

The Decision-Theoretic Lockean Thesis

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Abstract

Certain philosophers maintain that there is a ‘constitutive threshold for belief’: to believe that p just is to have a degree of confidence that p above a certain threshold. On the basis of this view, these philosophers defend what is known as ‘the Lockean Thesis’, according to which it is rational to believe that p just in case it is rational to have a degree of confidence that p above the constitutive threshold for belief. While not directly speaking to the controversy over the Lockean Thesis, this paper defends the general idea behind it—namely, the thesis that there is *some* threshold such that it is rational to believe that p if and only if it is rational to have a degree of confidence great than that threshold. This paper identifies the threshold in question—not with the alleged constitutive threshold for belief—but with what I call ‘the practical threshold for rational belief’. Roughly, the thesis defended here is that it is rational to believe that p if and only if it is rational to have a degree of confidence that p that rationalizes engaging in certain types of practical reasoning.

1. Introduction

On the one hand, I have beliefs: I believe that there is a computer in front of me and I believe that my car is in the parking garage.¹ On the other hand, I have degrees of confidence: I have

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significantly more confidence that there is a computer in front of me than that my car is in the parking garage. What is the relationship, if any, between belief and degree of confidence? According to some philosophers, belief *reduces to* or, as I will put it, *just is* degree of confidence above a certain threshold.² These philosophers endorse what I will call

The Constitutive Threshold Account of Belief. There is a degree of confidence T that p such that to believe that p just is to have a degree of confidence greater than (or equal to)³ T that p . Let us call T the ‘constitutive threshold for belief that p ’.⁴

CTA is a metaphysical thesis—it is a thesis about what belief *is*. But CTA implies, and is implied by, a corresponding *normative* thesis. Richard Foley (2008) calls the corresponding normative thesis

The Lockean Thesis.⁵ S ’s belief that p is rational if and only if it is rational for S to have a degree of confidence in p that is greater than the constitutive threshold for belief that p .⁶

all the participants in both the Claremont Colleges Works in Progress Group (WIP) and the Circle of Los Angeles Philosophers (CLAP).

² See *inter alia* Roderick Chisholm (1957), Wilfred Sellars (1964), Henry Kyburg (1970), Richard Foley (1992, 1993, 2008), James Hawthorne and Luc Bovens (1993), David Christensen (2004), Patrick Maher (2006), Lina Eriksson and Alan Hájek (2007), and John Locke’s *Essay Concerning Human Understanding* (Book IV, chs. 15-16).

³ Henceforth, ‘greater than’ means ‘greater than or equal to’.

⁴ There is an intentional scope ambiguity here: is there *one* threshold such that to believe that p is to have a degree of confidence that p above that threshold, or is there, for each would-be belief that p , one threshold such that to believe that p is to have a degree of confidence that p above that threshold? Some proponents of the thesis understand it one way, others the other.

⁵ Some authors use the name ‘Lockean Thesis’ to refer to CTA. This usage is mostly harmless, given the close relationship between the two principles. Other philosophers use the name ‘Lockean Thesis’ to refer to what I below call the ‘Generalized Lockean Thesis’. If one isn’t careful, this usage can cause confusion. As I note below, the Generalized Lockean Thesis is neutral with respect to CTA, while the Lockean Thesis is not.

⁶ The argument from the Lockean Thesis to CTA is simple: the former presupposes the latter. The argument from CTA to the Lockean Thesis rests on the following principle: if to be in state x just is to be in one of a possibly infinite number of states y_1, y_2, \dots , then it is rational to be in x if and only if it is rational to be in at least one of y_1, y_2, \dots . From this principle it follows that if to believe that p just is to have some degree of confidence x greater than T that p , then it is rational to believe that p if and only if it is rational to have some degree of confidence x greater than T that p . Foley (2008) attempts to reach the Lockean Thesis from CTA, but he takes a different route.

Begin with the assumption that one believes a proposition p just in case one is sufficiently confident in the truth of p . Now add the assumption that it is rational for one’s confidence in a proposition to be proportionate to the strength of one’s evidence. Together these two assumptions

There are various well-known reasons to be suspicious of CTA,⁷ and since the Lockean Thesis presupposes CTA, any reason to be suspicious of the latter is also a reason to be suspicious of the former. I will not be rehearsing these reasons here. Rather, my aim is to show that even if the Lockean Thesis is false, we need not throw out the baby with the bathwater: there is a more general idea behind the Lockean Thesis, and I will show that this idea is defensible.

The more general idea is that there is *some* threshold x such that it is rational to believe that p if and only if it is rational to have a degree of confidence that p greater than x . I call this general idea the ‘Generalized Lockean Thesis’.⁸ The Generalized Lockean Thesis is officially neutral with respect to what the threshold for rational belief is, and so is officially neutral with respect to any metaphysical relationship between belief and degree of confidence. It is precisely here that the Lockean Thesis goes beyond the Generalized Lockean Thesis. The Lockean Thesis presupposes the existence of what I’ve called the *constitutive* threshold for belief—that is, the Lockean Thesis presupposes CTA.

I will propose and defend an alternative version of the Generalized Lockean Thesis. I call it

The Decision-Theoretic Lockean Thesis. S’s belief that p is rational if and only if it is rational for S to have a degree of confidence that p that is greater than the *practical threshold for rational belief*.

Below I will say in detail what I mean by ‘the practical threshold for rational belief’, but the central idea is that it depends on how one is disposed to use p in one’s practical deliberation. Like the Generalized Lockean Thesis, the DT Lockean Thesis is officially neutral with respect to

suggest a thesis, namely, that it is rational to believe a proposition p just in case it is rational for S to have a degree of confidence in p that is sufficient for belief. (2008, p. 37)

Notice that the ‘added’ assumption in this passage—the assumption that it is rational for one’s confidence to be proportionate to the strength of one’s evidence—is doing no work in the argument. The conclusion—the Lockean Thesis—connects the rationality of believing that p to the rationality of having a sufficiently high degree of confidence that p . It is an independent matter whether the rationality of a certain degree of confidence is connected exclusively to evidence. What Foley really needs to get to the Lockean Thesis from CTA is just the principle noted above.

⁷ See Issac Levi (1967), Keith Lehrer (1974) and (1980), Mark Kaplan (1981a) and (1981b), Patrick Maher (1986), Mark Norris Lance (1995), and Keith Frankish (2009).

⁸ In the Generalized Lockean Thesis we see the same sort of scope ambiguity that we saw in CTA (see footnote 4). But let there not be any surprises: the version of the Generalized Lockean Thesis that I defend below says that, for each particular belief, there is a threshold, but denies that there is one threshold for all beliefs.

the metaphysical relationship between belief and degree of confidence—in particular, it is neutral with respect to CTA.

This paper proceeds as follows. I begin in section two with some reflections on the relationship between belief and action. Here I argue that belief is constitutively connected to our dispositions to engage in certain kinds of practical reasoning. More specifically, I argue that part of what is to believe that *p* is to be disposed to treat *p* as true in at least some choice situations. I call this the ‘Minimal Reasoning Disposition Account’ of belief. Section three argues for MRD over a related view independently developed by Jacob Ross and Mark Schroeder (forthcoming). Section four considers whether a disposition to treat *p* as true in at least some choice situations is not only necessary (as MRD says it is), but also sufficient for belief that *p*. Here I answer that it is not, but argue that a disposition to treat *p* as true *in a specific way* in practical reasoning is both necessary and sufficient for belief that *p*. I call this specific way of treating *p* as true ‘premissing that *p*’, and the corresponding thesis

The Premising Account. What it is to believe that *p* is to be disposed to premise that *p* (in a sense to be characterized below) in at least some choice situations.

