason, one is not disposed to treat p as true in one's reasoning. Having taken these four steps, we get the conclusion that it is possible to believe p without being disposed to treat p as true in one's reasoning; this contradicts the reasoning disposition claim.

Before I proceed with my argument, two comments. The first concerns the metaphysics of dispositions. A popular view individuates a disposition by the pair of its stimulus condition and manifestation.¹² On this option, 'treat p as true' specifies the reasoning disposition's manifestation and 'in one's reasoning' its stimulus condition so that the stimulus condition is a (suitable) activity of reasoning. However, following Vetter (2015, pp.63-7), I will assume that a disposition is individuated solely by its manifestation.¹³ On this view, the infinitival clause 'to treat p as true in one's reasoning' specifies only the reasoning disposition's manifestation. I make this assumption largely to simplify discussion. Some of my arguments in section 9.2.4 generalize also to various versions of the popular view; however, detailed discussion of the popular view and how my argument interacts with different versions of that view would take us too far afield. So, strictly speaking, my conclusion is conditional in form: if a disposition is individuated solely by its manifestation, the reasoning disposition claim is false. Even this conditional conclusion, however, is a significant mark against the reasoning disposition claim.

My second comment concerns defeasibility. Ross and Schroeder talk about a *defeasible* disposition to treat p as true in one's reasoning. The defeasibility of the target dispositions plays a role in high stake cases. If one is (or takes oneself to be) in a case where much hangs on the truth of p and one believes p , one's disposition to treat p as true in one's reasoning may be *defeated*. When it is, one's credence in p rather than one's believing p comes into action; one does not treat p as true but only as likely to degree d (where the value of d is fixed by one's credence in p) in one's reasoning. Talk about a defeasible disposition does not straightforwardly help the reasoning disposition claim. On a natural interpretation, a defeasible disposition to m is a disposition to m that is defeasible. If so, in showing that it is possible to believe p without being disposed to treat p as true in one's reasoning, *a fortiori* show that it is possible to believe p without being defeasibly disposed to treat p as true in one's reasoning.¹⁴

¹² Or, if the disposition is multi-track, by several such pairs.

¹³ One reason for making this move is that typical adjectives used to ascribe dispositions in natural language, such as 'fragile,' 'transmissible' and 'irascible,' *only* specify the disposition's manifestation: breaking, being transmitted, and getting angry.

Aimar (2018) defends a similar view to Vetter, though she focuses on dispositional predicates rather than dispositions.

¹⁴ On an alternative interpretation, Ross and Schroeder may say that the manifestation, not the disposition is defeasible. The reasoning disposition, then, is a disposition to *defeasibly treat p as true in one's reasoning*. Perhaps, this manifestation is to be understood in analogy with a conditional, so that the reasoning disposition is a disposition to treat p as true in one's reasoning if no defeating conditions are present, where CSA

9.2.1 Step 1

Anhedonia is one of a variety of symptoms of clinical depression. The Diagnostic and Statistical Manual of Mental Disorders (Association, 2013) defines it as a “markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day.”¹⁵ Anhedonia may be either *motivational* or *consummatory*. One experiences the former just in case one feels little or no motivation to engage in a previously desired activity *A*. One experiences the latter just in case *A*ing produces little or no pleasure.

Some individuals suffering from depression experience motivational without consummatory anhedonia. They feel little or no motivation to *A*, yet would feel pleasure once *A*ing. Whether such individuals still desire to *A* is thus unclear. However, other individuals neither feel motivation to *A* nor would feel pleasure once *A*ing. They experience *severe anhedonia*. Plausibly, such individuals do not desire to *A*.

Each variant of anhedonia may be *complete* or *partial*. It is complete if one experiences that variant of anhedonia with respect to every activity; partial otherwise. There seem to be actual cases that at least come close to complete *severe anhedonia*. Consider Victor Frankl’s description of certain victims of the Nazi concentration camps:

The day would come when they would simply lie on their bunks in the barracks, would refuse to rise for roll call or for assignment to a work squad, would not bother about mess call, and ceased going to the washroom. Once they had reached this state, neither reproaches nor threats could rouse them out of their apathy. Nothing frightened them any longer; punishments they accepted dully and indifferently, without seeming to feel them. (Frankl, 1986)

The subjects Frankl describes fail to be motivated to engage in a very wide range of activities, such as eating or washing themselves. Whether they would experience pleasure when engaging in these activities is not settled by Frankl’s description. For my purposes, it does not matter whether they do. My argument goes through also if the subjects Frankl describes merely suffer from complete *motivational anhedonia* and are not motivated to *A*, for every *A*.

However, due to the suggested severity of their condition, it seems plausible that the subjects Frankl describes are not only not motivated to *A*, for every *A*, but also would not experience pleasure when *A*ing. In light of this, Frankl’s description suggests that the subjects at issue suffer from complete *severe anhedonia* (‘CSA’). It seems that they no longer have any desires. In sum, we seem to have actual cases of CSA.

is one of the defeating conditions. My discussion of the claim that the reasoning disposition is a disposition to verify a conditional in section 9.2.4 suggests that this option also faces significant challenges.

¹⁵ The present discussion of anhedonia is indebted to Tully (2017, pp.4-7)

9.2.2 Step 2

I have pointed to actual, so possible, cases of CSA. To complete the second step of my argument, I will now argue that it is also possible to believe p , for some p , whilst suffering from CSA.

Consider again one of Frankl's subjects. Before being condemned to a Nazi concentration camp, she knew many facts; about where she had lived, her family, etc. Even though she now, let us suppose, suffers from CSA, she is in a position to remember these facts. (Of course, she does not, at least actively, exploit that position since she suffers from CSA, but that is no reason to think that she is not in that position.) A natural explanation of this is that she has retained her knowledge, and so knows, for instance, where she had lived. Since knowledge strictly entails belief, this explanation entails that she has also retained her belief about where she had lived.

Even if knowledge did not strictly entail belief, an intuitive case for the possibility of believing p , for some p , whilst suffering from CSA is available. Suppose that before being condemned, our subject had a false belief about where she was born. Although she now suffers from CSA, she is in a position to seem to remember where she was born. Here too, a natural explanation appeals to a cognitive attitude of hers, it is just that this attitude is a false belief.

9.2.3 Step 3

To complete the third step of my argument, I will now argue that necessarily, if one suffers from CSA, one is not disposed to reason. To develop my argument for this claim, I first consider how a lack of desires links up with one's reasoning.

One paradigmatic reasoning activity occurs when one is in a choice situation, where one must select one among several potential courses of action. Another paradigmatic reasoning activity occurs when one deliberates about whether to believe a hypothesis given a certain body of evidence. Common to these paradigm cases is that one is motivated to achieve a certain aim—in the first case, the aim of making the best decision, in the second, that of learning the truth. I want to generalize from these paradigm cases. Any possible activity of reasoning involves some motivation. This motivation, though, need not be that involved in the paradigm cases. In suppositional reasoning, for instance, one may not be motivated to learn the truth, but to learn what follows from what.

If my generalization is correct, it follows that necessarily, if one suffers from CSA, one does not reason. Individuals who suffer from CSA lack motivation to A for any A . But given this, there is no possible world at which individuals who suffer from CSA engage in reasoning; equivalently, necessarily, if one suffers from CSA, one does not reason.

This conclusion leaves us only two premises away from a sound argument for the claim that necessarily, if one suffers from CSA, one is not disposed to reason: premises P2 and P3 below.

- P1** $\forall x\forall w$: if x suffers from CSA at w , x does not reason at w .
P2 $\forall w$: CSA is an intrinsic condition at w .
P3 $\forall x\forall w\forall m$: if x is disposed to m at w , there exists a world v at which x is intrinsically just like x at w and x *ms*.¹⁶
- A1** Let w' be an arbitrary world and a an arbitrary individual. (Assumption)
A2 a suffers from CSA at w' (Assumption)
C1 a is not disposed to reason at w' . (A2, P1, P2, P3)
C $\forall x\forall w$: if x suffers from CSA at w , x is not disposed to reason at w . (\rightarrow -intro discharging A1 to C1)

Whether to accept P2, that is, the claim that necessarily, CSA is an intrinsic condition, whose instantiation at a time depends only on how one is at that time, is a delicate issue. As Davies (2016) argues, many psychiatric conditions depend on factors extrinsic to one for their instantiation. CSA may do so too, as the Diagnostic and Statistical Manual of Mental Disorders defines anhedonia as a “markedly diminished interest or pleasure in all, or almost all, activities most of the day, nearly every day.” (Association, 2013) The definition’s explicit concern with anhedonia’s temporal properties may suggest that the instantiation of anhedonia at a time depends on certain historical facts.

Of course, defenders of a model of psychiatric conditions, on which they depend for their instantiation at a time only on one’s neurological properties at that time may reply that the definition’s mention of anhedonia’s temporal extension is merely an epistemic aid in diagnosing it. But, I do not want to, nor do I need to, adjudicate this debate here.

However this debate is resolved, the property of having no motivation seems to be intrinsic, even supposing externalism about the content of one’s motivational states, or externalism about their attitudinal component to be true. And the cases I used to show

¹⁶ Against this premise, one might argue that for some dispositions, like fragility, there is no v at which x is intrinsically just like x at w and x *ms*. A fragile vase at a world v at which it manifests its disposition by breaking is intrinsically very unlike that vase at a world w at which it does not manifest its disposition; yet it clearly has that disposition at w .

To avoid the counterexample, I amend P3 to say, at a first pass and sticking with the vase example, that the vase is disposed to break (i.e. fragile) at a world-time pair $\langle w, t \rangle$ only if there exists a world-time pair $\langle v, t_n \rangle$ s.t. either (i) at $\langle v, t_n \rangle$ the vase breaks and is intrinsically just like at $\langle w, t \rangle$ or (ii) at $\langle v, t_n \rangle$ the vase breaks, at $\langle v, t_{n-1} \rangle$ the vase is intrinsically just like at $\langle w, t \rangle$, and the vase’s breaking is the only change of state the vase undergoes between t_{n-1} and t_n . Even though the vase does not satisfy the first disjunct, as the manifestation of its fragility changes its intrinsic state, it satisfies the second.

A challenge in stating the amendment rigorously concerns how to understand the appeal to t_{n-1} . It is naturally interpreted as denoting the unique time preceding t . However, there may be no such time, if time is gunky. In that case, an alternative interpretation must be given. For present purposes, I set this concern aside. I will also leave it as an exercise to the reader to amend the remaining premises of the argument.

that it is possible to believe p , for some p , whilst suffering from CSA also show that it is possible to believe p , for some p , whilst having no motivation. So, if externalism about psychiatric conditions in general, or CSA in particular, is true, I am happy to reformulate the present argument in terms of the property of having no motivation.