Section five demonstrates that the Premising Account, together with certain plausible auxiliary assumptions, entails the DT Lockean Thesis. Section six concludes.

2. The Minimal Reasoning Disposition Account of Belief

Let us begin by reflecting on the relationship between belief and action. With the exception of epiphenomenalists, few would deny that belief has at least a *causal* or *explanatory* relationship to action: what you believe often figures in the explanation of why you act in the way that you do. Many philosophers, however, go beyond this to suggest that belief has a *constitutive* relationship with action. The idea here is broadly functionalist: part of what it is to believe is to be in whatever state typically has a certain explanatory relationship to action.⁹

If there is a constitutive relationship between belief and action, what might it be? The simplest account of the relationship might be what Mark Kaplan (1996: p. 4) calls

⁹ See *inter alia* David Armstrong (1968) and David Lewis (1972).

The Act View. To believe that p is to be disposed to act as if p in any choice situation where p is relevant.

Where to **act as if p** in a choice situation C is to perform that act (or one of those acts)¹⁰ in C that is most preferable conditional on p .

Kaplan rightly objects to the act view, arguing that it overstates the connection between belief and action.

Unfortunately, unless we are prepared to embrace the idea that belief entails certainty, this analysis of the importance of your beliefs will not do... To see that this is so, suppose you... are confronted by a choice between

\$0 and [a bet with payoffs as follows: \$.01 if h ; -\$1,000,000 if $\sim h$].

The latter state of affairs will clearly have the better outcome if h . So, according to the Act View, so long as you believe h , you will choose the latter state of affairs over the former—i.e., risk the loss of one million dollars in order to secure a monetary gain of one cent. But [by standard decision theory], you should prefer the second state of affairs to the first if and only if [your degree of confidence in h is greater than 0.99999999.] So, if [standard decision theory is correct], belief cannot play the role in rational decision making suggested by the Act View unless believing a hypothesis entails having a degree of confidence greater than 0.99999999 that h . (1996: p. 6)

Here's a more concrete example. Suppose that Bridget is offered a bet that pays one cent if it rains and costs one million dollars if it does not rain. Also suppose that it is rational for Bridget to believe that it will rain. Given the act view, it follows that it is rational for Bridget to be disposed to act as if it will rain—that is, to take the bet. But suppose that it is rational for Bridget to have at most .99 degree of confidence that it will rain. In that case, it clearly is not rational for Bridget to take the bet. Hence, as long as this sort of case is possible—as long as it is possible

¹⁰ For convenience, I will henceforth suppress the parenthetical qualification acknowledging the existence of cases in which there is not a unique act that is most preferable. But everything I say should be understood with that qualification in place.

that it is rational to believe that p and also rational to have at most .99 degree of confidence that p —the act view must be mistaken.

If this argument is correct, the act view goes wrong in that it requires *too strong* of a connection between belief and action: according to the act view, believing that p requires being disposed to act as if p in *any* choice situation where p is relevant. In light of this, we might try replacing the act view with a view at the other end of the spectrum.

The Minimal Act View. To believe that p is to be disposed to act as if p in at least *some* choice situation.

Unfortunately, the condition proposed by this account is simply too weak: I am disposed to choose to buy car insurance, which is the act that would have the outcome that I would most prefer were I to get in an accident tomorrow, but I do not believe that I will get in an accident tomorrow.

What we need, one might think, is a view that splits the difference between the act view and the minimal act view, a view according to which believing that p is a matter of being disposed to act as if p in some to-be-specified *range* of choice situations. But what is the range? Perhaps the most plausible answer is something like ‘the range of *normal* choice situations’. But what exactly is a normal choice situation? I leave it to others to pursue this line of thought.

A better approach, I suggest, is to put a bit of distance between belief and action. According to the views thus far considered, to believe is to be disposed to *act* in a certain way. I suggest instead that to believe is to be disposed to *reason* in a certain way about how to act. More specifically, I suggest

The Minimal Reasoning Disposition Account. Part of what it is to believe that p is to be disposed to treat p as true in one’s practical reasoning in at least some choice situation—or, as I will say, to treat p as true in at least some choice situation.¹¹

I need to say something about what I mean by a ‘choice situation’, and something about what I mean by ‘treating p as true in one’s practical reasoning’. The intuitive ideas are familiar enough. When you’re faced with the options of whether to go to the store to buy milk or do something else instead, you’re in a choice situation. And when you think to yourself *I am out of milk; thus, I*

¹¹ This view has some affinity with the view defended by Keith Frankish (2009). Unfortunately, space does not permit me to discuss Frankish’s view here. See, however, footnote 17 below.

should go to the store to buy milk, you treat it as true, in your practical reasoning about what to do in this choice situation, that you are out of milk. Below I will have something more precise to say about the notion of a choice situation. For now, let me say something more precise about the notion of treating p as true in one's practical deliberation.

Following Ross and Schroeder (forthcoming), we can define the notion of 'treating a proposition as true in practical reasoning' in terms of the way in which one evaluates one options for action. 'In the context of practical reasoning,' write Ross and Schroeder, 'we may say that an agent treats a given proposition p as true just in case she evaluates her alternatives by the same procedure by which she would evaluate them conditional on p ' (p. 6). As an example, Ross and Schroeder ask us to consider Renzo, who needs to return a rented DVD to a store on Canal St. before the store closes in twenty minutes. Renzo is deciding which train to take to the store and reasons as follows:

If I take the Canal St. Express, it will cost me \$3, but I'll get to the store on time and so I won't be fined. Thus, I'll be out \$3. If, on the other hand, I take the Broadway train, it will cost me \$2. If it stops at Canal St., I'll get to the store on time and won't be fined, so I'll be out only \$2. But if the Broadway train doesn't stop at Canal St., I won't get to the store on time, and I'll be fined \$5, so I'll be out \$7. Since it's as likely as not that the Broadway train won't stop at Canal St., it isn't worth risking the fine to save \$1 on the train, so I'll take the Canal St. Express.

In reasoning this way, Renzo treats it as true that if he rides the Broadway train and it stops at Canal St., then he will be out exactly \$2. In other words, his decision making procedure simply does not take into account the possibility that this is false. This fact about Renzo's reasoning shows up when we construct the so-called 'decision table' that most naturally represents that reasoning. That decision table looks like this.

	Broadway train stops at Canal St.	Broadway train doesn't stop at Canal St.
Take the Broadway train	Pay \$2 and avoid fine; out \$2.	Pay \$2 and incur fine; out \$7.
Take the Canal St. Express	Pay \$3 and avoid fine; out \$3.	Pay \$3 and avoid fine; out \$3.

In this table, there is no box that represents the possibility that Renzo takes the Broadway train and it stops at Canal St. and yet he is out something other than \$2. This contrasts with a bit of reasoning in which, for example, Renzo is considering the possibility that if he takes the Broadway train he will be mugged and lose the \$100 he will be carrying in his wallet. If he were taking seriously that possibility—say, because the Broadway train is particularly dangerous and muggings happen quite regularly—then his practical reasoning would be better represented by the following table. Let M be the proposition that there is a mugger on the Broadway train who would mug Renzo if he took it.