Now consider P3, the claim that $\forall x \forall w \forall m$: if x is disposed to m at w , there exists a world v at which x is intrinsically just like x at w and x *ms*.¹⁷ This premise can be supported by considering a vase with a certain intrinsic make-up i . Is the vase fragile, and so disposed to break? Notice that, if there is no metaphysically possible world at which this vase has i and breaks, a world at which it is struck in suitable environmental conditions perhaps, that is a very good, seemingly indefeasible, reason to conclude that the vase is not disposed to break. This epistemic connection between the conditional's antecedent and the claim that the vase is not disposed to break stands in need of explanation. P3 provides it. Given P3, the antecedent strictly entails that the vase is not disposed to break. Thus, learning the antecedent, assuming that one (perhaps tacitly) knows P3, puts one in a position to learn, and provides one with an indefeasible reason to conclude, that the vase is not disposed to break.¹⁸

In reply, we may suggest that the vase with intrinsic make-up i is in fact disposed to break, despite our intuition that it is not. Instead of being absent, its disposition is interfered with, either by being *masked* or by being *finked*.¹⁹ But, why should we interpret the case this way? There are two concerns here.

First, paradigm cases of masking and finking involve *extrinsic* properties. To illustrate, consider a case of masking: a fragile vase wrapped in bubble wrap. Being wrapped in bubble wrap is said to mask the vase's fragility since it makes it the case that the vase would not break if struck. In this case, like in other paradigm cases of masking and finking, the manifestation of the disposition at issue is prevented by an *extrinsic* property, i.e. being wrapped in bubble wrap. But my argument turns on what is the case if there is no metaphysically possible world at which our earlier vase has *intrinsic* make-up i and breaks. So, it seems we require that the glass' disposition is prevented by an *intrinsic* property. Yet it is controversial whether there are any intrinsic masks or finks. (Choi 2012; 2016; 2017a;

¹⁷ Notice that P3 does not entail the claim, which McKittrick (2003) shows to be false, that dispositions are intrinsic properties. P3 merely imposes a necessary condition on being disposed to m ; it is consistent with other necessary conditions specified by appeal to extrinsic properties.

¹⁸ I here set aside concerns about epistemic closure principles.

¹⁹ Following Ashwell (2010, pp.637-8), but accounting for the fact that a disposition is individuated solely by its manifestation, we may define masks and finks as follows:

1. A *fink* for a disposition d to m had by x is a property had by x that would prevent x from *ming* in stimulus conditions s for d by removing d should x undergo s .
2. A *mask* for a disposition d to m had by x is a property had by x that would prevent x from *ming* in stimulus conditions s for d without removing d should x undergo s .

2017b)

Second, even if there are intrinsic masks and finks, (supposed) cases of intrinsic masks and finks differ substantially from the case I am using. Let me illustrate this point using one case involving an intrinsic mask and one involving an intrinsic fink.

First, consider a case involving an intrinsic mask adapted from Ashwell (2010, p.643). A sorcerer enchants a vase so that it has an intrinsic property *I* which causes bubble-wrap to appear around the vase should the glass be about to be struck, in time to save the glass from breaking. Consequently, the vase would not break if struck. Ashwell suggests that this case involves an intrinsic mask, viz. property *I*.

However, notice that, by contrast with my case, there is a metaphysically possible world at which the vase has *I* and breaks. Ashwell (2010, p.647) herself outlines a recipe for finding such a world. Suppose the vase has *I* and is otherwise intrinsically just like before, but is being watched over by some mischievous imp with very quick reaction times. The imp has at hand some powerful non-stick spray, which she sprays on the vase as it is struck. Once applied, the spray prevents the bubble-wrap from staying in place to protect the vase. Thus, the vase has property *I* but breaks.

Second, consider a case involving an intrinsic fink from Everett (2009, p.195). A radioactive substance *S* has a crystal structure typically found in highly fragile things. *S* also has an extremely short half-life, however. Consequently, a newly made sample of *S* very rapidly decays into a material *M* which is not fragile but strong. If struck, *S* would not break because it would decay into strong *M* before it would do so. Everett suggests that substance *S* is fragile, at least before it decays into strong *M*. Its disposition is intrinsically finked, however, since it has an intrinsic property, having an extremely short half-life, which prevents it from breaking if struck by removing its fragility.

However, there is a metaphysically possible world at which *S* has breaks. A half-life is defined as the length of time after which there is a 0.5 chance that an atom will have undergone nuclear decay. Even an extremely short half-life thus does not entail that there is no possible world at which *S* is struck but does not break. Given *S*'s extremely short half-life, it is extremely unlikely that *S* is struck and breaks but not metaphysically impossible.²⁰

I have suggested that cases used to argue for the possibility of intrinsic masks and finks differ substantially from the case I used to motivate P3. The latter involved the *metaphysical impossibility* of having a certain intrinsic make-up and breaking; the former did not. I suggest that this difference means that the vase in my case is not fragile (or disposed to break), even if we concede that Ashwell's vase and Everett's radioactive substance are.

²⁰ Moreover, even if there were a 0 chance that *S* is struck and breaks, this would not entail that it is metaphysically impossible for *S* to be struck and break. See Williamson (2007a).

This concludes my defence of P3.

9.2.4 Step 4

To complete the final step of my argument against the reasoning disposition claim, I will now argue that necessarily, if one is not disposed to reason, one is not disposed to treat p as true in one's reasoning. My argument for this claim turns on the idea that an event of treating p as true in one's reasoning is itself a reasoning event.²¹ I will first argue for this idea and subsequently consider a line of reply, on which the reasoning disposition is a disposition to verify a certain conditional.

'In one's reasoning' is a post-verbal locative modifier. Such modifiers express properties of an individual and a place. For instance, 'Alice swam her laps in the pool' says, roughly, that there was an event of Alice swimming that was located in the pool.²² Similarly, 'one treats p as true in one's reasoning' says, roughly, that there's an event of one treating p as true located in an event of one reasoning.

Interpreting the claim that an event of Alice swimming is located in the pool is straightforward. The pool occupies a certain region of space r . The event at issue is located in the pool because it occupies a subregion of r . But this interpretation does not generalize to the claim that an event of one treating p as true is located in an event of one reasoning. The region at issue here is not a spatial one. I suggest instead that the event of one treating p as true is located in an event of one's reasoning because it is a sub-part of such an event.

The next step in my argument for the claim that an event of treating p as true in one's reasoning is an event of reasoning turns on a property of *activity predicates*.²³ 'Reason' is such a predicate as it denotes a property of activities, which form a subclass of events. Other activity predicates include 'read' and 'walk.' Two diagnostics used to determine whether a predicate is an activity predicate are whether it accepts progressive aspect and 'for'-adverbials. If a predicate accepts both, it is an activity predicate; else, it is not. By these diagnostics, 'reason' is an activity predicate. Both 'John is reasoning about whether to bring an umbrella' and 'John has been reasoning about whether to bring an umbrella for the last five minutes' are acceptable.

Activity predicates are *homogeneous* where homogeneity is defined as follows:

²¹ Throughout my argument, I assume that 'to treat p as true in one's reasoning' when embedded under 'disposed' is not interpreted as a habitual.

²² I here focus on external locatives, where an event is located in a place of some kind. There are also internal locatives where some participant of an event is located in a place of some kind; for instance, 'The cook prepared the chicken in a Marijuana sauce' which says, roughly, that *the chicken* is located in the sauce as part of a preparation event. And, finally, there are frame-setting locatives, which typically occur clause-initial: e.g. 'In Sweden, Fred was cold' which says, roughly, that whilst in Sweden, Fred was cold. See Ernst (2016) and Maienborn (2001) for discussion.

²³ My discussion here follows Rothstein (2004, pp.10-21)

1. A predicate X is homogeneous iff: $\forall x[X(x) \rightarrow \forall y[y \sqsubseteq x \wedge \neg y = x \wedge X(y)]]$

That is, a predicate X is homogeneous just in case every sub-part of a satisfier of X is also a satisfier of X . ‘read,’ ‘walk,’ and ‘reason’ all appear to be homogeneous, as any sub-part of a reading event, running event, or reasoning event appears to be a reading, walking, or reasoning event respectively.

We may worry that appearances are deceptive, however. Consider what Rothstein says about the predicate ‘walk’:²⁴

[1] What has to be the case for it to be true that one has walked? Take a step? Take two steps? Lift one’s foot in the air? Begin to lift one’s foot in the air? [...] presumably we would all agree that just moving one’s foot or lifting it is not by itself walking. [2] These are actions which are necessary parts of walking, but do not by themselves constitute walking. [3] So, “walk” events break up into smaller entities, events which are not in themselves in the denotation of *walk* [...]. (p.19)

If Rothstein is right, ‘walk’ is not homogeneous as it has sub-parts that are not walking events.

However, Rothstein’s argument in the quoted passage is invalid. The culprit is the inference from [2] to [3]. Rothstein is right that taking a step, taking two steps, and so on, do not *by themselves* constitute walking. If one *merely* takes a step, then one does not walk. However, it does not follow from this that if one is walking, then the sub-event of taking a step is not a walking event. For if one is walking, one does *not merely* take a step. Put differently, facts about a *detached* event of taking a step, an event of *merely* taking a step, do not entail facts about an *attached* event of taking a step, an event of taking a step that is a sub-part of a walking event.

To obtain a valid argument, Rothstein must bridge [2] and [3]. One bridge principle would say that x ’s satisfaction of an activity predicate depends only on how x on its own is. Since an event of taking a step that is a sub-part of a walking event is on its own just an event of taking a step, this principle entails that it is not a walking event. However, I see no reason to accept this bridge principle.²⁵

²⁴ She attributes the observation driving her argument to Dowty (1979) and Taylor (1977).

²⁵ A second worry about the claim that activity predicates are homogeneous may be fuelled by the possibility of *pauses*. If John walked for two hours, we allow him to pause briefly to tie his shoelace or to wait for the traffic lights to turn to green so that he can cross the road safely. During those periods John is not walking. So, that John walked for two hours does not entail that he walked at any subinterval of those hours. However, the possibility of pauses does not tell against homogeneity. As Rothstein (2004) observes, “pause stages are accidental breaks in an event and not essential parts of the event which differ in type from the event itself, and so they do not conflict with homogeneity.” (p.21)

If activity predicates are homogeneous, and ‘reason’ is an activity predicate, so is ‘reason.’ But now, if ‘one treats p as true in one’s reasoning’ says that there is an event e of one treating p as true that is a sub-part of an event of one reasoning, then e is itself a reasoning event. So, to treat p as true in one’s reasoning is to be the agent of a reasoning event, albeit one of a special treating- p -as-true kind, which is a sub-part of an event of one reasoning. And to be *disposed* to treat p as true in one’s reasoning is to be disposed to be the agent of a reasoning event, albeit one of a special kind. But to be disposed to be the agent of such an event just is to be disposed to reason. So, necessarily, if one is not disposed to reason, one is not disposed to treat p as true in one’s reasoning.

In reply, we may say that ‘in one’s reasoning’ should be interpreted as introducing the antecedent of a conditional rather than as a post-verbal locative modifier. Given this, treating p as true in one’s reasoning no longer entails being the agent of an event that is located in an event of one reasoning. And so my argument based on homogeneity does not get off the ground.

But, what conditional should we appeal to? One option is to interpret the disposition to treat p as true in one’s reasoning as the disposition to satisfy the *material* conditional ‘if one reasons, then one treats p as true.’ However, this option trivializes the reasoning disposition claim.

One satisfies the material conditional at issue if one does not reason. But then, if one is disposed not to reason, one is disposed to treat p as true in one’s reasoning. Depending on what is required for one to reason, a wide range of individuals, inanimate or not, now satisfy the necessary condition for believing p which the reasoning disposition claim imposes. For instance, as it has no mind, a stone is disposed not to reason, and so, on the present option, disposed to treat p as true in one’s reasoning, given any p .

An alternative option, which avoids trivializing the reasoning disposition claim, interprets the disposition to treat p as true in one’s reasoning as the disposition to satisfy the *strict* conditional ‘necessarily, if one reasons, one treats p as true.’ This strict conditional embeds the earlier material conditional under a necessity operator ‘necessarily,’ interpreted as a universal quantifier whose domain is restricted to the metaphysically possible worlds. The strict conditional ‘necessarily, if one reasons, then one treats p as true’ is true just in case the embedded material conditional is true at all metaphysically possible worlds.

This option may not trivialize the reasoning disposition claim, as even a stone may reason at some metaphysically possible world. However, it undergenerates. John, for instance, believes p , but is not such that necessarily, if he reasons, he treats p as true. At some metaphysically possible world, one where he believes $\neg p$ or suspends judgement about p , he reasons, but does not treat p as true. This possibility also makes it hard to see how John could be disposed to be such that necessarily, if he reasons, he treats p as true.

The intuition here is hard to pin down without a specific semantics of disposition ascriptions. But as an example of a semantics which validates the intuition consider Aimar (2018). For her, disposition ascriptions are possibility claims. ‘The vase is fragile,’ for instance, is true just in case there is some world at which the vase breaks easily, where context determines the domain of ‘some.’ Applying this semantics, ‘John is disposed to be such that necessarily, if John reasons, he treats p as true’ is true just in case there is some contextually relevant world at which John is easily such that necessarily, if John reasons, he treats p as true. But there is no such world. Since there is some metaphysically possible world where John reasons, but does not treat p as true, the strict conditional is false at all worlds.

The material conditional trivializes the reasoning disposition claim, the strict conditional leads it to undergenerate. A final option interprets the disposition to treat p as true in one’s reasoning as the disposition to satisfy a variably strict conditional, e.g. a would-counterfactual or normality conditional. A variably strict conditional ‘ $\phi > \psi$ ’ is treated as a universal quantifier whose domain is restricted to some subset of the metaphysically possible ϕ -worlds. ‘ $\phi > \psi$ ’ is true evaluated at a world just in case all of the metaphysically possible ϕ -worlds in the relevant subset are ψ -worlds. For a would-counterfactual, the domain is restricted to the metaphysically possible ϕ -worlds closest to the world of evaluation. For a normality conditional, the domain is restricted to the metaphysically possible ϕ -worlds normal relative to the world of evaluation.

One important question for this version of the reasoning disposition claim is how the variably strict conditional’s embedding under a disposition predicate affects the restriction we impose on the set of metaphysically possible ϕ -worlds. This question is not easy to answer without facing counterexamples very similar to those involving individuals suffering from CSA.

To illustrate, suppose we again adopt Aimar’s semantics for disposition ascriptions and that we interpret the variably strict conditional as a would-counterfactual. Given these assumptions, ‘one is disposed to treat p as true in one’s reasoning’ is true just in case there is some contextually relevant world w and one is easily such that at all metaphysically possible worlds closest to w at which one reasons, one treats p as true. Depending on what w is like, however, it is straightforward to find counterexamples to the reasoning disposition claim so understood.

Consider one of the subjects Frankl describes. She, let us suppose, falsely believes that she was born in Warsaw. Suppose the domain of ‘some’ is restricted to worlds at which this subject is intrinsically just like at the actual world. Suppose also that at all worlds in this domain, there is a wizard watching over our subject.²⁶ This wizard has the power to make a

²⁶ This wizard is essentially such that it watches over any subject in a certain intrinsic condition. So, at

subject believe only truths, by either extinguishing her false beliefs or replacing them with suitably related true beliefs, and reliably successfully exercises this power if the subject at issue is about to reason. Now, at at least some metaphysically possible worlds closest to the worlds in the domain of ‘some’ where our subject reasons, she does not falsely believe that she was born in Warsaw and so does not treat that proposition as true. Thus, on this way of developing the present option, our subject is not disposed to treat the proposition that she was born in Warsaw as true in her reasoning. And so is a counterexample to the reasoning disposition claim.²⁷

This counterexample depends neither on the specific domain restriction on ‘some’ nor on appeal to the would-counterfactual. If the domain of ‘some’ is restricted to X -worlds, we just say that at all those worlds, there is a suitable wizard watching over our subject. Of course, we may then choose X so as to exclude the presence of wizards. But notice that the restriction on ‘some’ is meant to be supplied by context. It would be surprising if every context delivered a wizard-excluding restriction. So, we can reasonably expect there to be some contexts in which the counterexample arises.

Moreover, if we interpret the variably strict conditional as a normality conditional rather than as a would-counterfactual, we just emphasize the wizard’s reliability in successfully exercising his power to make our subject believe only truths. Given his reliability, at least at some metaphysically possible worlds normal relative to the worlds in the domain of ‘some’ where our subject reasons, she does not falsely believe that she was born in Warsaw and so does not treat that proposition as true.

There is obviously much to be said about the case I am using. I do not intend it to preclude interpreting the disposition to treat p as true in one’s reasoning as the disposition to satisfy a variably strict conditional. Rather, I take the example to highlight a burden for defenders of the reasoning disposition claim intent on pursuing the present option. They must, first, say how the variably strict conditional’s embedding under a disposition predicate affects the restriction we impose on the set of metaphysically possible ϕ -worlds and, second, show that the resultant view avoids counterexamples like the I case I have been using in the last few paragraphs.

9.2.5 Concluding section 9.2

My aim in this section has been to argue against the claim—endorsed in some version by Williamson as well as Ross and Schroeder—that to believe p one must be disposed to treat p as true in one’s reasoning. I focused on individuals suffering from CSA; a condition

worlds where individuals other than our subject are intrinsically just like her at the actual world, this wizard watches over them.

²⁷ This case is inspired by Martin (1994)’s fink cases involving a disposition that will be eliminated in circumstances that would commonly trigger its manifestation.

where one has no desires. I argued that these individuals can believe p , for some p , yet fail to be disposed to treat p as true in their reasoning.

9.3 An alternative

If the argument of the last section is sound, a reasoning disposition, and so a disposition to rely on p , is not necessary for believing p . Given that plural epistemicism, as developed in section 9.1 predicts that such a reasoning disposition is necessary for believing p , plural epistemicism is subject to counterexample and so violates C2. Moreover, since individuals suffering from CSA may not only believe p , for some p , but also know p , for some p , a reasoning disposition is also not necessary for knowing p . So, knowing p does not strictly entail the satisfaction of plural epistemicism's necessary and sufficient condition for believing p . Thus, plural epistemicism violates, besides C2, also C3. As it stands, plural epistemicism is thus not preferable to unsupplemented egalitarianism on abductive grounds.

In reply, plural epistemicists may abandon Williamson's strategy for specifying their account's required degree(s) and respect(s) of similarity. But this leaves them in just the position defenders of \sim AS-IF found themselves in. (See section 8.4.1.) I doubt that plural epistemicists are any better off than their as-if epistemicist counterparts.

This section explores an alternative line of reply to my argument. This line is inspired by Lewis (1980)'s discussion of *mad pain*. He describes a human that feels mad pain thus:

Our pain is generally distracting; his turns his mind to mathematics, facilitating concentration on that but distracting him from anything else. Intense pain has no tendency whatever to cause him to groan or writhe, but does cause him to cross his legs and snap his fingers. He is not in the least motivated to prevent pain or to get rid of it. In short, he feels pain but his pain does not at all occupy the typical causal role of pain. (p.216)

Lewis says that this human feels pain, despite mad pain's failure to match pain's typical causal role in humans, because mad pain is a physical state of the same kind (*C-fibre firing*) as other states that play the typical causal role of pain in humans.

Call a belief state unaccompanied by a disposition to treat p as true in one's reasoning, a *mad belief*. Plural epistemicists may now compare mad belief with mad pain. Just as mad pain is a physical state of the same kind as other states that play the typical causal role of pain in humans, so mad belief is a state of the same kind as other states that play the typical treating-role of believing p .

The reply requires plural epistemicists to say what the typical treating-role of a belief in p is. But they can rely on their previous account of belief to do this. The resulting view of belief, call it *mad epistemicism*, looks thus:

- MAD** For all x and p , x believes p iff: for some kind of state k ,
- (i) x is in some state s of kind k
 - (ii) in normal circumstances, if a given y is in a given state s' of kind k , then y treats p in the fully specific way F such that
 - (iii) F is similar to the fully specific way G such that
 - (iv) in normal circumstances, all z treat all q they know in G .

Mad epistemicists may say that their view does not violate C2 and C3 in the way plural epistemicism did. For, they may continue, individuals suffering from CSA are in some state s of some kind k —the state that is their belief state. And, in normal circumstances, in which they do not suffer from CSA, if they are in a state of kind k , then they are disposed to treat p as true in their reasoning. So, in those circumstances, their fully specific way of treating p is sufficiently similar (with respect to reliance on p) to the fully specific way such that (iv). Of course, whether it is also sufficiently similar *overall* for them to be predicted to believe p remains an open question. Still, my argument to the conclusion that plural epistemicism violates C2 and C3 does not generalize to mad epistemicism.

The problem for mad epistemicist is, however, that we have been given no reason to think that individuals who believe p whilst suffering from CSA are in fact in a state of an appropriate kind k (where an appropriate kind is such that conditions (ii) to (iv) are satisfied). The burden is on mad epistemicists to provide such a reason. If they fail to do so, their view is no better off than plural epistemicism and therefore not preferable to unsupplemented egalitarianism on abductive grounds.

9.4 Conclusion

This chapter argued that plural epistemicism is not preferable to unsupplemented egalitarianism on abductive grounds. My argument for this conclusion turned on counterexamples to the view, viz. individuals suffering from CSA which believe p , for some p , without being disposed to treat p as true in their reasoning. These counterexamples showed not only that plural epistemicism violates C2, but also that it violates C3. Finally, I considered a line of reply inspired by Lewis (1980)'s discussion of mad pain and argued that it is unsuccessful. In sum, plural epistemicism, like all other versions of epistemicism I considered in this thesis, is not preferable to egalitarianism on abductive grounds.

Chapter 10

Conclusion

This thesis started from the question ‘how are knowledge and belief related?’ My aim throughout has been to defend the default answer to this question, egalitarianism, on which neither knowledge nor belief is to be understood in terms of the other, from the abductive argument. This argument is meant to favour at least one of egalitarianism’s competitors, namely doxasticism, which understands knowledge in terms of a non-circular, belief-involving, necessary, and sufficient condition for knowledge, and epistemicism, on which belief is understood in terms of a non-circular, knowledge-involving, necessary, and sufficient condition for belief.