	Broadway train stops at Canal St and not-M.	Broadway train stops at Canal St and M.	Broadway train doesn't stop at Canal St. and not-M	Broadway train doesn't stop at Canal St. and M
Take the Broadway train	Pay \$2 and avoid fine; out \$2.	Pay \$2, avoid fine, and lose \$100; out \$102.	Pay \$2 and incur fine; out \$7.	Pay \$2, incur fine, lose \$100; out \$107.
Take the Canal St. Express	Pay \$3 and avoid fine; out \$3.	Pay \$3 and avoid fine; out \$3.	Pay \$3 and avoid fine; out \$3.	Pay \$3 and avoid fine; out \$3.

As Ross and Schroeder note, agents are rarely if ever *absolutely certain* of the propositions they treat as true. Yet they treat them as true nonetheless. Indeed, it is difficult to see how agents could get on otherwise. In Renzo's case, there is any number of things that *might* happen to Renzo if he takes the Broadway train—that is, any number of things that he is not absolutely certain will not happen. Considering all of these (far-fetched) possibilities in his practical reasoning would be, if not impossible, incredibly difficult. Ross and Schroeder conclude that

agents most likely have more or less automatic dispositions to treat certain propositions as true in certain kinds of practical reasoning. I concur.

It is important to note that an agent might treat a given proposition as true with respect to one piece of practical reasoning, but not with respect to another. Suppose, for example, that Renzo is offered a bet with Kaplan-style stakes on whether it costs \$2 to take the Broadway train. When reasoning about whether to take that train to the DVD rental store, Renzo treated it as true. But if he is being asked to stake one million dollars against a penny that the Broadway train costs \$2, he most likely will not take the bet, and he will not take it because he won't simply treat it as true, with respect to this new decision, that the Broadway train costs \$2. MRD does not require an agent who believes that p to be disposed to treat p as true in *all* choice situations where p is relevant—it merely requires that an agent be disposed to treat p as true in at least *some* choice situation where p is relevant. As we will see in the next section, it is precisely here that that MRD diverges from Ross and Schroeder's view.

3. MRD, URD, and SRD

In their insightful paper, 'Belief, Credence, and Pragmatic Encroachment' (*forthcoming*), Ross and Schroeder have independently developed a view closely related to MRD. I will call their view

The Unrestricted Reasoning Disposition Account. Part of what it is to believe that p is to be defeasibly disposed to treat p as true in one's reasoning whenever p is relevant.

Ross and Schroeder's URD can be viewed as a modified version of the implausibly strong thesis I will call

The Strong Reasoning Disposition Account. Part of what it is to believe that p is to be *indefeasibly* disposed to treat p as true in one's reasoning whenever p is relevant.

SRD is implausibly strong because there are clearly cases in which an agent believes that p and yet is unwilling to treat p as true in a particular piece of reasoning where p is relevant. Recall, for example, that Renzo believes that it costs \$2 to take the Broadway train, but he is not willing to treat that proposition as true when deciding whether to take a bet that requires him to stake one

million dollars against a penny.¹² Ross and Schroeder's URD avoids this objection by only requiring an agent who believes that p to be *defeasibly* disposed to premise that p in such a choice situation.

It would not make sense... for us to have *indefeasible* dispositions to treat [propositions that were less than absolutely certain] as true in our reasoning. For if an agent had an indefeasible disposition to treat a proposition p as true, then she would act as if p even in [very lopsided stakes situations], in which she has an enormous amount to lose in acting as if p if p is false and little to gain in acting as if p if p is true... What we should expect, therefore, is that for some propositions we would have a *defeasible* or *default* disposition to treat them as true in our reasoning—a disposition that can be overridden under circumstances where the cost of mistakenly acting as if these propositions are true is particularly salient. (*forthcoming*: p. 9)

The move to defeasible dispositions, however, is not the only way to avoid the problem with SRD. Rather than focus on the *quality* of the disposition (defeasible vs. indefeasible), we can instead focus on what is generally known as the *manifestation conditions* of the disposition, but which we might more specifically call the 'range' of the disposition. Rather than require an agent who believes that p to be indefeasibly disposed to treat p as true in all reasoning where p is relevant, we might instead require an agent who believes that p to be indefeasibly disposed to treat p as true in her reasoning in at least *some* choice situation. The result is simply the Minimal Reasoning Disposition Account, which I repeat here for convenience.

The Minimal Reasoning Disposition Account. Part of what it is to believe that p is to be disposed—that is, indefeasibly disposed—to treat p as true in at least some choice situations.

It is important to distinguish between indefeasible dispositions, on the one hand, and what we might call 'immutable dispositions', on the other. To say that an agent has an indefeasible disposition to ϕ in C is not to say that, necessarily, if she comes to be in C , she will ϕ —it is merely to say that if she comes to be in C *without losing* her indefeasible disposition to ϕ in C , then, necessarily, she will ϕ . In other words, an indefeasible disposition is not a disposition that

¹² Note the similarity between SRD and the Act View discussed in section three above. The reasons to reject the former are essentially the reasons to reject the latter.

cannot be lost—it is a disposition that necessarily manifests itself under its manifestation conditions so long as it has been retained. This contrasts with a disposition that can be retained and yet *masked* or *overridden*. It is this latter sort of disposition that Ross and Schroeder call a ‘defeasible disposition’.

My MRD and Ross and Schroeder’s URD are both more plausible than SRD. Is there a reason to prefer my MRD to their URD? Indeed there is. Ross and Schroeder offer URD primarily in an attempt to account for so-called ‘pragmatic encroachment’ into knowledge.¹³ Roughly, pragmatic encroachment is the idea that what one knows depends in part on one’s practical environment. Ross and Schroeder have us consider the following cases as illustration.

Low: Five minutes ago, Hannah made three sandwiches and placed them in the refrigerator. She told Sarah that she placed the almond butter sandwich on the right. Hannah then departed just as Sarah’s friend Almira arrived for lunch. Sarah knows that Almira has no allergies. Almira says: “I’d love an almond butter sandwich.” And so Sarah opens the refrigerator door, points to the sandwich on the right, and says: “The sandwich on the right is an almond butter sandwich. You can have it.” (*forthcoming*: p. 3)

Does Sarah know that the almond butter sandwich is on the right? It seems that she does. But now consider the following case.

High: This case is just like Low, except here it is Sarah’s nephew Algernon who is visiting for lunch, and he has a severe peanut allergy. He asks Sarah for a sandwich. Sarah knows that the peanut butter sandwich would be fatal to Algernon, but that the almond butter sandwich would be harmless. She also knows that he would slightly prefer the almond butter sandwich to the tuna sandwich. When Sarah goes to the fridge, she can tell, by visual inspection, which is the tuna sandwich, but she cannot tell, by visual inspection, which is the peanut butter sandwich and which is the almond butter sandwich. So she gives him the tuna sandwich. (*ibid*)

¹³ See *inter alia* Jeremy Fantl and Matthew McGrath (2002) and (2009), John Hawthorne (2004), Jason Stanley (2005), and Hawthorne and Stanley (2008).

Does Sarah know, in High, that the almond butter sandwich is on the right? To many theorists, it seems that she does not. And yet Sarah has precisely the same evidence about which sandwich is which in High as she does in Low. The claim, then, is that the mere difference in what is at stake in Low versus High makes a difference in whether Sarah knows that the almond butter sandwich is on the right.

Ross and Schroeder argue that URD offers the best explanation of *why* pragmatic encroachment exists. Ross and Schroeder show that, together with certain auxiliary assumptions, URD implies

The Knowledge Action Principle. For any agent *S* and proposition *p*, if *S* is in a choice situation in which *S* could not rationally act as if *p*, then *S* does not know that *p*.

I won't rehearse Ross and Schroeder's derivation of the Knowledge Action Principle from URD (*forthcoming*: pp. 13 – 15), but here are the crucial auxiliary assumptions on which that derivation rests.

O-Justification Condition on Knowledge. Knowledge that *p* requires a level of justification that is at least high enough to justify occurrently believing that *p*.

Justification Condition on Occurrent Attitudes. If having attitude *A* essentially involves being disposed to ϕ under circumstances *C*, then an agent *S* is justified to occurrently have attitude *A* in *C* only if it is rationally permissible for *S* to ϕ in *C*.

Treating as True Principle. If it is rational for *S* to treat *p* as true in her reasoning in *C*, then it is rational for *S* to act as if *p* in *C*.

Unfortunately, URD, together with these auxiliary assumptions, proves too much. We can see this in a case adapted from Jessica Brown (2008: p. 1144).

Birth: One day Liz is offered a bet on whether she was born in England. In fact, Liz was born in England, and her reasons for believing so are just like anyone else's: her parents told her she was born in England, her aunts and uncles tell stories about going to see her in the hospital, she has never had a problem when dealing with the government, and so on. However, the terms of the bet are as follows: if Liz

was born in England, Liz gains £1; if Liz was not born in England, Liz is tortured for the next thirty years.

Let us focus, not on the question of whether Liz knows she was born in England (as Brown did), but instead on the question of whether Liz is *justified in believing* that she was born in England. Here things seem pretty well settled: if anyone is justified in believing anything, Liz is justified in believing that she was born in England. Moreover, it seems that Liz is justified in *occurrently believing* that she was born in England. According to the standard characterization of occurrent belief, to occurrently believe that p is to “consciously” believe—or, as it is sometimes put, to have the belief that p “in the forefront of one’s mind”.¹⁴ Suppose that Liz, in the described circumstances, does just that with respect to the proposition that she was born in England. Suppose she consciously thinks to herself:

Well, yeah, I was born in England. But still, the stakes here are crazy. After all, there is some chance, albeit incredibly small, that my belief is false. So I won’t take the bet.

Here Liz occurrently believes that she was born in England, and she seems perfectly justified in doing so. The trouble is that Ross and Schroeder’s view entails the contrary. Let b be the proposition that Liz was born in England. Given that it is not rational for Liz to take the bet, the Treating as True Principle implies that it is not rational for Liz to treat b as true in her reasoning about whether to take the bet. So far, so good. But this, together with URD and the Justification Condition on Occurrent Attitudes, implies that Liz is not justified in occurrently believing that she was born in England.¹⁵ This seems badly mistaken.

Before proceeding, I want to make two comments about this argument against URD. First, it is of course possible to save URD by blaming one of the auxiliary principles instead. That strategy, however, would leave Ross and Schroeder without their primary argument *for* URD, according to which URD offers an account of pragmatic encroachment. As I noted above,

¹⁴ See Eric Schwitzgebel (2011).

¹⁵ Here’s the argument, a bit more slowly.

- (1) It is not rational for Liz to take the bet (assumption).
- (2) Thus, it is not rational for Liz to treat b as true in her reasoning about whether to take the bet [by (1) and the Treating as True Principle].
- (3) Thus, if Liz’s believing that b essentially involves a disposition to treat b as true in her reasoning about whether to take the bet, then Liz is not justified in occurrently believing that b [by (2) and the Justification Condition on Occurrent Attitudes].
- (4) Thus, Liz is not justified in believing that b [by (3) and URD].

the account that Ross and Schroeder gives rests in part on the auxiliary principles. Moreover, those auxiliary principles seem at least as plausible as URD, and so one would wonder why we should be abandoning one of them rather than URD.

Second, perhaps there are no intuitions in philosophy so strong that they must be preserved come what may. There are, however, some intuitions so strong that any theory that would overturn them requires a high level of independent justification. I suggest that the intuition that Liz is justified in occurrently believing that she was born in England is one of these intuitions, and that Ross and Schroeder's view simply does not yet have the required level of justification needed to overturn it. I thus suggest that we look for an alternative view. If no plausible alternative is to be had, we can always return to cases like this and reassess the situation.

Fortunately, there is a more plausible alternative—namely, MRD. From the perspective of MRD, URD goes wrong in requiring that Liz have *any disposition at all* to treat it as true that she was born in England when reasoning about whether to take the described bet. As we've just seen, this has the implausible implication (given the auxiliary assumptions) that Liz is not justified in occurrently believing that she was born in England. And there is another reason to prefer MRD to URD: the latter fits better with the phenomenology of practical deliberation. To treat p as true in the case of practical reasoning, according to our stipulated definition, is to evaluate one's options in the way one would evaluate them conditional on p . In cases where one is evaluating one's options by constructing a standard decision-theoretic table, this amounts to taking p as given in *every* column on the table. Suppose then that Liz is committed to evaluating her options by constructing a decision-theoretic table. Is it possible for Liz to believe that she was born in England and yet have *no disposition whatsoever* to construct such a table? Introspectively, it seems that it is: it is not as if Liz will feel some "pull" towards constructing such a table—some "pull" that she has to override.

Finally, as I argue elsewhere (manuscript), MRD also offers a plausible account of the *appearance* of pragmatic encroachment. I will not rehearse the details of that account here, but briefly, the idea is that according to MRD, there is for any agent S who believes that p , a set of choice situations for which S is disposed to treat p as true, and the rationality of her belief will depend on whether it is rational for her to treat p as true in those choice situations. This plausibly suggests that attributions of knowledge that p —which entail attributions of rational belief that p —will *conversationally implicate* that S is currently in a choice situation where it is rational for her to act as if p is true. Hence, an unqualified attribution of knowledge that p will be

appropriate only if S is currently in a choice situation where it is rationally permissible for her to treat *p* as true.¹⁶

Given all of this, I tentatively conclude that we have good reason to prefer MRD to Ross and Schroeder's URD. Still, as we will see in the next section, something stronger can be said about the relationship between belief and practical reasoning.

4. The Premising Account of Belief

While MRD is quite plausible, it is not quite as strong of a principle as one might like. In particular, MRD merely says that a disposition to treat *p* as true in at least some choice situation is *necessary* for belief that *p*. Is it plausible that such a disposition is also *sufficient* for belief? Unfortunately, it is not. Here is an example adapted from Jonathan Cohen (2000), which makes the point quite clearly.

Suppose that in a certain legal system, it is a rule of law that anyone who, according to valid testimony, has been found in possession of a narcotic substance without good excuse, should be deemed to have had guilty knowledge of this possession. A particular juror may then treat it as true that a defendant had guilty knowledge of his possession of a narcotic—that is, treat it as true for purposes of deciding which verdict to render—although she does not believe that the defendant had guilty knowledge of his possession. This might happen, for example, in a case where there is valid testimony that the defendant was in possession of a narcotic substance without good excuse, but there was no evidence one way or the other regarding whether the defendant knew he was in possession of such a substance, and the substance was possessed in such a way that it's reasonable to think that the defendant did not know about it. In a case like this, the juror may treat it as true that the defendant had guilty knowledge, for purposes of deciding on a verdict, and yet remain agnostic as to whether the defendant had guilty knowledge. (p. 60)

¹⁶ This account of pragmatic encroachment is what Keith DeRose (1998) calls a 'warranted assertability maneuver' or 'WAM'. However, as I discuss elsewhere (manuscript), the MRD-based account is importantly different from earlier WAMs, such as those defended by Gilbert Rysiew (2001) and Brown (2006).