The abductive argument, as I discussed it in this thesis, took two generalizations about knowledge and belief as its input data: what I called the entailment and similarity theses. The first of these said that necessarily, if one knows that ϕ , one believes that ϕ ; the second that necessarily, knowing that ϕ and believing that ϕ have very similar downstream consequences for what one does, thinks, and feels.

Starting from these data, the abductive argument went as follows. On its own, egalitarianism is silent about knowledge, belief, and their relation. Although this insulates egalitarianism from being falsified by data like the entailment and similarity theses, it also bars egalitarians from explaining those data. On abductive grounds, then, unsupplemented egalitarianism fares poorly. By contrast, doxasticism and epistemicism, their defenders say, fare better on abductive grounds and so are preferable to unsupplemented egalitarianism.

I have argued that the abductive argument does not succeed. At least as developed in the literature so far, doxasticism and epistemicism are not preferable to unsupplemented egalitarianism on abductive grounds.

The argument of my thesis may invite various replies. Let me mention two. First, many versions of epistemicism fare poorly on abductive grounds because they are subject to widespread counterexamples. In light of this, epistemicists may reply to my argument by putting forward a revised knowledge-involving, non-circular, necessary, and sufficient condition for belief.

I am sceptical that any such condition is forthcoming, however. Given the failure of the conditions I considered in this thesis, I am somewhat tempted to conclude, via induction, that there is no such condition. Yet even setting this inductive argument aside, the burden is on epistemicists to propose an extensionally adequate knowledge-involving, non-circular, necessary, and sufficient condition for belief.

Second, although my reply to the abductive argument shows that it does not work given the entailment and similarity theses as its starting points, I have left open the possibility that other data provide abductive grounds favouring doxasticism or epistemicism over egalitarianism. One claim that epistemicists in particular may want to appeal to is that knowledge somehow sets the normative standard for belief. Yet whether any version of this claim is defensible remains a hotly contested issue. (Whitcomb, 2014; Gerken, 2017) For the time being, then, epistemicists cannot appeal to this claim as a datum. Of course, if a consensus favouring the claim should emerge, I concede that it *may* be a better input datum to the abductive argument than the entailment and similarity theses. But even so, the burden lies on epistemicists to argue that it is.

Note also that the burden is significant. As I mentioned before, various versions of epistemicism fare poorly on abductive grounds because they are subject to widespread counterexamples. Whether or not there are other starting points for an abductive argument, then, would not seem to affect whether those versions of epistemicism are preferable to unsupplemented egalitarianism on abductive grounds.

Moreover, even if the claim that knowledge somehow sets the normative standard for belief is shown to yield an abductive argument for epistemicism and against *unsupplemented* egalitarianism, it is a further issue whether *supplemented* egalitarianism matches the explanatory power of epistemicism. Absent some argument to the effect that it does not, the case for epistemicism would remain incomplete.

This brings us to an important issue for further work, namely whether egalitarianism may be supplemented to do more explanatory work and, if so, how. As I noted in the introduction, egalitarianism is consistent with many views of knowledge, belief, and their relation other than doxasticism and epistemicism. To explain the entailment and similarity theses, perhaps also the claim that knowledge somehow sets the normative standard for belief, egalitarians may supplement their core claim, that neither knowledge nor belief is understood in terms of the other, with further claims about knowledge, belief, and their relation. If any such supplements can be made to work, this would show that egalitarianism has significant explanatory power and so bolster my defence of egalitarianism from the abductive argument.

Bibliography

- Aarnio, Maria Lasonen (2010). "Unreasonable Knowledge". In: *Philosophical Perspectives* 24.1, pp. 1–21. DOI: 10.1111/j.1520-8583.2010.00183.x.
- Adler, Jonathan Eric (2002). *Belief's own ethics*. OCLC: 845460849. Cambridge, Mass.: MIT Press.
- Aguilar, J. H. and A. A. A. A. Buckareff, eds. (2010). *Causing Human Action: New Perspectives on the Causal Theory of Action*. Boston, Mass.: MIT Press.
- Aimar, Simona (2018). "Disposition ascriptions". In: *Philosophical Studies*, pp. 1–26. DOI: 10.1007/s11098-018-1084-9.
- Alonso, Facundo M. (2014). "What is reliance?" In: *Canadian Journal of Philosophy* 44.2, pp. 163–183. DOI: 10.1080/00455091.2014.919722.
- Altrichter, Ferenc (1985). "Belief and Possibility". In: *The Journal of Philosophy* 82.7, p. 364. DOI: 10.2307/2026525.
- Anand, Pranav and Valentine Hacquard (2008). "Epistemics with Attitude". In: *Semantics and Linguistic Theory* 18, p. 37. DOI: 10.3765/salt.v18i0.2484.
- Armstrong, D. M. (1973). *Belief, Truth and Knowledge*. Cambridge: Cambridge University Press.
- Ashwell, Lauren (2010). "Superficial Dispositionalism". In: *Australasian Journal of Philosophy* 88.4, pp. 635–653. DOI: 10.1080/00048400903352892.
- Askounis, Dimitris, Costas D. Koutras, and Yorgos Zikos (2016). "Knowledge means 'all', belief means 'most'". In: *Journal of Applied Non-Classical Logics* 26.3, pp. 173–192. DOI: 10.1080/11663081.2016.1214804.
- Association, American Psychiatric, ed. (2013). *Diagnostic and statistical manual of mental disorders: DSM-5*. 5th ed. Washington, D.C: American Psychiatric Association.
- Aucher, Guillaume (2014). "Principles of Knowledge, Belief and Conditional Belief". In: *Interdisciplinary Works in Logic, Epistemology, Psychology and Linguistics: Dialogue, Rationality, and Formalism*. Ed. by Manuel Rebuschi et al. Logic, Argumentation & Reasoning. Cham: Springer International Publishing, pp. 97–134. DOI: 10.1007/978-3-319-03044-9_5.
- Ball, Brian (2013). "Knowledge is normal belief". In: *Analysis* 73.1, pp. 69–76. DOI: 10.1093/analysis/ans127.

- Baltag, Alexandru et al. (2017). “The Topology of Full and Weak Belief”. In: *Logic, Language, and Computation*. Ed. by Helle Hvid Hansen et al. Lecture Notes in Computer Science. Springer Berlin Heidelberg, pp. 205–228.
- Barker-Plummer, Dave et al. (2011). *Language, proof, and logic*. 2. ed. OCLC: 726620713. Stanford, Calif: CSLI Publ.
- Baron, Sam and Jonathan Tallant (2018). “Do Not Revise Ockham’s Razor Without Necessity”. In: *Philosophy and Phenomenological Research* 96.3, pp. 596–619. DOI: 10.1111/phpr.12337.
- Barwise, Jon and Robin Cooper (1981). “Generalized quantifiers and natural language”. In: *Linguistics and Philosophy* 4.2, pp. 159–219. DOI: 10.1007/BF00350139.
- Bürcking, Sebastian (2017). “Composing wie wenn—the semantics of hypothetical comparison clauses in German”. In: *Natural Language & Linguistic Theory* 35.4, pp. 979–1025. DOI: 10.1007/s11049-017-9364-1.
- Beddor, Bob (2019). “The Toxin and the Dogmatist”. In: *Australasian Journal of Philosophy* 0.0, pp. 1–14. DOI: 10.1080/00048402.2018.1556309.
- Beddor, Bob and Simon Goldstein (2017). “Believing Epistemic Contradictions”. In: *The Review of Symbolic Logic*, pp. 1–28. DOI: 10.1017/S1755020316000514.
- Beddor, Bob and Carlotta Pavese (2018). “Modal Virtue Epistemology”. In: *Philosophy and Phenomenological Research* 0.0. DOI: 10.1111/phpr.12562.
- Benton, Matthew A. (2018). “Knowledge, hope, and fallibilism”. In: *Synthese*. DOI: 10.1007/s11229-018-1794-8.
- Berto, Francesco et al. (2017). “Williamson on Counterpossibles”. In: *Journal of Philosophical Logic*. DOI: 10.1007/s10992-017-9446-x.
- Bird, Alexander (2007). “Justified Judging”. In: *Philosophy and Phenomenological Research* 74.1, pp. 81–110. DOI: 10.1111/j.1933-1592.2007.00004.x.
- Bjorndahl, Adam and Aybüke Özgün (2017). “Logic and Topology for Knowledge, Knowability, and Belief - Extended Abstract”. In: *Electronic Proceedings in Theoretical Computer Science* 251, pp. 88–101. DOI: 10.4204/EPTCS.251.7.
- Boneh, Nora and Edit Doron (2010). “Modal and Temporal Aspects of Habituality*”. In: *Lexical Semantics, Syntax, and Event Structure*. Ed. by Malka Rappaport Hovav, Edit Doron, and Ivy Sichel. Oxford: Oxford University Press, pp. 338–363. DOI: 10.1093/acprof:oso/9780199544325.003.0016.
- (2012). “Hab and Gen in the Expression of Habituality”. In: *Genericity*. Ed. by Alda Mari, Claire Beyssade, and Fabio Del Prete. Oxford: Oxford University Press, pp. 176–191. DOI: 10.1093/acprof:oso/9780199691807.003.0006.
- Bradley, Seamus (2016). “Imprecise Probabilities”. In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Winter 2016. Metaphysics Research Lab, Stanford University.

- Braithwaite, R. B. (1932). "The Nature of Believing". In: *Proceedings of the Aristotelian Society* 33, pp. 129–146.
- Bratman, Michael E. (1992). "Practical Reasoning and Acceptance in a Context". In: *Mind* 101.401, pp. 1–16. DOI: 10.1093/mind/101.401.1.
- Buckwalter, Wesley (2014). "Factive Verbs and Protagonist Projection". In: *Episteme* 11.4, pp. 391–409.
- Buckwalter, Wesley, David Rose, and John Turri (2015). "Belief Through Thick and Thin". In: *Noûs* 49.4, pp. 748–775.
- Buckwalter, Wesley and John Turri (2016). "In the Thick of Moral Motivation". In: *Review of Philosophy and Psychology*. DOI: 10.1007/s13164-016-0306-3.
- Burge, Tyler (1979). "Individualism and the Mental". In: *Midwest Studies in Philosophy* 4.1, pp. 73–122.
- (1986). "Individualism and Psychology". In: *Philosophical Review* 95. January, pp. 3–45.
- Butterfill, Stephen (2013). "What Does Knowledge Explain? Commentary on Jennifer Nagel 'Knowledge as a Mental State'". In: *Oxford Studies in Epistemology* 4. Ed. by Tamar Gendler and John Hawthorne. Oxford: Oxford University Press, pp. 309–320.
- Carter, J. Adam (2019). "Exercising abilities". In: *Synthese*. DOI: 10.1007/s11229-019-02227-4.
- Carter, Sam (2018). "Higher order ignorance inside the margins". In: *Philosophical Studies*, pp. 1–18. DOI: 10.1007/s11098-018-1096-5.
- Cassam, Quassim (2009a). "Can the Concept of Knowledge be Analysed?" In: *Williamson on Knowledge*. Ed. by Patrick Greenough and Duncan Pritchard. Oxford: Oxford University Press, pp. 12–30.
- (2009b). "What is Knowledge?" In: *Royal Institute of Philosophy Supplement* 64, pp. 101–120.
- Chalki, Aggeliki, Costas D. Koutras, and Yorgos Zikos (2018). "A quick guided tour to the modal logic S4.2". In: *Logic Journal of the IGPL* 26.4, pp. 429–451. DOI: 10.1093/jigpal/jzy008.
- Chan, Timothy Hoo Wai, ed. (2013). *The aim of belief*. OCLC: ocn866836310. Oxford: Oxford University Press.
- Choi, Sungho (2012). "Intrinsic Finks and Dispositional/Categorical Distinction". In: *Noûs* 46.2, pp. 289–325. DOI: 10.1111/j.1468-0068.2010.00789.x.
- (2017a). "Against Intrinsic Interferers: A Critique of Kittle". In: *The Philosophical Quarterly* 67.269, pp. 845–854. DOI: 10.1093/pq/pqx004.
- (2017b). "Intrinsic Interferers and the Epistemology of Dispositions". In: *Erkenntnis* 82.1, pp. 199–232. DOI: 10.1007/s10670-016-9813-y.
- Choi, Sungho and Michael Fara (2016). "Dispositions". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Spring 2016. Metaphysics Research Lab, Stanford University.