Recall that, by definition, to treat p as true in a piece of practical reasoning is to evaluate one's options in the same way that one would evaluate them conditional on p . With respect to the proposition that the defendant had guilty knowledge, it seems possible for the juror to do exactly that, while at the same time not believing that the defendant had guilty knowledge. She might think to herself something like this:

My options are to give a verdict of 'guilty' or 'innocent'. There was valid testimony to the effect that the defendant was found in possession without good excuse. Thus, I am to evaluate these options just as I would evaluate them on the assumption that the defendant had guilty knowledge of that possession. Given [the relevant considerations], on the assumption that the defendant had guilty knowledge, the correct verdict is 'guilty'. So I will issue a 'guilty' verdict.

If asked to draw up a decision table to represent her reasoning, a juror who reasons in this way might draw-up something as simple as what follows.

	The defendant had guilty knowledge.
Issue 'guilty' verdict.	Correct verdict issued.
Issue 'not guilty' verdict.	Incorrect verdict issued.

The absence of a column representing a possibility in which the defendant does not have guilty knowledge represents the fact that the juror treats it as true that the defendant had guilty knowledge. And yet she does not believe it. Cases like these convince me that a disposition to treat p as true in at least some choice situations is not sufficient for belief that p .

What is the difference between a case like the above—a case where someone treats p as true without believing it—and a case where someone treats p as true while believing it?¹⁷ Is there a specific way of treating a proposition as true in one's reasoning that is sufficient for belief?

Note the kind of reasoning at work above: the juror thinks to herself *I am to evaluate these*

¹⁷ This is essentially the same question as that asked by Keith Frankish (2009). Whereas my answer looks to concerns the particular way in which an agent treats a proposition as true in various choice situation, Frankish's answer concerns the particular sort of choice situations in which one is disposed to treat p as true.

options just as I would evaluate them on the assumption that the defendant had guilty knowledge. Notice that in her reasoning she does not think to herself *the defendant had guilty knowledge*. For example, she does not reason like this:

My options are to give a verdict of 'guilty' or 'innocent'. There was valid testimony to the effect that the defendant was found in possession without good excuse. Thus, the defendant had guilty knowledge of that possession. Thus, given [the relevant considerations], the correct verdict is 'guilty'. So I will issue a 'guilty' verdict.

If the juror were to reason this way, the above decision table would still be an accurate representation of her reasoning, in so far as decision tables are able to represent that reasoning. This shows that decision tables don't capture everything about the way an agent reasons: an agent who reasons in this way clearly reasons in a way that is importantly different from the first bit of reasoning.

What is the difference between these two pieces of reasoning? In each of them, the juror treats it as true that the defendant had guilty knowledge. But only in the latter does she *premise* that the defendant had guilty knowledge—that is, only in the latter does she “sincerely mentally assert” in her reasoning that the defendant had guilty knowledge. In the former case, what she premises is not that the defendant had guilty knowledge, but that *she is to evaluate her options as if* the defendant had guilty knowledge.

Unfortunately, I have no more precise definition of ‘premissing’ on offer. But this should not scare us away from the notion. First, I think we have a rather clear intuitive grasp of the difference between cases where an agent treats *p* as true by premising that *p*, and cases where an agent treats *p* as true without premising that *p*. And second, if I am right, it is this notion that is crucial to distinguishing agents who believe that *p* from those who do not. While we are able to specify *part* of what it is to believe that *p* in terms of ‘treating *p* as true’, we need the notion of ‘premissing that *p*’ to specify all of what it is to believe that *p*. Specifically, the account I propose is

The Premising Account of Belief. To believe that *p* just is to be disposed to premise that *p* in at least some choice situation.

My aim here is not to give a precise account of the nature of belief. For that purpose, we would have to have some clear way of defining the notion of *premissing*. As I said, I have no such

definition to offer. I only hope that the notion of premising, as I have characterized it above, is familiar enough to demonstrate an important relationship between belief and practical reasoning and thereby an important relationship between rational belief and rational degree of confidence.

Before proceeding, I should make a couple of comments on the Premising Account. First, for any agent S who believes that p , there will be a more or less determinate range of choice situations $R_{S,p}$ such that S is disposed to premise p in all and only those choice situations. As I intend it to be understood, the Premising Account says that an agent's belief that p is constituted by, or realized in, her disposition to premise that p in the choice situations in this range. An important implication of this is that the Premising Account allows for the possibility that two agents, both of whom believe that p , might have their respective beliefs that p realized in different dispositions. Indeed, this is probably the norm, as it happens anytime two agents are disposed to premise that p in non-identical ranges of choice situations, respectively. As we will see below, this has important implications for the rationality of belief.

Above I alluded to the fact that $R_{S,p}$ —the range of choice situations in which S is disposed to premise that p —might be more or less determinate. Again, I think this is the norm. At the extremes, things will be nearly if not completely determinate: there will be choice situations for which S is determinately disposed to premise that p , and there will be choice situations for which S is determinately not disposed to premise that p . Somewhere in the middle, however, there will typically be a range of choice situations where it is somewhat (and perhaps even completely) indeterminate whether S is disposed to premise that p in those choice situations. This means that the disposition that realizes an agent's belief will be somewhat indeterminate. This too has important implications for the rationality of belief. Let us now turn directly to that topic.

5. The Premising Account and the Rationality of Belief: the DT Lockean Thesis

In this section I demonstrate that, together with two plausible auxiliary assumptions, the Premising Account of belief implies that there is a certain threshold T such that S 's belief that p is rational if and only if it is rational for S to have a degree of confidence that p greater than T . In other words, I demonstrate that the Premising Account implies a version of the Generalized Lockean Thesis.

As I noted in the previous section, the Premising Account implies that, for an agent S who believes that p , S 's belief that p will be realized in a disposition to premise that p in a more

or less determinate range of choice situations, which we called $R_{S,p}$. It follows from this that S's belief that p is rational if and only if it is rational for S to have such a disposition. When is it rational for S to have such a disposition? I propose the following.

Rational Disposition Principle. If S's attitude A is constituted by a disposition to ϕ under all and only those circumstances C such that C is a member of R, then S's having A is rational if and only if it is rational for S to ϕ under each C such that C is a member of R.

RDP must be understood carefully. RDP is intended to concern what is sometimes known as *ex ante* rationality, as opposed to *ex post* rationality.¹⁸ The *ex ante/ex post* distinction is a generalization of the propositional rationality/doxastic distinction now familiar in epistemology.¹⁹ Roughly, an agent's belief that p is rational in the propositional sense if and only if *there is* all-things-considered reason for her to believe that p , while an agent's belief that p is rational in the doxastic sense if and only if there is all-things-considered reason for her to believe that p and she believes that p on the basis of that all-things-considered reason. There is no reason to restrict this kind of distinction to states with propositional contents, and so we generalize it as follows.

Roughly, an agent's state A is *ex ante* rational if and only if there is all-things-considered reason for her to be in A, while an agent's state A is *ex post* rational if and only if there is all-things-considered reason for her to be in A and she is in A on the basis of that all-things-considered reason. As I indicated, RDP should be understood so that it concerns *ex ante* rationality.

Roughly, RDP says that when S's attitude A is constituted by a indefeasible disposition to ϕ under all and only those circumstances C such that C is a member of R, there is all-things-considered reason for S to have A if and only if there is all-things-considered reason for S to ϕ under each circumstances C such that C is a member of R. Whether S has that attitude on the basis of that reason—and so whether S's attitude is *ex post* rational—is another matter.

Together with RDP, the Premising Account implies that it is rational for S to believe that p (in the *ex ante* sense) if and only if it is rational for S to premise that p in each member of $R_{S,p}$. This raises the question of when it is rational for S to premise that p in a particular choice situation C. In *Knowledge and Lotteries* (2004), John Hawthorne suggests what I will call

¹⁸ See Alvin Goldman (1979), and please do not be misled by the Latin meanings of these phrases. Here they mean precisely what they are stipulated to mean.

¹⁹ The distinction is perhaps more commonly drawn with respect to the notion of *justification* than *rationality*, but there is no reason why we shouldn't draw the distinction with respect to both of these normative notions. I here set aside the vexing question of just how the two notions are related.

The Knowledge Principle. When p is relevant to the choice situation C , it is rational for S to premise that p in C if and only if, in C , S knows that p .

This principle has also been endorsed by Jason Stanley (2005) and is closely related to the principle defended by Hawthorne and Stanley (2008). Other authors have proposed principles concerning, not exactly the notion of ‘premissing that p in practical reasoning’, but the closely related notion of ‘treating p as a reason for acting’.²⁰ Here are their principles, reformulated in terms of premissing.

The Justified-and-True Principle. When p is relevant to the choice situation C , it is rational for S to premise that p in C if and only if, in C , S has a justified true belief that p . (Adapted from Clayton Littlejohn 2009).

The Justified-Belief-in-Knowledge Principle. When p is relevant to the choice situation C , it is rational for S to premise that p in C if and only if, in C , S has a justified belief that she knows that p . (Adapted from Ram Neta 2009).

In effect, we have already seen a counterexample to each of these principles. Consider again Brown’s (2008) case of Liz, who is offered a bet on whether she was born in England. Given the stakes of the bet—Liz must risk thirty years of torture (if she’s wrong) to potentially gain £1 (if she is right)—it is not rational for Liz to take the bet. But it would be rational for Liz to take the bet were it rational for Liz to premise that she was born in England in her reasoning about whether to take the bet. Hence, it is not rational for Liz to premise that proposition in this piece of reasoning. And this is despite the fact that Liz justifiably believes, knows, and justifiably believes she knows that she was born in England. This case is thus a counterexample to the right-to-left directions of each of the above principles. Once one sees the recipe—ordinary case of knowledge plus extremely lopsided stakes—it is easy to generate counterexamples like this without end. Of course, we should not be dogmatic about our intuitions with respect to such cases, but if there is a more plausible principle on offer, cases like these do give us reason to resist the above principles.²¹

²⁰ As Neta (2009: p. 685) convincingly argues, these two notions are not equivalent.

²¹ In defense of these principles, some have appealed to the idea of pragmatic encroachment, which was introduced in the previous section. The idea here is that contrary to appearance, Liz isn’t justified in believing that she was born in England, or doesn’t know that she was born in England, or isn’t justified in

Fortunately, there is a more plausible principle on offer. The trouble with the above principles is that they are not sufficiently sensitive to (1) the stakes at play in the agent's choice situation and (2) the more or less specific degree of confidence that it is rational for the agent to have. To remedy this situation, I will offer a principle that is explicitly sensitive to both.

Before stating my principle, however, I need to finally say something more precise about the notion of a *choice situation*. Decision theorists standardly define a *decision problem* as a tuple (W, P, V, O) , where W is a set of maximally specific possibilities, P is a confidence function defined over the power set of W , V is a value function defined over the power set of W , and O is a set of options (aka, actions) available to the agent, each of which is a set of possibilities from W . The confidence function P is then used to define a conditional confidence function that yields, for ordered-pairs of sets S_1 and S_2 of possibilities from W , the agent's conditional confidence that S_2 is the case, given that S_1 is the case.²² This conditional confidence function is then used to determine the agent's conditional confidence that such and such possibility will be actual, given that she chooses such and such option.

As I intend it to be understood, a choice situation is something *to which* an agent brings a confidence function. Thus we can represent a choice situation as a decision problem minus the confidence function. This allows us to ask questions like the following: if it is rational for the agent to have such and such confidence function, then what is it rational for her to do in such and such choice situation? Conversely, this also allows us to ask questions like this: if it is rational for an agent to do such and such in thus and so choice situation, then what sort of confidence function must it be rational for her to have? It is an instance of this last sort of question that we are interested in. In particular, we are interested in this question: what sort of confidence function must it be rational for an agent to have in order for it to be rational to *premise* that p when facing a choice situation C ? The answer I propose is

The Practical Certainty Principle. When p is relevant to S 's choice situation C , it is rational for S to premise that p in C if and only if p is practically certain for S relative to C .

believing that she knows that she was born in England, and this is precisely because Liz is in a situation in which it is not rational for her to act as if she was born in England. This response, however, isn't very convincing, for cases like Liz's would seem to also be counterexamples to the strong forms of pragmatic encroachment needed to save the principles.

²² Or, for causal decision theorist, the agent's confidence that S_2 would be the case, were S_1 the case. See Allan Gibbard and William Harper (1981).

Roughly, what I mean by ‘practical certainty’ is as follows: p is practically certain for S relative to C if and only if the difference between the actual degree of rational confidence that p , on the one hand, and rational maximal confidence that p , on the other, is not a difference that makes a difference with respect to what S has most reason to do in C . Here’s a more precise definition. Let $M(C)$ be the²³ act in C which S has most reason to do, given the degree of confidence that p that it is actually rational for S to have. Let $M_p(C)$ be the act in C which S would have most reason to do, were it rational for her to conditionalize on p —that is, were it rational for her to update her confidence that p to maximal confidence (confidence one) and update her degrees of confidence in other propositions accordingly. In this terminology,

p is practically certain for S relative to C if and only if $M(C) = M_p(C)$.

Two notes on this (stipulative) definition are in order. First, it will almost never be the case that there is a unique and precise degree of rational confidence: in cases where it is rational to have a degree of confidence of .871 that p , it will typically also be rational to have a degree of confidence of .872 that p . A more precise definition of ‘practical certainty’ would allow for a *range* of rational degrees of confidence and perhaps degrees of confidence within this range that are more or less rational. Such a definition would thus allow for cases where it was more or less practically certain that p . Because introducing such complexities would only serve to complicate the discussion that follows, we will for the time being continue to work within the idealizing assumption that there is always a unique rational degree of confidence. Second, the subjunctive mood used in the definition of ‘practical certainty’ is not quite right. As any philosopher knows, it is possible to design cases in which all manner of things might have been the case had something else been the case. Here I must rely on the good faith of my reader to interpret this definition in the way it is intended. Roughly, the idea is simply that p is practically certain if and only if rationally updating one’s degrees of confidence by conditionalizing on p is not a difference that itself makes a difference with respect to what one has most reason to do.

In short, the practical certainty principle says that it is rational to premise that p in a choice situation C if and only if it is rational to have a degree of confidence that p that is, for the sake of C , “just as good as” maximal confidence that p . As I argue for the Practical Certainty Principle in detail elsewhere (*forthcoming*), I will not spend too much time in this regard here. A pair of examples to illustrate the plausibility of the principle will have to suffice.