- Chomsky, Noam (1970). "Remarks on Nominalization". In: *Readings in English Transformational Grammar*. Ed. by Roderick A. Jacobs and Peter S. Rosenbaum. Boston, Mass.: Ginn, pp. 184–221.
- Chrisman, Matthew (2012). "The Normative Evaluation of Belief and the Aspectual Classification of Belief and Knowledge Attributions". In: *Journal of Philosophy* 109.10, pp. 588–612.
- Cohen, L. Jonathan (1992). *An Essay on Belief and Acceptance*. Oxford: Clarendon Press.
- Cook Wilson, John (1926). *Statement and Inference*. Oxford: Oxford University Press.
- CORIS/CODIS - *Corpus of Written Italian*.
- Correia, Fabrice (2017). "Real Definitions". In: *Philosophical Issues* 27.1, pp. 52–73. DOI: 10.1111/phis.12091.
- Cotnoir, A. J. (2018). "Is Weak Supplementation analytic?" In: *Synthese*. DOI: 10.1007/s11229-018-02066-9.
- Crane, Tim (2013). "Unconscious Belief and Conscious Thought". In: *Phenomenal Intentionality*. Ed. by Uriah Kriegel. Oxford: Oxford University Press, pp. 156–173. DOI: 10.1093/acprof:oso/9780199764297.003.0009.
- Das, Nilanjan and Bernhard Salow (2016). "Transparency and the KK Principle". In: *Noûs* 50.2.
- Das Deutsche Referenzkorpus - DeReKo*.
- Davies, Will (2016). "Externalist Psychiatry". In: *Analysis* 76.3, pp. 290–296. DOI: 10.1093/analys/anw038.
- Deigan, Michael (2019). "A plea for inexact truthmaking". In: *Linguistics and Philosophy*, pp. 1–22. DOI: 10.1007/s10988-019-09279-2.
- Demey, Lorenz, Barteld Kooi, and Joshua Sack (2019). "Logic and Probability". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Summer 2019. Metaphysics Research Lab, Stanford University.
- Dodd, Julian (2008). *An Identity Theory of Truth*. London: Palgrave Macmillan UK. DOI: 10.1057/9780230584266.
- Donahue, Sean (2018). "Knowledge exclusion and the rationality of belief". In: *Analysis*. DOI: 10.1093/analys/any078.
- Dorr, Cian (2016). "To Be F Is To Be G". In: *Philosophical Perspectives* 30.1, pp. 39–134. DOI: 10.1111/phpe.12079.
- Dorst, Kevin (2019). "Abominable KK Failures". In: *Mind*. DOI: 10.1093/mind/fzy067.
- Dowty, David R. (1979). *Word meaning and Montague grammar: the semantics of verbs and times in generative semantics and in Montague's PTQ*. Synthese language library v. 7. Dordrecht ; Boston: D. Reidel Pub. Co.
- Dretske, Fred (1991). "Two conceptions of knowledge: rational vs. reliable belief". In: *Grazer Philosophische Studien* 40, pp. 15–30. DOI: 10.5840/gps1991404.

- Dörrenberg, Sebastian, Hannes Rakoczy, and Ulf Liskowski (2018). "How (not) to measure infant Theory of Mind: Testing the replicability and validity of four non-verbal measures". In: *Cognitive Development* 46, pp. 12–30. DOI: 10.1016/j.cogdev.2018.01.001.
- Dörrenberg, Sebastian et al. (2019). "Reliability and generalizability of an acted-out false belief task in 3-year-olds". In: *Infant Behavior and Development* 54, pp. 13–21. DOI: 10.1016/j.infbeh.2018.11.005.
- Dudley, Rachel (2018). "Young children's conceptions of knowledge". In: *Philosophy Compass*, n/a–n/a. DOI: 10.1111/phc3.12494.
- Dunn, Robert and Geraldine Suter (1977). "Zeno Vendler on the Objects of Knowledge and Belief". In: *Canadian Journal of Philosophy* 7.1, pp. 103–114.
- Easwaran, Kenny (2016). "Dr. Truthlove or: How I Learned to Stop Worrying and Love Bayesian Probabilities*: Dr. Truthlove". In: *Noûs* 50.4, pp. 816–853. DOI: 10.1111/nous.12099.
- Elbourne, Paul (2018). "Definite descriptions and negative existential quantifiers". In: *Philosophical Studies* 175.7, pp. 1597–1612. DOI: 10.1007/s11098-017-0925-2.
- Elbourne, Paul D. (2013). *Definite descriptions*. First edition. Oxford studies in semantics and pragmatics 1. OCLC: ocn858357984. Oxford: Oxford University Press.
- Elliott, Patrick D. (2017). "Explaining DPs vs. CPs without syntax". In: *Proceedings of the Chicago Linguistic Society*. Chicago, pp. 171–185.
- Elswyk, Peter van (2019). "What the metasemantics of know is not". In: *Linguistics and Philosophy*. DOI: 10.1007/s10988-019-09263-w.
- Emery, By Nina and Christopher S. Hill (2017). "Impossible Worlds and Metaphysical Explanation: Comments on Kment's Modality and Explanatory Reasoning". In: *Analysis* 77.1, pp. 134–148. DOI: 10.1093/analysis/anw068.
- Ernst, Thomas (2016). "Modification of stative predicates". In: *Language* 92.2, pp. 237–274. DOI: 10.1353/lan.2016.0042.
- Everett, Anthony (2009). "Intrinsic Finks, Masks, and Mimics". In: *Erkenntnis* 71.2, pp. 191–203. DOI: 10.1007/s10670-009-9158-x.
- Fara, Michael (2005). "Dispositions and Habituals". In: *Nous* 39.1, pp. 43–82. DOI: 10.1111/j.0029-4624.2005.00493.x.
- Farkas, Katalin (2015). "Belief May Not Be a Necessary Condition for Knowledge". In: *Erkenntnis* 80.1, pp. 185–200.
- (2016). "Know-Wh Does Not Reduce to Know That". In: *American Philosophical Quarterly* 53.2, pp. 109–122.
- (2017). "Practical Know-Wh". In: *Noûs* 51.4, pp. 855–870. DOI: 10.1111/nous.12152.
- Ferreira, Marcelo (2016). "The semantic ingredients of imperfectivity in progressives, habituals, and counterfactuals". In: *Natural Language Semantics* 24.4, pp. 353–397. DOI: 10.1007/s11050-016-9127-2.

- Fiddaman, Mark and Gonzalo Rodriguez-Pereyra (2018). "The Razor and the Laser". In: *Analytic Philosophy* 0.0. DOI: 10.1111/phib.12128.
- Fine, Kit (1982). "First-Order Modal Theories III: Facts". In: *Synthese* 53.1, pp. 43–122.
- (1994). "Essence and Modality: The Second Philosophical Perspectives Lecture". In: *Philosophical Perspectives* 8, pp. 1–16. DOI: 10.2307/2214160.
- Fisher, A. R. J. (2018). "Structural universals". In: *Philosophy Compass* 0.0. DOI: 10.1111/phc3.12518.
- Foley, Richard (1992). *Working Without a Net: A Study of Egocentric Epistemology*. Oxford: Oxford University Press.
- Forbes, Graeme (2018). "Content and Theme in Attitude Ascriptions". In: *Non-propositional Intentionality*. Ed. by Michelle Montague and Alex Grzankowski. Oxford: Oxford University Press.
- Frana, Ilaria (2017). *Concealed Questions*. Oxford: Oxford University Press. DOI: 10.1093/acprof:oso/9780199670925.001.0001.
- Frankl, Viktor (1986). *The Doctor and the Soul*. New York: Random House.
- Funkhouser, Eric (2006). "The Determinable-Determinate Relation". In: *Noûs* 40.3, pp. 548–569.
- (2014). *The Logical Structure of Kinds*. Oxford: Oxford University Press. DOI: 10.1093/acprof:oso/9780198713302.001.0001.
- Geach, P. T. (1971). *Mental acts: their content and their objects*. [1st ed.] reprinted with a new preface. Studies in philosophical psychology. London, New York: Routledge and K. Paul; Humanities Press.
- Gerken, Mikkel (2017). "Against Knowledge-First Epistemology". In: *Knowledge first: approaches in epistemology and mind*. Ed. by J. Adam Carter, Emma C. Gordon, and Benjamin Jarvis. New York: Oxford University Press.
- Gettier, E. L. (1963). "Is Justified True Belief Knowledge?" In: *Analysis* 23.6, pp. 121–123. DOI: 10.1093/analys/23.6.121.
- Geurts, Bart (2008). "Existential Import". In: *Existence: Semantics and Syntax*. Studies in Linguistics and Philosophy. Dordrecht: Springer, pp. 253–271. DOI: 10.1007/978-1-4020-6197-4_9.
- Ginzburg, Jonathan (1995). "Resolving questions, I". In: *Linguistics and Philosophy* 18.5, pp. 459–527. DOI: 10.1007/BF00985365.
- Goodman, Jeremy (2013). "Inexact Knowledge without Improbable Knowing". In: *Inquiry* 56.1, pp. 30–53. DOI: 10.1080/0020174X.2013.775013.
- Goodman, Jeremy and Bernhard Salow (2017). "Taking a chance on KK". In: *Philosophical Studies*. DOI: 10.1007/s11098-017-0861-1.
- Greco, Daniel (2014a). "A puzzle about epistemic akrasia". In: *Philosophical Studies* 167.2, pp. 201–219. DOI: 10.1007/s11098-012-0085-3.