²³ More precisely: ‘the act or set of acts’. As indicated above, I suppress this sort of qualification throughout this paper.

Bridget looks outside and sees what appears to be rain. It is not rational for her to be *maximally confident* that it is raining—that is, it is not rational for her to have confidence one that it is raining. However, it is rational for her to be quite confident. In fact, it is rational for her to be confident enough to make taking an umbrella (rather than not taking an umbrella) what Bridget has most reason to do. This same act—taking an umbrella—is also what Bridget would have most reason to do, were it rational for her to be maximally confident that it is raining. Hence, relative to her current choice situation, it is practically certain for Bridget that it is raining. Hence, by PC, it is rational for Bridget to premise that it is raining in her current choice situation.

Jack has studied all of the evidence available to him concerning the upcoming horse race. Given that evidence, it is not rational for him to be *maximally confident* that Z will win. In fact, the rational degree of confidence for Jack that Z will win is such that (given the risk and the potential payout) betting on Z is not what Jack has most reason to do. But this is what Jack would have most reason to do, were it rational for him to be maximally confident that Z will win. Hence, relative to his current choice situation, it is not practically certain for Jack that Z will win. Hence, by PC, it is not rational for Jack to premise that Z will win in his current choice situation.

Above we saw that, together with RDP, the Premising Account implies that S's belief that p is rational if and only if it is rational for S to premise that p in each member of $R_{S,p}$. Together with PC, this implies

The Decision-Theoretic Lockean Thesis. S's belief that p is rational if and only if p is practically certain for S relative to each member of $R_{S,p}$.

While it may not be obvious on the face of it, the DT Lockean Thesis implies that there is a threshold T such that it is rational for S to believe that p only if it is rational for S to have a degree of confidence that p greater than T —in other words, the DT Lockean Thesis is a version of the Generalized Lockean Thesis. We can show this as follows. It is easy to prove that for any choice situation C , there is a threshold $T(C)$ such that p is practically certain for S relative to C if and

only if it is rational for S to have a degree of confidence that p greater than $T(C)$.²⁴ Hence, for the set of choice situations $R_{S,p} = \{C_1, C_2, \dots, C_n\}$ there will be corresponding thresholds $T(C_1), T(C_2), \dots, T(C_n)$. Letting $T(R_{S,p})$ be the greatest of $T(C_1), T(C_2), \dots, T(C_n)$, it follows that p is practically certain for S relative to each member $R_{S,p}$ if and only if it is rational for S to have a degree of confidence that p that is greater than $T(R_{S,p})$. Agreeing to call $T(R_{S,p})$ the ‘practical threshold for rational belief’, we can thus reformulate the DT Lockean Thesis as

The Decision-Theoretic Lockean Thesis. S’s belief that p is rational if and only if it is rational for S to have a degree of confidence that p greater than the practical threshold for rational belief.

According to the DT Lockean Thesis, the rationality of an agent’s belief that p depends on the range of choice situations for which *that agent* is disposed to premise that p . Here’s an example to illustrate. Mike and Spike have the exact same evidence with respect to whether the Angels will win the World Series. In particular, Mike and Spike are both aware that the Series currently stands at three games to zero, and so just one more win in the next four games will make the Angels the World Series Champions. On the basis of this evidence, both Mike and Spike believe that the Angels will win the Series. Now both are disposed to premise that the Angels will win the Series in various choice situations. However, Spike is disposed to premise that proposition in a wider range of choice situations than Mike: whereas Mike is merely disposed to premise that proposition when deciding whether to make plans for the day of the tentatively scheduled Champions Parade, Spike is disposed to premise that proposition for the sake of that decision, and also for the sake of deciding whether to mortgage his home so that he can place a very large wager on the Angels. Suppose that, given their identical evidence, it is rational for Mike and Spike to each have confidence x that the Angels will win. Suppose further that, relative

²⁴ The proof assumes that what S has most reason to do is whatever maximizes expected value as calculated by the degrees of confidence that S is rational to have. So calculated, the expected value of any action x is equal to

$$V(x \& p) \text{Conf}(p) + V(x \& \sim p)(1 - \text{Conf}(p)), \text{ where } V(-) \text{ is the value of } - \text{ and } \text{Conf}(p) \text{ is the rational degree of confidence that } p.$$

Because this function is linear, the graphs of how the expected values of any two actions A and B depend on the rational degree of confidence that p , respectively, can cross only once. This means that for whichever action x has highest expected value when the rational confidence that p is one, there is some degree d of confidence that p such that x has highest expected value if and only if the rational degree of confidence that p is greater than d . It is this d that I refer to as $T(C)$ above. Thanks to Kenny Easwaran for suggesting this simple geometric proof.

to the choice of whether to make plans for the date of the Champions Parade, that degree of confidence is enough to make it practically certain that the Angels will win, but that relative to the choice of whether to mortgage one's home to place a large wager on the Angel's, that degree of confidence is not high enough to make it practically certain that the Angels will win. The DT Lockean Thesis thus implies that Mike's belief is rational, but Spike's belief is not. And this is despite the fact that each has precisely the same evidence available to him.

We see here that the DT Lockean Thesis implies a *kind* of pragmatic encroachment, but not the kind that philosophers typically discuss. On the familiar understanding of pragmatic encroachment, the rationality of belief depends in part on the nature of one's *current* choice situation. According to the DT Lockean Thesis, however, the rationality of belief depends in part on the nature of the choice situations *for which one is disposed to premise that p*, regardless of whether one is currently in one of those choice situations. This implies that *merely* moving an agent from one choice situation to another—while leaving everything else about her and her evidence the same—will not affect whether her belief is rational. In this sense, the DT Lockean Thesis captures the intuitive sense in which the rationality of belief seems to be more stable than what familiar accounts of pragmatic encroachment entail.

Finally, let me say something about the indeterminacy of our dispositions to premise. As I noted in the previous section, in almost all realistic cases it will be somewhat indeterminate just which choice situations are such that the agent is disposed to premise that *p* in those choice situations—as I will put it, $R_{S,p}$ will be somewhat indeterminate. When $R_{S,p}$ is indeterminate, it will sometimes be indeterminate, according to the DT Lockean Thesis, whether the agent's belief is rational. Note, however, that in many or perhaps even most cases where $R_{S,p}$ is indeterminate, there will still be, according to the DT Lockean Thesis, a determinate fact about whether the agent's belief is rational. This will happen in cases where on all resolutions of the indeterminacy, $R_{S,p}$ contains some choice situation such that *p* is not practically certain for *S* relative to that choice situation. In such cases, the DT Lockean Thesis implies that the agent's belief is determinately not rational. This will also happen in cases where on all resolutions of the indeterminacy, $R_{S,p}$ contains only choice situations where *p* is practically certain for *S*. In such cases, the DT Lockean Thesis implies that the agent's belief is determinately rational.