- (2014b). “Could KK Be OK?” In: *Journal of Philosophy* 111.4, pp. 169–197. DOI: 10 . 5840/jphil2014111411.
 - (2015). “Iteration Principles in Epistemology I: Arguments For”. In: *Philosophy Compass* 10.11, pp. 754–764. DOI: 10 . 1111/phc3 . 12267.
- Grice, Paul (1989). *Studies in the way of words*. Cambridge, Mass.: Harvard University Press.
- Grimm, Scott and Louise McNally (2015). “The -ing dynasty: Rebuilding the semantics of nominalizations”. In: *Semantics and Linguistic Theory* 25, p. 82. DOI: 10 . 3765/salt . v25i0 . 3070.
- Groenendijk, Joroen and Martin Stokhof (1982). “Semantic Analysis of Wh-Complements”. In: *Linguistics and Philosophy* 5.2, pp. 175–233.
- Hale, Bob (2002). “The Source of Necessity”. In: *Noûs* 36.s16, pp. 299–319.
- Hannon, Michael (2019). *What’s the point of knowledge? a function-first epistemology*. New York, NY: Oxford University Press.
- Harman, Gilbert (2002). “Reflections on Knowledge and Its Limits”. In: *The Philosophical Review* 111.3, pp. 417–428. DOI: 10 . 2307/3182549.
- (2003). “Category Mistakes in M&E”. In: *Philosophical Perspectives* 17.1, pp. 165–180. DOI: 10 . 1111/j . 1520–8583 . 2003 . 00007 . x.
- Hawthorne, John and David Manley (2012). *The Reference Book*. Oxford University Press. DOI: 10 . 1093/acprof : oso/9780199693672 . 001 . 0001.
- Hawthorne, John, Daniel Rothschild, and Levi Spectre (2016). “Belief is weak”. In: *Philosophical Studies* 173.5, pp. 1393–1404. DOI: 10 . 1007/s11098–015–0553–7.
- Hawthorne, John and Juhani Yli-Vakkuri (2018). *Narrow Content*. New York: Oxford University Press.
- Hazlett, Allan (2010). “The Myth of Factive Verbs”. In: *Philosophy and Phenomenological Research* 80.3, pp. 497–522.
- Heiphetz, Larisa, Casey Lee Landers, and Neil Van Leeuwen (2018). “Does think mean the same thing as believe? Linguistic insights into religious cognition.” In: *Psychology of Religion and Spirituality*. DOI: 10 . 1037/re10000238.
- Hetherington, Stephen Cade (2011). *How to know: a practicalist conception of knowledge*. Malden, MA: Wiley-Blackwell.
- Hintikka, Jaakko (1962). *Knowledge and Belief*. Ithaca: Cornell University Press.
- Holton, Richard (2014). “Intention as a Model for Belief”. In: *Rational and Social Agency: Essays on the Philosophy of Michael Bratman*. Ed. by Manuel Vargas and Gideon Yaffe. Oxford: Oxford University Press.
- (2017). “I–Facts, Factives, and Contrafactuals”. In: *Aristotelian Society Supplementary Volume* 91.1, pp. 245–266. DOI: 10 . 1093/arissup/akx003.
- Hornsby, Jennifer (1997). “Truth: The Identity Theory”. In: *Proceedings of the Aristotelian Society* 97.1, pp. 1–24. DOI: 10 . 1111/1467–9264 . 00001.

- Hossack, Keith (2007). *The metaphysics of knowledge*. OCLC: ocn145431684. Oxford: Oxford University Press.
- Huddleston, Rodney D. and Geoffrey K. Pullum (2002). *The Cambridge grammar of the English language*. Cambridge, UK ; New York: Cambridge University Press.
- Hunter, David (2019). "The metaphysics of responsible believing". In: *Manuscripta* 41.4, pp. 255–285.
- Hursthouse, Rosalind (1991). "Arational Actions". In: *The Journal of Philosophy* 88.2, p. 57. DOI: 10.2307/2026906.
- Hyman, John (1999). "How Knowledge Works". In: *The Philosophical Quarterly* 49.197, pp. 433–451.
- (2006). "Knowledge and Evidence". In: *Mind* 115.460, pp. 891–915.
- (2015). *Action, Knowledge, and Will*. Oxford: Oxford University Press.
- (2017). "II—Knowledge and Belief". In: *Aristotelian Society Supplementary Volume* 91.1, pp. 267–288. DOI: 10.1093/arissup/akx005.
- Ichikawa, Jonathan Jenkins and Matthias Steup (2017). "The Analysis of Knowledge". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Spring 2017. Metaphysics Research Lab, Stanford University.
- Jackson, F. (2002). "Critical Notice of Knowledge and Its Limits by Timothy Williamson". In: *Australasian Journal of Philosophy* 80.4, pp. 516–521. DOI: 10.1080/715690940.
- Jackson, Frank (2009). "Primeness, Internalism, Explanation". In: *Williamson on Knowledge*. Ed. by Patrick Greenough and Duncan Pritchard. Oxford: Oxford University Press.
- Jenkins Ichikawa, Jonathan and C. S. I. Jenkins (2017). "On putting Knowledge 'First'". In: *Knowledge first: approaches in epistemology and mind*. Ed. by J Adam Carter, Emma C. Gordon, and Benjamin Jarvis. New York: Oxford University Press, pp. 113–131.
- Jenny, Matthias (2018). "Counterpossibles in Science: The Case of Relative Computability". In: *Noûs* 52.3, pp. 530–560. DOI: 10.1111/nous.12177.
- Jones, O. R. (1975). "Can One Believe What One Knows?" In: *Philosophical Review* 84.2, pp. 220–235.
- Kallestrup, Jesper (2012). *Semantic externalism*. New problems of philosophy. Abingdon, Oxon ; New York: Routledge.
- Kaplan, Mark (2003). "Who Cares What You Know?" In: *The Philosophical Quarterly* 53.210, pp. 105–116. DOI: 10.1111/1467-9213.00302.
- Kastner, Itamar (2015). "Factivity mirrors interpretation: The selectional requirements of presuppositional verbs". In: *Lingua* 164, pp. 156–188. DOI: 10.1016/j.lingua.2015.06.004.
- Kayne, Richard S. (2010). *Comparisons and contrasts*. Oxford studies in comparative syntax. OCLC: ocn437186908. New York: Oxford University Press.
- Kenny, Anthony (2003). *The metaphysics of mind*. Reprinted. Oxford paperbacks. OCLC: 249441420. Oxford: Oxford University Press.

- Kim, Min-Joo (2009). "E-type anaphora and three types of kes-construction in Korean". In: *Natural Language & Linguistic Theory* 27.2, pp. 345–377. DOI: 10.1007/s11049-009-9065-5.
- King, Jeffrey C. (2002). "Designating Propositions". In: *The Philosophical Review* 111.3, p. 341. DOI: 10.2307/3182547.
- (2007). *The nature and structure of content*. OCLC: ocm77574639. Oxford: Oxford University Press.
- Kipper, Jens (2017). "Acting on true belief". In: *Philosophical Studies*. DOI: 10.1007/s11098-017-0956-8.
- Klein, Dominik, Olivier Roy, and Norbert Gratzl (2018). "Knowledge, belief, normality, and introspection". In: *Synthese* 195.10, pp. 4343–4372. DOI: 10.1007/s11229-017-1353-8.
- Kment, Boris (2014). *Modality and Explanatory Reasoning*. Oxford: Oxford University Press.
- Künne, Wolfgang (2003). *Conceptions of Truth*. Oxford: Oxford University Press.
- Kornblith, Hilary (2002). *Knowledge and its place in nature*. Oxford : New York: Clarendon Press ; Oxford University Press.
- (2007). "The metaphysical status of knowledge". In: *Philosophical Issues* 17.1, pp. 145–164. DOI: 10.1111/j.1533-6077.2007.00127.x.
- (2011). "Why Should We Care About the Concept of Knowledge?" In: *Episteme* 8.1, pp. 38–52. DOI: 10.3366/epi.2011.0005.
- Koutras, Costas D., Christos Moyzes, and Yorgos Zikos (2017). "A modal logic of knowledge, belief and estimation". In: *Journal of Logic and Computation* 27.8, pp. 2303–2339. DOI: 10.1093/logcom/exx016.
- Koutras, Costas D. and Yorgos Zikos (2011). "Relating Truth, Knowledge and Belief in Epistemic States". In: *Symbolic and Quantitative Approaches to Reasoning with Uncertainty*. Ed. by Weiru Liu. Lecture Notes in Computer Science. Springer Berlin Heidelberg, pp. 374–385.
- Kratzer, Angelika (1979). "Conditional necessity and possibility". In: *Semantics from different points of view*. Dordrecht: Springer, pp. 117–147.
- (2012). *Modals and conditionals*. Oxford linguistics 36. OCLC: ocn778267193. Oxford ; New York: Oxford University Press.
- Kulke, Louisa et al. (2018a). "How robust are anticipatory looking measures of Theory of Mind? Replication attempts across the life span". In: *Cognitive Development* 46, pp. 97–111. DOI: 10.1016/j.cogdev.2017.09.001.
- Kulke, Louisa et al. (2018b). "Is Implicit Theory of Mind a Real and Robust Phenomenon? Results From a Systematic Replication Study". In: *Psychological Science* 29.6, pp. 888–900. DOI: 10.1177/0956797617747090.
- Kumar, Victor (2014). "'Knowledge' as a natural kind term". In: *Synthese* 191.3, pp. 439–457. DOI: 10.1007/s11229-013-0281-5.