In which cases will it be indeterminate whether the belief is rational? In just those cases where on some resolutions of the indeterminacy, $R_{S,p}$ contain a choice situation such that *p* is not practically certain for *S* relative to that choice situation, while on other resolutions it does not. I take all of this to speak in favor of the DT Lockean Thesis: it often *is* indeterminate whether an

agent's belief is rational, and so it is to the good of the DT Lockean Thesis that it predicts as much, and indeed enables us to identify a source of this indeterminacy.²⁵

Indeterminacy considerations also require that the DT Lockean Thesis be handled with care when we apply it to agents who do not believe that *p*, but of whom we are wondering whether it *would be* rational for them to believe that *p*. Throughout this paper we've been asking of agents who believe that *p*: is this agent's belief rational? But we can also ask of an agent who does not believe that *p*: *were* this agent to believe that *p*, would her belief be rational? The DT Lockean Thesis gives a determinate answer to this second question only in so far as there are determinate facts about how the agent would be disposed to premise that *p*, were she to believe that *p*. These facts will quite often be somewhat indeterminate, and so, according to the DT Lockean Thesis, it will sometimes be indeterminate whether the agent's belief would be rational were she to have it. But again, I take this to speak in favor of the DT Lockean Thesis: it often is indeterminate whether it would be rational for an agent to believe that *p*, and it is to the credit of the DT Lockean Thesis that it identifies at least one source of this indeterminacy.

6. Conclusion

In this paper I have argued for a particular conception of the relationship between rational belief and rational degree of confidence. I began the argument by reflecting on the nature of belief and its constitutive relationship to practical reasoning. I argued that a disposition to treat *p* as true in at least some choice situations is necessary but not sufficient for belief that *p*. I furthered argued that a disposition to treat *p* as true in a particular way in at least some choice situation is both necessary and sufficient for belief. That particular way I called 'premissing that *p*'. From the Premising Account and two plausible auxiliary principles, I derived a particular instance of the Generalized Lockean Thesis—namely, the DT Lockean Thesis.

²⁵ In any case, the prediction of indeterminacy is no reason to reject the DT Lockean Thesis, unless one assumes that there is always a determinate fact about whether an agent's belief is rational. That assumption is dubious at best.

References

- Armstrong, David. 1968. *A Materialist Theory of the Mind*. New York: Routledge & Kegan Paul.
- Brown, Jessica. 2006. 'Contextualism and Warranted Assertability Manoeuvres'. *Philosophical Studies* 130: 407 – 435
- Brown, Jessica. 2008. 'Knowledge and Practical Reasoning'. *Philosophy Compass* 3: pp. 1135 – 1152
- Chisholm, Roderick. 1957. *Perceiving*. Cornell University Press.
- Cohen, Jonathan. 2000. 'Why Acceptance that *p* does not Entail Belief that *p*' in *Believing and Accepting*. Pascal Engel (ed). Kluwer Academic Publishers. pp. 55 – 64
- Christensen, David. 2004. *Putting Logic in Its Place: Formal Constraints on Rational Belief*. Oxford: Oxford University Press
- DeRose, Keith. 1998. 'Contextualism: An Explanation and Defense' in *Blackwell Guide to Epistemology*, Greco and Sosa (eds.). Oxford: Blackwell.
- Eriksson, Lina and Alan Hájek. 2007. 'What are Degrees of Belief?' *Studia Logica* 86: pp 183 – 213
- Fantl, Jeremy and Matthew McGrath. 2009. *Knowledge in an Uncertain World*. Oxford: Oxford University Press
- Foley, Richard. 1992. 'The Epistemology of Belief and the Epistemology of Degrees of Belief'. *American Philosophical Quarterly* 29: pp. 111 – 21
- Foley, Richard. 1993. *Working Without a Net*. Oxford: Oxford University Press.
- Foley, Richard. 2008. 'Beliefs, Degrees of Belief, and the Lockean Thesis' in *Degrees of Belief*, Franz Huber and Christoph Schmidt-Petri (eds). Dordrecht: Springer
- Frankish, Keith. 2009. 'Partial Belief and Flat-out Belief' in *Degrees of Belief*. Franz Huber and Christoph Schmidt-Petri (eds). Dordrecht: Springer. pp. 75 – 93
- Gibbard, Allan and William Harper. 1981. 'Counterfactuals and Two Kinds of Expected Utility.' In William Harper, Robert Stalnaker, and Glenn Pearce, eds., *Ifs: Conditionals, Belief, Decision, Chance, and Time*, pp. 153–190, Dordrecht: Reidel.
- Goldman, Alvin. 1979. 'What is Justified Belief?' in *Justification and Knowledge*. George Pappas (ed.). Boston: D. Reidel
- Hawthorne, John. 2004. *Knowledge and Lotteries*. Oxford: Oxford University Press.

- Hawthorne, John and Jason Stanley. 2008. 'Knowledge and Action'. *The Journal of Philosophy* 105: 571 - 590
- Hawthorne, James and Luc Bovens. 1999. 'The Preface, the Lottery and the Logic of Belief', *Mind* 108: pp. 241 – 264
- Kaplan, Mark. 1981a. 'A Bayesian Theory of Rational Acceptance'. *The Journal of Philosophy* 78: pp. 305 – 30
- Kaplan, Mark. 1981b. 'Rational Acceptance'. *Philosophical Studies* 40: pp. 129 – 45
- Kaplan, Mark. 1996. *Decision Theory as Philosophy*. Cambridge University Press.
- Kyburg, Henry. 1970. 'Conjunctivitis' in *Induction, Acceptance, and Rational Belief*. Marshall Swain (ed). Reidel.
- Lance, Mark Norris. 1995. 'Subjective Probability and Acceptance'. *Philosophical Studies* 77: pp. 147 – 179
- Lehrer, Keith. 1974. *Knowledge*. London: Oxford University Press.
- Lehrer, Keith. 1980. 'Coherence and the Race Horse Paradox'. *Midwest Studies in Philosophy* 5: pp.183 – 92
- Levi, Issac. 1967. *Gambling with Truth*. Knopf.
- Lewis, David. 1972. 'Psychophysical and Theoretical Identification', *Australian Journal of Philosophy* 50: pp. 249 – 258
- Littlejohn, Clayton. 2009. 'Must we Act Only on What We Know?' *The Journal of Philosophy*. 106: 463 – 473
- Locke, Dustin. *forthcoming*. 'Practical Certainty'. *Philosophy and Phenomenological Research*
- Locke, Dustin. *manuscript*. 'Pragmatic Sensitivity and the Conversational Implicature of Knowledge Attributions'
- Maher, Patrick. 1986. 'The Irrelevance of Belief to Rational Action'. *Erkenntnis* 24: pp. 363 – 384
- Maher, Patrick. 1993. *Betting on Theories*. Cambridge University Press
- Maher, Patrick. 2006. Review of *Putting Logic in its Place* by David Christensen. *Notre Dame Journal of Formal Logic* 47: pp. 133 – 149
- Neta, Ram. 2009. 'Treating Something as a Reason for Action'. *Nous* 43: 684 – 689
- Ross, Jacob and Mark Schroeder. *Forthcoming*. 'Belief, Credence, and Pragmatic Encroachment'. *Philosophy and Phenomenological Research*
- Rysiew, Patrick. 2001. 'The Context-Sensitivity of Knowledge Attributions'. *Nous* 35: 477 – 514
- Sellars, Wilfrid. 1964. 'Induction as Vindication' in *Philosophy of Science* 31: pp. 197 – 231

Schwitzgebel, Eric, "Belief", *The Stanford Encyclopedia of Philosophy (Winter 2011 Edition)*,
Edward N. Zalta (ed.), URL =
<<http://plato.stanford.edu/archives/win2011/entries/belief/>>.

Stanley, Jason. 2005. *Knowledge and Practical Interests*. Oxford: Oxford University Press