- Kusch, Martin (2005). "Beliefs, Kinds and Rules: A Comment on Kornblith's Knowledge and Its Place in Nature". In: *Philosophy and Phenomenological Research* 71.2, pp. 411–419. DOI: 10.1111/j.1933-1592.2005.tb00458.x.
- Lasonen-Aarnio, Maria (2014). "The Dogmatism Puzzle". In: *Australasian Journal of Philosophy* 92.3, pp. 417–432. DOI: 10.1080/00048402.2013.834949.
- Lehrer, Keith (1968). "Belief and Knowledge". In: *Philosophical Review* 77.4, pp. 491–499.
- Leite, Adam (2005). "On Williamson's Arguments That Knowledge Is a Mental State". In: *Ratio* 18.2, pp. 165–175. DOI: 10.1111/j.1467-9329.2005.00281.x.
- Lenzen, Wolfgang (1979). "Epistemologische betrachtungen zu [S4, S5]". In: *Erkenntnis* 14.1, pp. 33–56. DOI: 10.1007/BF00205012.
- (2003). "Knowledge, Belief, and Subjective Probability: Outlines of a Unified System of Epistemic/Doxastic Logic". In: *Knowledge Contributors*. Ed. by Vincent F. Hendricks, Klaus Frovin Jørgensen, and Stig Andur Pedersen. Synthese Library. Dordrecht: Springer Netherlands, pp. 17–31. DOI: 10.1007/978-94-007-1001-6_2.
- (2012). "How to Square Knowledge and Belief". In: *Around and Beyond the Square of Opposition*. Ed. by Jean-Yves Béziau and Dale Jacquette. Studies in Universal Logic. Basel: Springer Basel, pp. 305–311. DOI: 10.1007/978-3-0348-0379-3_21.
- Leslie, Sarah-Jane (2015). "Generics Oversimplified". In: *Noûs* 49.1, pp. 28–54. DOI: 10.1111/nous.12039.
- Leslie, Sarah-Jane and Adam Lerner (2016). "Generic Generalizations". In: *The Stanford Encyclopedia of Philosophy*. Ed. by Edward N. Zalta. Winter 2016. Metaphysics Research Lab, Stanford University.
- Levy, Yair (2013). "Intentional Action First". In: *Australasian Journal of Philosophy* 91.4, pp. 705–718.
- Lewis, David (1980). "Mad pain and Martian pain". In: *Readings in Philosophy of Psychology*. Ed. by Ned Block. Google-Books-ID: 5Nyh9goAKgsC. Cambridge, Mass: Harvard University Press, pp. 216–222.
- (1982). "Logic for Equivocators". In: *Noûs* 16.3, p. 431. DOI: 10.2307/2216219.
- (1996). "Elusive Knowledge". In: *Australasian Journal of Philosophy* 74.4, pp. 549–567.
- Lewis, David K. (1973). *Counterfactuals*. London: Blackwell.
- Littlejohn, Clayton (2011). "Concessive Knowledge Attributions and Fallibilism". In: *Philosophy and Phenomenological Research* 83.3, pp. 603–619.
- Longworth, Guy (2018). "Surveying the Facts". In: *The Philosophy of Charles Travis*. Ed. by John Collins and Tamara Dobler. Oxford: Oxford University Press.
- Magnus, P. D. and Jonathan Cohen (2003). "Williamson on Knowledge and Psychological Explanation". In: *Philosophical Studies* 116.1, pp. 37–52.
- Maienborn, Claudia (2001). "On the Position and Interpretation of Locative Modifiers". In: *Natural Language Semantics* 9.2, pp. 191–240. DOI: 10.1023/A:1012405607146.

- Marcus, Ruth Barcan (1990). "Some Revisionary Proposals about Belief and Believing". In: *Philosophy and Phenomenological Research* 50, p. 133. DOI: 10.2307/2108036.
- Martin, C. B. (1994). "Dispositions and Conditionals". In: *Philosophical Quarterly* 44.174, pp. 1–8.
- McGeer, Victoria (2007). "The Regulative Dimension of Folk Psychology". In: *Folk Psychology Re-Assessed*. Ed. by Daniel D. Hutto and Matthew Ratcliffe. Dordrecht: Springer Netherlands, pp. 137–156. DOI: 10.1007/978-1-4020-5558-4_8.
- McGlynn, Aidan (2013). "Believing Things Unknown". In: *Noûs* 47.2, pp. 385–407.
- (2017). "Mindreading Knowledge". In: *Knowledge first: approaches in epistemology and mind*. Ed. by J Adam Carter, Emma C. Gordon, and Benjamin Jarvis. New York: Oxford University Press, pp. 72–94.
- McKittrick, Jennifer (2003). "The Bare Metaphysical Possibility of Bare Dispositions". In: *Philosophy and Phenomenological Research* 66.2, pp. 349–369. DOI: 10.1111/j.1933-1592.2003.tb00265.x.
- Meacham, Christopher J. G. and Jonathan Weisberg (2011). "Representation Theorems and the Foundations of Decision Theory". In: *Australasian Journal of Philosophy* 89.4, pp. 641–663. DOI: 10.1080/00048402.2010.510529.
- Millar, Alan (2007). "The State of Knowing". In: *Philosophical Issues* 17.1, pp. 179–196. DOI: 10.1111/j.1533-6077.2007.00129.x.
- (2009). "What is it that Cognitive Abilities are Abilities to Do?" In: *Acta Analytica* 24.4, pp. 223–236. DOI: 10.1007/s12136-009-0062-4.
- Miracchi, Lisa (2015). "Competence to know". In: *Philosophical Studies* 172.1, pp. 29–56. DOI: 10.1007/s11098-014-0325-9.
- (2017). "Perception First". In: *The Journal of Philosophy* 114.12, pp. 629–677. DOI: 10.5840/jphil20171141244.
- Mittwoch, Anita (2011). "Do states have Davidsonian arguments? Some empirical considerations". In: *Event Arguments: Foundations and Applications*. Ed. by Claudia Maienborn and Angelika Wöllstein. Google-Books-ID: wS0Ti3iFeLgC. Berlin: Walter de Gruyter, pp. 69–87.
- Moffett, Marc A. (2003). "Knowing Facts and Believing Propositions: A Solution to the Problem of Doxastic Shift". In: *Philosophical Studies* 115.1, pp. 81–97.
- Moltmann, F. (2004). "Nonreferential Complements, Nominalizations, and Derived Objects". In: *Journal of Semantics* 21.1, pp. 1–43. DOI: 10.1093/jos/21.1.1.
- Moltmann, Friederike (2003). "Nominalizing Quantifiers". In: *Journal of Philosophical Logic* 32.5, pp. 445–481. DOI: 10.1023/A:1025649423579.
- (2013). *Abstract Objects and the Semantics of Natural Language*. Oxford: Oxford University Press. DOI: 10.1093/acprof:oso/9780199608744.001.0001.
- Molyneux, Bernard (2007). "Primeness, Internalism and Explanatory Generality". In: *Philosophical Studies* 135.2, pp. 255–277.

- Moran, Alex (2018). "Naïve Realism, Seeing Stars, and Perceiving the Past". In: *Pacific Philosophical Quarterly* 0.0. DOI: 10.1111/papq.12238.
- Morreau, Michael (2010). "It Simply Does Not Add Up: Trouble with Overall Similarity". In: *Journal of Philosophy* 107.9, pp. 469–490. DOI: 10.5840/jphi12010107931.
- Moss, Sarah (2017). *Probabilistic knowledge*. New York, NY: Oxford University Press.
- Moulton, Keir (2015). "CPs: Copies and Compositionality". In: *Linguistic Inquiry* 46.2, pp. 305–342. DOI: 10.1162/LING_a_00183.
- Murray, Dylan, Justin Sytsma, and Jonathan Livengood (2013). "God Knows (but Does God Believe?)" In: *Philosophical Studies* 166.1, pp. 83–107.
- Myers-Schulz, Blake and Eric Schwitzgebel (2013). "Knowing That P Without Believing That P". In: *Noûs* 47.2, pp. 371–384.
- Nagel, Jennifer (2013). "Knowledge as a Mental State". In: *Oxford Studies in Epistemology* 4. Ed. by Tamar Gendler and John Hawthorne. Oxford: Oxford University Press, pp. 273–308.
- (2017). "Factive and nonfactive mental state attribution". In: *Mind & Language* 32.5, pp. 525–544. DOI: 10.1111/mila.12157.
- Nebel, Jacob M. (2019). "Hopes, Fears, and Other Grammatical Scarecrows". In: *The Philosophical Review* 128.1, pp. 63–105. DOI: 10.1215/00318108-7213014.
- Nguyen, Anthony (2019). "The radical account of bare plural generics". In: *Philosophical Studies*. DOI: 10.1007/s11098-019-01254-8.
- Nickel, Bernhard (2016). *Between Logic and the World: An Integrated Theory of Generics*. Oxford University Press. DOI: 10.1093/acprof:oso/9780199640003.001.0001.
- Noonan, Harold W. (1993). "Object-Dependent Thoughts: A Case of Superficial Necessity but Deep Contingency?" In: *Mental Causation*. Ed. by John Heil and Alfred R. Mele. Oxford: Oxford University Press.
- Parsons, Terence (1990). *Events in the Semantics of English: A Study in Subatomic Semantics*. Cambridge, Mass.: MIT Press.
- (1993). "On Denoting Propositions and Facts". In: *Philosophical Perspectives* 7, p. 441. DOI: 10.2307/2214134.
- Pautz, Adam (2018). "The Significance Argument for the Irreducibility of Consciousness". In: *Philosophical Perspectives* 0.0. DOI: 10.1111/phpe.12104.
- Pernu, Tuomas K. (2009). "Is knowledge a natural kind?" In: *Philosophical Studies* 142.3, pp. 371–386. DOI: 10.1007/s11098-007-9192-y.
- Pietroski, Paul M. (2000). "On Explaining That". In: *The Journal of Philosophy* 97.12, pp. 655–662. DOI: 10.2307/2678461.
- Pitt, David (2016). "Conscious Belief". In: *Rivista Internazionale di Filosofia e Psicologia*, pp. 121–126. DOI: 10.4453/rifp.2016.0013.

- Poulin-Dubois, Diane et al. (2018). "Do infants understand false beliefs? We don't know yet – A commentary on Baillargeon, Buttelmann and Southgate's commentary". In: *Cognitive Development* 48, pp. 302–315. DOI: 10.1016/j.cogdev.2018.09.005.
- Price, H. H. (1935). "XIII.—Some Considerations About Belief". In: *Proceedings of the Aristotelian Society* 35.1, pp. 229–252. DOI: 10.1093/aristotelian/35.1.229.
- Prichard, H. A. (1950). *Knowledge And Perception*. Oxford: Oxford University Press.
- Proft, Marina, Alexander Dieball, and Hannes Rakoczy (2018). "What is the cognitive basis of the side-effect effect? An experimental test of competing theories". In: *Mind & Language* 0.0. DOI: 10.1111/mila.12197.
- Radford, Colin (1966). "Knowledge—By Examples". In: *Analysis* 27.1, pp. 1–11.
- Rakoczy, Hannes (2017). "In defense of a developmental dogma: children acquire propositional attitude folk psychology around age 4". In: *Synthese* 194.3, pp. 689–707. DOI: 10.1007/s11229-015-0860-8.
- Reynolds, Steven (2017). *Knowledge as acceptable testimony*. OCLC: 993627300. Cambridge: Cambridge University Press.
- Rieppel, Michael (2015). "Pluralities and Plural Logic". In: *Analysis* 75.3, pp. 504–514. DOI: 10.1093/analysis/anv010.
- Roberts, Craige (2012). "Information structure in discourse: Towards an integrated formal theory of pragmatics". In: *Semantics and Pragmatics* 5. DOI: 10.3765/sp.5.6.
- Robinson, Richard (1928). "III.—COOK WILSON'S VIEW OF JUDGMENT". In: *Mind* XXXVII.147, pp. 304–317. DOI: 10.1093/mind/XXXVII.147.304.
- Roessler, Johannes (2013). "Knowledge, Causal Explanation, and Teleology". In: *Oxford Studies in Epistemology* 4. Ed. by Tamar Gendler and John Hawthorne. Oxford: Oxford University Press, pp. 321–333.
- Rose, David (2015). "Belief is Prior to Knowledge". In: *Episteme* 12.3, pp. 385–399.
- Rose, David and Jonathan Schaffer (2013). "Knowledge Entails Dispositional Belief". In: *Philosophical Studies* 166.1, pp. 19–50.
- Rosen, Gideon (2015). "Real Definition". In: *Analytic Philosophy* 56.3, pp. 189–209.
- Rosenthal, David M. (1976). "Res Cogitans: An Essay in Rational Psychology". In: *Journal of Philosophy* 73.9, pp. 240–252.
- Ross, Jacob and Mark Schroeder (2014). "Belief, Credence, and Pragmatic Encroachment". In: *Philosophy and Phenomenological Research* 88.2, pp. 259–288.
- Rothschild, Daniel (2019). "What it takes to believe". In: *Philosophical Studies*. DOI: 10.1007/s11098-019-01256-6.
- Rothstein, Susan (2004). *Structuring Events: A Study in the Semantics of Lexical Aspect*. Oxford: Blackwell Publishing Ltd.
- Russell, Bertrand (2010). *The philosophy of logical atomism*. Ed. by David F Pears. OCLC: 760872657. London: Routledge.
- Ryle, Gilbert (2000). *The Concept of Mind*. London: Penguin.

- Schaffer, Jonathan (2015). "What Not to Multiply Without Necessity". In: *Australasian Journal of Philosophy* 93.4, pp. 644–664. DOI: 10.1080/00048402.2014.992447.
- Schiffer, Stephen (1992). "Belief Ascription". In: *The Journal of Philosophy* 89.10, p. 499. DOI: 10.2307/2941005.
- Schiffer, Stephen R. (2003). *The things we mean*. OCLC: ocm52485249. Oxford: Oxford University Press.
- Schwitzgebel, Eric (2002). "A Phenomenal, Dispositional Account of Belief". In: *Noûs* 36.2, pp. 249–275.
- Shah, N. and J. D. Velleman (2005). "Doxastic Deliberation". In: *Philosophical Review* 114.4, pp. 497–534. DOI: 10.1215/00318108-114-4-497.
- Shah, Nishi (2003). "How Truth Governs Belief". In: *Philosophical Review* 112.4, pp. 447–482.
- Silva, Paul (2018). "Explaining enkratic asymmetries: knowledge-first style". In: *Philosophical Studies* 175.11, pp. 2907–2930. DOI: 10.1007/s11098-017-0987-1.
- Smith, Martin (2016). *Between probability and certainty: what justifies belief*. New York, NY: Oxford University.
- (2017). "The Cost of Treating Knowledge as a Mental State". In: *Knowledge first: approaches in epistemology and mind*. Ed. by J Adam Carter, Emma C. Gordon, and Benjamin Jarvis. New York: Oxford University Press, pp. 95–112.
- Smithies, Declan (2012). "The Normative Role of Knowledge". In: *Noûs* 46.2, pp. 265–288. DOI: 10.1111/j.1468-0068.2010.00787.x.
- Sorensen, Roy A. (1996). "Modal Bloopers: Why Believable Impossibilities Are Necessary". In: *American Philosophical Quarterly* 33.3, pp. 247–261.
- Soteriou, Matthew (2013). *The Mind's Construction: The Ontology of Mind and Mental Action*. Oxford: Oxford University Press. DOI: 10.1093/acprof:oso/9780199678457.001.0001.
- Spohn, Wolfgang (2012). *The Laws of Belief: Ranking Theory and Its Philosophical Applications*. Oxford University Press.
- Stalnaker, Robert (1999). *Context and content: essays on intentionality in speech and thought*. Oxford cognitive science series. Oxford: Oxford University Press.
- (2002). "Common Ground". In: *Linguistics and Philosophy* 25.5-6, pp. 701–721.
- (2006). "On Logics of Knowledge and Belief". In: *Philosophical Studies* 128.1, pp. 169–199. DOI: 10.1007/s11098-005-4062-y.
- Stalnaker, Robert C. (1968). "A theory of conditionals". In: *Studies in Logical Theory*. Ed. by Nicolas Rescher. Oxford: Blackwell, pp. 98–112.
- (1987). *Inquiry*. 1. MIT Press paperback ed. A Bradford book. OCLC: 833263071. Cambridge, Mass.: MIT Press.
- Stanley, Jason (2005). "Fallibilism and Concessive Knowledge Attributions". In: *Analysis* 65.286, pp. 126–131.

- Stanley, Jason and Timothy Williamson (2001). "Know How". In: *The Journal of Philosophy* 98.8, pp. 411–444.
- Stefánsson, H. Orri (2017). "What Is 'Real' in Probabilism?" In: *Australasian Journal of Philosophy* 95.3, pp. 573–587. DOI: 10.1080/00048402.2016.1224906.
- (2018). "On the Ratio Challenge for Comparativism". In: *Australasian Journal of Philosophy* 96.2, pp. 380–390. DOI: 10.1080/00048402.2017.1349159.
- Stich, Stephen P. (1978). "Autonomous Psychology and the Belief-Desire thesis". In: *The Monist* 61.4, pp. 573–591.
- Stokke, Andreas (2013). "Protagonist Projection". In: *Mind & Language* 28.2, pp. 204–232. DOI: 10.1111/mila.12016.
- Tan, Peter (2019). "Counterpossible Non-vacuity in Scientific Practice:" in: *The Journal of Philosophy* 116.1, pp. 32–60. DOI: 10.5840/jphi1201911612.
- Taylor, Barry (1977). "Tense and continuity". In: *Linguistics and Philosophy* 1.2, pp. 199–220. DOI: 10.1007/BF00351103.
- Tebben, Nicholas (2019). "Knowledge requires commitment (instead of belief)". In: *Philosophical Studies* 176.2, pp. 321–338. DOI: 10.1007/s11098-017-1017-z.
- Tsohatzidis, Savas L. (2012). "How to Forget That 'Know' is Factive". In: *Acta Analytica* 27.4, pp. 449–459.
- Tully, Ian (2017). "Depression and the Problem of Absent Desires". In: *Journal of Ethics and Social Philosophy* 11.2, pp. 1–16. DOI: 10.26556/jesp.v11i2.110.
- Turri, John (2011). "Mythology of the Factive". In: *Logos and Episteme* 2.1, pp. 143–152.
- Uegaki, Wataru (2015a). "Content Nouns and the Semantics of Question-Embedding". In: *Journal of Semantics*, ffv009. DOI: 10.1093/jos/ffv009.
- (2015b). "Interpreting Questions under Attitudes". PhD Dissertation. Boston, Mass.: MIT.
- Umbach, Carla and Helmar Gust (2014). "Similarity demonstratives". In: *Lingua*. SI: Modification at the Interfaces 149, pp. 74–93. DOI: 10.1016/j.lingua.2014.05.003.
- Van Fraassen, Bas C. (1980). *The Scientific Image*. Clarendon library of logic and philosophy. Oxford: Oxford University Press.
- Van Leeuwen, D. S. Neil (2009). "The Motivational Role of Belief". In: *Philosophical Papers* 38.2, pp. 219–246. DOI: 10.1080/05568640903146534.
- Velleman, James David (2000). "On the aim of belief". In: *The possibility of practical reason*. Oxford: Oxford University Press, pp. 244–281.
- Vendler, Zeno (1967). *Linguistics in Philosophy*. Ithaca, NY: Cornell University Press.
- (1972). *Res cogitans: an essay in rational psychology*. Contemporary philosophy. Ithaca: Cornell University Press.
- Vetter, Barbara (2015). *Potentiality: from dispositions to modality*. First edition. Oxford philosophical monographs. OCLC: ocn903509266. New York, NY: Oxford University Press.

- Vetter, Barbara (2016). "Counterpossibles (not only) for dispositionalists". In: *Philosophical Studies* 173.10, pp. 2681–2700. DOI: 10.1007/s11098-016-0671-x.
- Wallace, Meg (2019). "The polysemy of 'part'". In: *Synthese*. DOI: 10.1007/s11229-019-02088-x.
- Wedgwood, Ralph (2013). "The Right Thing to Believe". In: *The aim of belief*. Ed. by Timothy Hoo Wai Chan. OCLC: ocn866836310. Oxford: Oxford University Press, pp. 124–139.
- Weisberg, Jonathan. "Belief in psyontology". In: *Philosopher's Imprint*.
- Whitcomb, Dennis (2014). "Can there be a Knowledge-First Ethics of Belief?*"". In: *The Ethics of Belief*. Ed. by Jonathan Matheson and Rico Vitz. Oxford: Oxford University Press, pp. 89–111. DOI: 10.1093/acprof:oso/9780199686520.003.0006.
- White, Alan R. (1982). *The nature of knowledge*. APQ library of philosophy. Totowa, N.J: Rowman and Littlefield.
- Williams, Bernard (1970). "Deciding to Believe". In: *Problems of the Self*. Ed. by Bernard Williams. Cambridge: Cambridge University Press, pp. 136–51.
- Williamson, Timothy (1996). *Vagueness*. Problems of philosophy. New York: Routledge.
- (2000). *Knowledge and Its Limits*. Oxford: Oxford University Press.
- (2007a). "How probable is an infinite sequence of heads?" In: *Analysis* 67.3, pp. 173–180. DOI: 10.1093/analys/67.3.173.
- (2007b). *The Philosophy of Philosophy*. Oxford: Blackwell Publishing Ltd.
- (2009). "Reply to Quassim Cassam". In: *Williamson on Knowledge*. Ed. by Patrick Greenough and Duncan Pritchard. Oxford: Oxford University Press, pp. 285–292.
- (2013). *Modal logic as metaphysics*. OCLC: ocn849656524. Oxford, United Kingdom: Oxford University Press.
- (2014). "Very Improbable Knowing". In: *Erkenntnis* 79.5, pp. 971–999. DOI: 10.1007/s10670-013-9590-9.
- (2016). "Counterpossibles". In: *Topoi*, pp. 1–12. DOI: 10.1007/s11245-016-9424-x.
- (2017a). "Acting on Knowledge". In: *Knowledge First: Approaches in Epistemology and Mind*. Ed. by J. Adam Carter, Emma C. Gordon, and Benjamin Jarvis. Oxford: Oxford University Press. DOI: 10.1093/oso/9780198716310.003.0008.
- (2017b). "Ambiguous Rationality". In: *Episteme* 14.3, pp. 263–274. DOI: 10.1017/epi.2017.24.
- (2018a). "Knowledge, Action, and the Factive Turn". In: *The Factive Turn in Epistemology*. Ed. by Veli Mitova. 1st ed. Cambridge University Press, pp. 125–141. DOI: 10.1017/9781316818992.008.
- (2018b). "Knowledge, Credence and the Strength of Belief.pdf". Oxford.
- Worsnip, Alex (2015). "Possibly False Knowledge". In: *Journal of Philosophy* 112.5, pp. 225–246.
- Yablo, Stephen (2005). "Prime Causation". In: *Philosophy and Phenomenological Research* 70.2, pp. 459–467.

- Yalcin, Seth (2016). "Belief as Question-Sensitive". In: *Philosophy and Phenomenological Research* 93.2. DOI: 10.1111/phpr.12330.
- Zawidzki, Tadeusz (2013). *Mindshaping: a new framework for understanding human social cognition*. Cambridge, Mass: MIT Press.
- Zynda, Lyle (2000). "Representation Theorems and Realism about Degrees of Belief". In: *Philosophy of Science* 67.1, pp. 45–69. DOI: 10.1086/392761.